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BELL & HOWELL

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U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

May 5, 1970 Volume 874 Number 1

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of March 1970

Examiner affirmed	142
Examiner affirmed in part	17
Examiner reversed	36
Total	195

Hosting Diplomatic Conference

On May 25, 1970, a Diplomatic Conference of great significance in advancing the international economic interests of the United States business community will be convened in our Nation's Capital. This conference, which is expected to be attended by representatives from more than 100 countries, will negotiate a Patent Cooperation Treaty, the purpose of which is to facilitate and improve the procedures for obtaining patent protection abroad. Not since the Washington Conference of 1911 has the United States had the opportunity to host an international industrial property conference of such significance.

The hosting of this Conference by the United States was authorized by a joint resolution (91st Congress, S.J. Res. 90) of both Houses of Congress which was signed into law (Public Law 91–160; 83 Stat. 443) by the President of the United States on December 24, 1969. The Secretary of State and the Secretary of Commerce are authorized to act as hosts of the conference which will be held from May 25 to June 19, 1970.

To meet the costs of extending to our distinguished foreign guests the hospitality of the nation, both the Secretary of Commerce and the Secretary of State, or either of them, are authorized to receive and use contributions, including services, which, for Federal tax purposes, will be deemed to be gifts for the use of the United States. The pertinent provision of the legislation follows:

> Sec. 3. The Secretary of State and the Secretary of Commerce, or either of them, are authorized to accept and use contributions of funds, property, services, and facilities for the purpose of organizing and holding such an international conference. For the purpose of Federal income, estate, and gift taxes, any gift, devise, or bequest accepted by the Secretary of State or the Secretary of Commerce under authority of the Act shall be deemed to be a gift, devise, or bequest to or for the use of the United States.

Contributions under this authorizing legislation may be made by check drawn to the order of the Secretary of Commerce "for PCT Fund" and sent to the Commissioner of Patents, Box 1970, U.S. Patent Office, Washington, D.C., 20231. Contributors responding before printing deadlines will be listed in the official program if they so desire.

Additional information or details are available either by writing to the above address or by telephoning the Office of International Patent and Trademark Affairs, U.S. Patent Office: Area Code (703) 557-3957.

Mar. 24, 1970. WILLIAM E. SCHUYLER, Jr.,
Commissioner of Patents.

Certificates of Correction for the Week of May 5, 1970

Re. 26,383	3,446,556	3,457,251	3,466,326
Re. 26,596	3,446,779	3,457,295	3,466,410
Re. 26,639	3,446,845	3,457,332	3,466,854
3,195,748	3,446,891	3,458,459	3,467,190
3,220,846	3,447,159	3,458,517	3,467,217
3,252,576	3,447,388	3,459,612	3,467,350
3,257,664	3,447,884	3,459,657	3,467,602
3,266,654	3,448,136	3,459,667	3,467,614
3,271,152	3,448,836	3,459,679	3,468,151
3,282,932	3,448,893	3,459,776	3,468,318
3,335,004	3,449,180	3,459,857	3,468,377
3,339,425	3,449,303	3,460,146	3,468,399
3,364,026	3,450,267	3,460,704	3,469,461
3,373,684	3,450,532	3,460,948	3,469,604
3,384,489	3,450,645	3,461,117	3,469,972
3,398,091	3,450,957	3,461,162	3,470,214
3,404,888	3,451,892	3,461,238	3,470,437
3,410,076	3,452,013	3,461,325	3,471,336
3,412,104	3,452,058	3,461,550	3,471,598
3,425,833	3,452,830	3,461,806	3,472,521
3,427,233	3,453,043	3,462,428	3,473,939
3,430,645	3,453,067	3,462,662	3,474,060
3,431,191	3,453,221	3,462,813	3,474,959
3,435,370	3,453,316	3,462,893	3,476,885
3,437,676	3,453,379	3,463,750	3,476,974
3,438,447	3,453,753	3,463,793	3,477,164
3,439,562	3,454,393	3,463,859	3,479,877
3,439,844	3,454,504	3,463,885	3,480,003
3,440,273	3,454,678	3,464,423	3,480,787
3,441,833	3,455,012	3,464,561	3,480,890
3,441,959	3,455,091	3,464,844	3,481,952
3,442,901	3,455,451	3,464,877	3,483,066
3,443,638	3,455,736	3,464,915	3,484,177
3,444,352	3,455,755	3,464,962	3,484,688
3,444,476	3,455,959	3,464,977	3,484,831
3,445,138	3,455,971	3,465,009	3,484,855
3,445,467	3,456,602	3,465,522	3,485,584
3,445,657	3,456,615	3,465,844	3,487,018
3,445,822	3,456,787	3,465,893	3,487,748
3,446,100	3,456,831	3,466,245	3,487,877
3,446,487	3,457,070	3,466,259	

New Applications Received During January 1970

Patents	7396
Designs	438
Plant Patents	11
Reissues	11
Total	7856

Issue—May 5, 1970

Patents	1300	No. 3,509,579 to No. 3,510,878, incl.
Designs	113	No. 217,418 to No. 217,530, incl.
Total	1413	

United States Adopted Names

List No. 25

November 1, 1969 to February 28, 1970

The following nonproprietary names for the drugs described have been adopted by the USAN Council (the nomenclature committee sponsored by the American Medical Association, the American Pharmaceutical Association, and the United States Pharmacopeial Convention) in cooperation with the interested manufacturers. The designation "United States Adopted Names" (USAN) has been coined to distinguish these formally adopted nonproprietary names from other nonproprietary names. Adoption of such names does not imply endorsement of the products involved by the A.M.A. Council on Drugs, the United States Pharmacopeia, or the National Formulary.

Any comments or suggestions should be addressed to Doctor Joseph B. Jerome, Secretary, United States Adopted Names Council, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

asparaginase: antineoplastic
beloxamide: anticholesteremic
betamethasone dipropionate: topical anti-inflammatory
calcium glubionate: therapeutic nutrient (calcium)
cambendazole: anthelmintic
clomipramine hydrochloride: antidepressant
cortivazol: anti-inflammatory
demoxepam: tranquilizer
denofungin: antifungal; antibacterial
desolide: anti-inflammatory
dorastine hydrochloride: antihistaminic
enpromate: antineoplastic
fenticlor: anti-dandruff
flunarizine hydrochloride: vasodilator
fluspirilene: tranquilizer
imidocarb hydrochloride: antiprotozoal (babesicidal)
levamisole hydrochloride: veterinary anthelmintic
maxindol: anorexic; antidepressant
methysergide: prophylaxis of vascular headaches of the migraine type
metizoline hydrochloride: nasal decongestant
miconazole nitrate: antifungal
nafenopin: hypolipemic
nifungin: antifungal
nifuratrone: antimicrobial
pizotyline: appetite and weight stimulant; antidepressant; migraine prophylactic
scopafungin: antifungal; antibacterial
sulfacytine: antibacterial
ticlatone: bacteriostat; fungistat
tramazoline hydrochloride: nasal decongestant
tretinoin: keratolytic
zorbamycin: antibacterial antibiotic

Patents Available for Licensing or Sale

D. 215,183. FLEXIBLE TRANSMISSION FOR THREE-WHEELED VEHICLE. James H. Mayland, 173 Southwood Drive, Old Bridge, N.J., 08857.

3,402,454. PAPER CLIP DISPENSER. The General Industries Company, Olive and Taylor Sts., Elyria, Ohio, 44035.

3,458,145. STATOR WINDING APPARATUS. VEB Elektromat, Dresden, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,464,304. STRINGED INSTRUMENT. Helmut Pfeiffer, Stuttgart, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,464,264. METHOD OF MAKING TRANSFER SHEET. Eugen Strauss, Milan, Italy. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,485,398. TENNIS BALL PICK-UP AND COLLECTING MACHINE. Peter Ziarbos, 9 Minot Ave., Acton, Mass., 01720.

3,486,344. MACHINE FOR SHAVING WORKPIECES OF CIRCULAR CROSS SECTION. Wilhelm Schweer et al., Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,494,135. UNDER LOAD ADVANCEABLE MINE ROOF SUPPORT. Hans Joachim Von Hippel, Lunen, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,490,588. PUNCH CARD SORTER. Litticomputers, Inc., 1214 Logan St., Denver, Colo., 80203.

3,492,753. FISHING LURE. Walter Armond Richard, Correspondence to: J. Bruce Synnott, Jr., 1900 Continental National Bank Bldg., Fort Worth, Tex., 76102.

3,498,671. MOVABLE HEADREST FOR VEHICLE SEATS. James A. Coon et al., 929 Drever St., West Sacramento, Calif., 95691.

3,500,598. ANCHORING SET. William S. Ettinger, Rte. 1, Lenore, Idaho, 83841.

3,503,630. ANGULAR DIE SET FOR CHANGING THE DIRECTION OF THE TOOL PRESSURE STROKE IN A PUNCH PRESS. Frank J. Thomas, 3930 W. 25th St., Cleveland, Ohio, 44109.

Rohm and Haas Company is prepared to grant non-exclusive licenses on reasonable terms and conditions under the following patent.

Inquiries concerning licenses should be addressed to: Assistant Manager, Industrial Chemicals Dept., Rohm and Haas Company, Independence Mall W., Philadelphia, Pa., 19105.

2,795,564. AQUEOUS PAINT BASES AND WATER-BASE PAINTS AND PROCESS OF PREPARING THEM.

General Electric Company is prepared to grant non-exclusive licenses under the following 53 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: General Electric Company, Patent Counsel, Insulating Materials Department, Bldg. 33, Room 209, 1 River Road, Schenectady, N.Y., 12305.

3,464,871. DISPOSABLE PALLET.

Applications for license under the following 2 patents may be addressed to: Patent Counsel, Metallurgical Products Department, General Electric Company, Box 237, GPO, Detroit, Mich., 48232.

3,275,787. PROCESS AND APPARATUS FOR PRODUCING PARTICLES BY ELECTRON MELTING AND ULTRASONIC AGITATION.

3,493,268. CUTTER BIT.

Applications for license under the following 3 patents may be addressed to: Division Patent Counsel, Space Division, General Electric Company, P.O. Box 8555, Philadelphia, Pa., 19101.

3,493,798. HYSTERETIC DAMPER.

3,493,868. CARRIER RESTORATION MEANS FOR BINARY SIGNALS.

3,493,905. HYSTERESIS DAMPER.

Applications for license under the following 6 patents may be addressed to: Division Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

2,767,371. SATURABLE REACTOR.

2,852,758. LIGHTING UNIT.

2,853,654. LIGHTING CIRCUIT CURRENT REGULATOR.

2,898,525. LIGHT RESPONSIVE SYSTEM.

2,901,659. PRINTED CIRCUIT SURGE RELIEF GAP.

3,328,573. TROUGH-SHAPED LUMINAIRE WITH HOUSING.

Applications for license under the following 20 patents may be addressed to: General Electric Company, Patent Counsel, Housewares Division, 1285 Boston Ave., Bridgeport, Conn., 06602.

2,904,817. ELECTRIC FAN HEATER.

2,936,140. RESILIENT MOTOR SUPPORT.

2,991,798. EVAPORATIVE COOLER WATER CONTROL.

2,992,701. FILTER FAN.

3,034,772. EVAPORATIVE COOLER PAD HOLDER.

3,041,978. EVAPORATIVE COOLER.

3,071,914. FILTER FAN.

3,102,249. HEATING UNIT MOUNTING MEANS.

3,113,848. HAIR DRYER BONNET.

3,117,767. MOTORIZED DRAPERY PULLER TENSIONING MEANS.

3,176,447. AIR PURIFIER.

3,176,448. AIR PURIFIER CONSTRUCTION.

3,201,893. INSECT TRAP.

3,214,536. SELECTOR SWITCH CONTACT CONSTRUCTION WITH DEFORMABLE CONTACT SUPPORT PLATE MEANS.

3,264,016. HUB AND SHAFT COUPLING.

3,265,075. HAIR CURLING AND DRYING APPARATUS WITH MAGNETIC COUPLING.

3,281,955. HAIR DRYER BONNET.

3,304,625. PORTABLE HAIR DRYER WITH HEATERS ON BOTH ENDS OF FLEXIBLE HOSE.

3,335,272. ION GENERATOR HAVING A METAL PLATE THAT PRODUCES IONIZING PHOTOELECTRONS UPON EXPOSURE TO ULTRA-VIOLET LIGHT.

3,419,915. HEAT BATH APPLIANCE.

Applications for license under the following 21 patents may be addressed to: Patent Counsel, Electronic Components Division, General Electric Company, 316 E. 9th St., Owensboro, Ky., 42301.

3,237,047. TRANSVERSE BUNCHING TUBE.

3,237,049. TUNABLE HIGH FREQUENCY ELECTRIC DISCHARGE DEVICE WITH INTERNAL RESONATOR.

3,238,410. GRID FOR ELECTRIC DISCHARGE DEVICE AND METHOD OF MAKING.

3,238,411. CONTROL GRID STRUCTURE FOR ELECTRIC DISCHARGE DEVICE.

3,348,092. ELECTRON DISCHARGE DEVICE HAVING A BARIUM DISPENSING ANODE STRUCTURE.

3,351,800. DISCHARGE DEVICE WITH COMPENSATED ANODE STRUCTURE.

3,352,729. METHOD OF MANUFACTURING STRONG RETICULATED ELECTRODES.

3,364,379. ALIGNED-GRIDS ELECTRON DISCHARGE DEVICE AND METHOD AND APPARATUS FOR MANUFACTURE THEREOF.

3,365,606. ELECTRON TUBE MANUFACTURE.

3,375,343. ELECTRON DISCHARGE DEVICE ASSEMBLY METHOD.

3,375,395. ELECTRON DISCHARGE DEVICE.

3,375,400. RADIAL MAGNET BEAM FOCUSING SYSTEM.

3,378,716. DISCHARGE DEVICE.

3,414,844. FREQUENCY DEPENDENT WAVE TRANSMISSION DEVICE.

3,422,514. APPARATUS FOR MANUFACTURING ALIGNED-GRIDS ELECTRON DISCHARGE DEVICE.

3,424,933. SHEET BEAM ELECTRON DISCHARGE DEVICE WITH MEANS FOR PREVENTING UNWANTED OSCILLATIONS OF THE BEAM.

3,427,573. LOW-PASS NON-REACTIVE FREQUENCY SELECTIVE FILTER IN WHICH HIGH FREQUENCIES ARE ABSORBED IN DISSIPATIVE MATERIAL.

3,444,417. ELECTRIC DISCHARGE DEVICE HAVING A TUBULAR ANODE LEAD TERMINATING IN A PLURALITY OF SPACED PROJECTIONS FORMED INTEGRALLY WITH SAID LEAD AND SECURED TO THE ANODE BY PERCUSSIVE WELDS.

3,456,147. HIGH VOLTAGE DISCHARGE TUBE WITH A REENTRANT TYPE ANODE TERMINAL.

3,456,148. MULTIPLE SURFACE GLASS SEAL FOR A HIGH VOLTAGE DISCHARGE DEVICE CONTACTING THE INNER AND OUTER SURFACE AND THE OPEN END EDGE OF THE HOLLOW TUBULAR ANODE LEAD.

3,465,196. ELECTRIC DISCHARGE DEVICE WITH MEANS TO PREVENT RELEASE OF OCCLUDED GASES FROM THE ENVELOPE THEREOF AND METHOD.

Erratum

In the OFFICIAL GAZETTE of March 17, 1970, the patent listed as being available upon reasonable terms licensing by General Motors Corporation, Director, Patent Section, 3044 W. Grand Blvd., Detroit, Mich., 48202, Patent 3,356,389 "TURBINE MOTOR" should have been Patent 3,356,339 TURBINE *ROTOR*.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF APRIL 21, 1970

PATENT EXAMINING GROUPS *Denotes oldest new application.	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	4-15-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*1-12-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-08-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	3-05-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	2-19-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	1-03-69
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-15-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*4-01-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	8-09-68
PHYSICS, GROUP 260—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-07-68
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	7-10-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-26-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*7-12-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	9-27-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GARRAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	3-03-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	12-11-68

Total number of pending applications (excluding Designs)	182,472
Total number of Design applications pending	3,413

Expiration of patents. The patents within the range of numbers indicated below expire during April 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 82nd Congress, approved August 23, 1954 (68 Stat. 704), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,633,571 to 2,637,026, inclusive
Plant Patents	Numbers 1,178 to 1,181, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

WITCO CHEMICAL COMPANY, INC. v. WHITFIELD CHEMICAL COMPANY, INC.

No. 8207. Decided December 18, 1969

[57 CCPA —; — F.2d —; 164 USPQ 43]

1. TRADEMARK—CONFUSING SIMILARITY—SECTION 2(d).

"Appellant predicates its arguments in both opposition and cancellation on section 2(d) (15 U.S.C. 1052(d)). The familiar words of that section here involved are: '*so* resembles a mark registered in the Patent Office or a mark or trade name previously used in the United States by another and not abandoned, *as to be likely*, when applied to the goods of the applicant, to cause confusion, or to cause mistake, or to deceive * * *.' [Emphasis ours.] This requires, of course, that we consider not only the marks but the goods and the whole situation, as revealed by the record, as it bears on their distribution in the market. When this situation has been absorbed, we then have to form a judgment as to whether there is a practical likelihood of such confusion, mistake, or deception as would damage the opposer or petitioner to cancel. We are not concerned with mere theoretical possibilities of confusion, deception, or mistake or with de minimis situations but with the practicalities of the commercial world, with which the trademark laws deal."

2. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—TRADEMARKS—UNANIMOUS BOARD DECISION WITH SUBSTANTIAL SUPPORT IN THE RECORD.

"* * * appellant's position is fundamentally, that the Board exercised a wrong judgment [on issues concerning likelihood of confusion], not that it was in any way mistaken about the law or the important facts. We are not disposed to overturn the unanimous judgment of the Board in a case such as this one where judgments may differ but in which it appears to have done a careful job and where there is substantial support in the record for what it has done."

3. TRADEMARK — CONFUSING SIMILARITY — "WITCO," "WHIT CHEM," "WHIT-KLEEN," AND "WHITSOL" FOR INDUSTRIAL CHEMICALS AND CLEANERS.

"The second alleged error is the Board's holding that, considered in their *entireties*, appellant's WIT- prefix marks and appellee's WHIT- prefix marks 'are readily distinguishable in sound, appearance, and possible suggestive significance.' Independently of the 'family' argument, appellant compares appellee's three marks, WHIT CHEM, WHIT-KLEEN, and WHITSOL, only with its WITCO mark and name. We agree with the Board they are readily distinguishable. The marks must be considered as a whole. Furthermore, the question of distinguishability is closely related to the statutory issue of likelihood of confusion, mistake, or deception and for reasons similar to those taken into account in applying the statute to the facts it is necessary to consider *who* is going to do the distinguishing. We think the probable purchasers of the goods of the parties here would have no difficulty whatever in this regard."

4. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—TRADEMARKS—HOLDING OF NO REASONABLE LIKELIHOOD OF CONFUSION IS ULTIMATE CONCLUSION OF LAW.

"The * * * last error alleged is the holding of no reasonable likelihood of confusion in the trade, with resultant damage to appellant. This is merely the ultimate conclusion of law and requires no discussion."

APPEAL from Patent Office. Opposition Nos. 41,407 and 41,512.

AFFIRMED.

Sidney Wallenstein (*Ben Cohen*, *Charles B. Spangenber*, of counsel) for appellant.

William C. McCoy, Jr., *Robert D. Hart*, *McCoy, Greene & Howell*, for appellee.

Before RICH, *Acting Chief Judge*, MATTHEWS, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

RICH, *Acting Chief Judge*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Trademark Trial and Appeal Board, 153 USPQ 412 (1967), in consolidated proceedings, Opposition No. 41,512 and Cancellation No. 7,847.[1]

The opposition involves appellee's application Serial No. 102,271, filed Aug. 8, 1960, to register, on the Principal Register, WHIT CHEM (with design of a retort, all inside a hexagonal border) as a trademark for "Compositions Used in the Coating and Protecting of Spray Booths and Other Surfaces." First use April 4, 1956, is claimed.

The cancellation involves appellee's Registrations No. 718,010, July 4, 1961, of WHIT-KLEEN for "Detergent Cleaner Solution for General Maintenance Cleaning of Painted Metallic or Ceramic Surfaces," claiming first use August 13, 1956, and No. 718,699, July 18, 1961, of WHITSOL for "Detergent Solvent Cleaners for Removal of Oil, Grease, Drawing and Buffing Compounds for Aluminum and Other Metals," claiming first use May 5, 1960.

On the basis of a lengthy, accurate, and detailed opinion analyzing the evidence and the contentions of the parties, fully reported in the USPQ, the Board dismissed the opposition and denied the petition to cancel. We affirm on the basis of the Board's opinion since we find no reversible error therein. We see no reason to repeat its full analysis and will confine our observations to the alleged error, stating only enough of the case to make them clear.

Opposer-petitioner is Witco Chemical Company, Inc., purveyors of a variety of industrial chemicals, with a gross business of over a hundred million dollars in 1961. It advertises in a large number of trade papers appropriate to its fields of interest and is known in the trade as "Witco." It has been known to happen that correspondents have misspelled its name and addressed letters to it as "Whitco Chemical Co." It owns registrations of WITCO and some nine other marks beginning with WIT- or WITCO- for its various products.

Applicant-appellee, the owner of the registrations sought to be cancelled, sells an essentially different line of industrial chemicals under the marks referred to above. It too has a substantial business in which it has been engaged since 1948. The business was initially that of Chester Whitfield Smith doing business as Whitfield Chemical Company. There was an affiliated corporation, Whitfield Chemical Company, Incorporated, of which Smith was president. Appellee's brief advises us that all trademark rights and the goodwill of the business are now in the hands of Whitfield Chemical Company, Inc.[2] and that Mr. Smith died in January 1968. The corporation has been substituted in these proceedings by stipulation approved November 18, 1968. Appellee's products are principally industrial metal cleaners and to a less extent protective metal-coating compounds. They have been advertised in a different and smaller group of trade papers than those used by appellant.

Of some significance is appellee's ownership of an incontestable registration of substantially the same mark it now seeks to register,

[1] The Board also had before it, and decided, another opposition, No. 41,407, which it dismissed, involving trademark application Serial No. 102,270 to register the same mark involved in the appealed opposition for a chemical composition used in the cleaning of metals, claiming first use May 1, 1952. That decision was not appealed.

[2] Assignment recorded in the Patent Office Nov. 27, 1967, reel 156, frame 741, some months after the Board's decision herein.

Reg. No. 564,609, Sept. 30, 1952, claiming first use on Feb. 18, 1948, for "Chemicals Used for Industrial Metal Cleaning Processes." According to the Board, the section 8 affidavit was accepted and the section 15 affidavit received (15 U.S.C. 1058(b) and 1065). The registered mark and the mark here sought to be registered are both illustrated in the Board's opinion where it can be seen that the only difference in the marks is that in the latter there are short legs under the retort.

An important fact in this case is that the goods of both parties are carefully selected by technically trained people, chemists or engineers, to suit particular industrial processes, and obtained either by them or through purchasing agents.

The Board summarized the conclusions it reached on the record as follows:

> Considering therefore the nature and character of the goods of the parties and the differences between them and both the channels of trade and the usually intended purchasers; the fact that these goods are ordinarily selected by informed and discriminating persons; the differences between the respective trade designations used in connection with the sale of these goods; there has been no competent evidence of actual confusion arising from the contemporaneous use of these marks over the years in what opposer broadly calls the "chemical field"; and insofar as the registration of "WHIT-CHEM" and design for chemical composition used in the cleaning of metal is concerned, applicant is the owner of an incontestable registration for a substantially identical mark for substantially similar goods, it is concluded that there is no reasonable likelihood of confusion in trade, with resultant damage to opposer.

[1] Appellant predicates its arguments in both opposition and cancellation on section 2(d) (15 U.S.C. 1052(d)). The familiar words of that section here involved are: "*so* resembles a mark registered in the Patent Office or a mark or trade name previously used in the United States by another and not abandoned, *as to be likely*, when applied to the goods of the applicant, to cause confusion, or to cause mistake, or to deceive * * *." [Emphasis ours.] This requires, of course, that we consider not only the marks but the goods and the whole situation, as revealed by the record, as it bears on their distribution in the market. When this situation has been absorbed, we then have to form a judgment as to whether there is a practical likelihood of such confusion, mistake, or deception as would damage the opposer or petitioner to cancel. We are not concerned with mere theoretical possibilities of confusion, deception, or mistake or with de minimis situations but with the practicalities of the commercial world, with which the trademark laws deal. Appellant's brief accurately and appropriately comments:

> No citation of adjudicated cases in support of appellant's position is believed in order since the fundamental basis for this honorable court's decision must be determined in the light of the particular facts of the present case.

[2] It is, after all, a matter of judgment and appellant's position is, fundamentally, that the Board exercised a wrong judgment, not that it was in any way mistaken about the law or the important facts. We are not disposed to overturn the unanimous judgment of the Board in a case such as this one where judgments may differ but in which it appears to have done a careful job and where there is substantial support in the record for what it has done.

Appellant's brief lists four alleged errors by the Board which we will now consider.

The first alleged error is that the Board held that the record failed to establish recognition by the trade that appellant possesses a "family" of marks identified by the prefix WIT-. We are unable to see how this is of particular significance since appellee is not seeking to register, and has not registered, a mark beginning with WIT-. However, in appellant's own words, the Board found that "the record fails to establish *recognition by the purchasing public* that appellant possesses a 'family' of marks identified by this prefix" (our emphasis) and that such public recognition is necessary. We agree with the Board's conclusions. See *Polaroid Corp.* v. *Richard Mfg. Co.*, 52 CCPA 978, 341 F.2d 150, 144 USPQ 419 (1965). Reading appellant's brief we are somewhat in doubt as to what is attempted to be made of the alleged existence of a "family" of marks since the argument appears to peter out in the statement, "Whether this identification [of probable source] comes from a strict 'family' of marks situation or otherwise is not material. It is the fact of such identification that is important." Appellant conceded it is but "one of a number of factors to be evaluated in determining whether there properly exists a basis for asserting such exclusivity," the reference being to exclusive rights in "WIT prefix marks" in the chemical field. In conclusion on this assertion of error, we cannot find in the Board's refusal to hold that the existence of a "family" of marks had been established any basis for reversal, either legally or factually.

[3] The second alleged error is the Board's holding that, considered in their *entireties*, appellant's WIT- prefix marks and appellee's WHIT- prefix marks "are readily distinguishable in sound, appearance, and possible suggestive significance." Independently of the "family" argument, appellant compares appellee's three marks, WHIT CHEM, WHIT-KLEEN, and WHITSOL, only with its WITCO mark and name. We agree with the Board they are readily distinguishable. The marks must be considered as a whole. Furthermore, the question of distinguishability is closely related to the statutory issue of likelihood of confusion, mistake, or deception and for reasons similar to those taken into account in applying the statute to the facts it is necessary to consider *who* is going to do the distinguishing. We think the probable purchasers of the goods of the parties here would have no difficulty whatever in this regard.

The third alleged error is that the Board was wrong in finding appellant and appellee to be in distinctly different branches of the chemical industry, selling to essentially different purchasers through different channels for different purposes and advertising in different types of trade publications. We find that for the most part this statement is true and that the Board was fully cognizant of such exceptions to that finding as did exist. Appellant recognized the Board's awareness of the exception by quoting its statement:

> There appears to be an overlapping of activities only to the extent that opposer sells its "WIT-COTE" asphaltic coating to the automobile industry for application to the undercarriage of automobiles and applicant sells a number of its compounds to the same industry for metal cleaning prior to machining.

We do not think these facts are going to result in confusion as to source by the automobile industry.[3]

[3] While we do not wholeheartedly accept as significant the Board's rationale that the products of the parties will be used at different ends of the automobile production "spectrum," except as it may bear on confusion of *products* in the factory, which may be what the Board had in mind, we cannot regard this mere rationale as a reversible error.

[4] The fourth and last error alleged is the holding of no reasonable likelihood of confusion in the trade, with resultant damage to appellant. This is merely the ultimate conclusion of law and requires no discussion.[4]

The decision of the Board is affirmed.

AFFIRMED.

[4] Appellee's brief has called our attention to two other oppositions brought by appellant against a third party, dismissed by the Board, and at the argument appellant called attention to another one in which its opposition was sustained. None of these cases has a direct bearing on the present case but we refer to them as of interest. The present Board decision antedates these decisions. *Witco Chemical Co.* v. *The Chemische Werke Witten G.m.b.H.*, Opp. No. 42,425, 157 USPQ 644; Opp. No. 42,421, 157 USPQ 647; Opp. No. 45,003, 158 USPQ 157.

U.S. Court of Customs and Patent Appeals

JACK ST. CLAIR KILBY *v.* HERBERT NELSON

No. 8206. Decided December 4, 1969

[57 CCPA —; 418 F.2d 1403; 164 USPQ 43]

1. INTERFERENCE — CONSTRUCTION OF COUNT — MEANING OF "CONTACT" — SEMICONDUCTOR.

"In our opinion, the statement [in the count] that 'the conductive film is in contact with' both the 'mesa' and 'the surrounding [insulating] coating' plainly dictates that the word 'contact' has the same meaning as applied to both the mesa and the coating. As applied to the coating, 'in contact with' necessarily means 'a touching or meeting' in the physical sense since the coating is of insulating material and cannot be part of a junction or touching surface of two *conductors* through which a *current* passes. Thus, the normal, and at the same time the broadest reasonable, understanding of the language is that no less than physical touching is required in both cases. Such touching additionally provides a connecting surface through which current passes in the case of the contact with the mesa of semiconducting material."

2. SAME—SAME—PATENT AND APPLICATION—AMBIGUOUS COUNT CONSTRUED IN LIGHT OF PATENT DISCLOSURE.

"While we think our reasoning is warranted even if the counts are deemed unambiguous and are interpreted without reference to the Nelson disclosure, the fact that Kilby urges that different interpretations of 'contact' are applicable may properly be treated as justifying analysis from the viewpoint that ambiguity is involved. * * * Therefore, interpretation of the counts in the light of the Nelson patent in which they originated is appropriate."

3. SAME — PATENT AND APPLICATION — RIGHT TO MAKE — "GIST OF INVENTION" DOCTRINE.

"Finally, Kilby contends that the Board has ignored the '"gist of the invention" doctrine applicable in interferences involving a patent and an application based on claims copied from the patent.' It is true that consideration of the 'gist of the invention' has been found useful in resolving the question of support for counts copied from a patent in certain circumstances, notably in *Hall* v. *Taylor*, 51 CCPA 1420, 332 F.2d 844, 141 USPQ 821, involving limitations in the counts to certain range limits. However, we think the basic rule that an applicant who copies a claim from a patent must show that he is entitled to make the claim and that all limitations in the copied claim will be considered material in determining applicant's right to make the claim, *Smith* v. *Wehn*, supra, and *Segall* v. *Sims*, 47 CCPA 886, 276 F.2d 661, 125 USPQ 394 (1960), compels the conclusion that the Kilby '486 application does not support the present counts. Moreover, it seems to us that consideration of what the gist of the claimed invention here is can only lead to the determination that it constitutes the improved structure which offers the previously set forth advantages in making the connection to the mesa of minute area and is defined by the counts in a manner not supported by the Kilby '486 construction."

APPEAL from Patent Office. Interference No. 92,840.

AFFIRMED.

Ellsworth H. Mosher (*Samuel M. Mims, Jr., Stevens, Davis, Miller & Mosher*, of counsel) for appellant.

A. Sherman (*A. Russinoff*, of counsel) for appellee.

Before RICH, *Acting Chief Judge*, MATTHEWS, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Patent Interferences awarding priority of invention of counts 1–4 of Interference No. 92,840 to Nelson, the senior party. The counts correspond to claims 1, 3, 7 and 8, respectively, of Nelson Patent No. 2,972,092, issued February 14, 1961 on an application filed August 11, 1959,[1] which claims were copied by Kilby in his application Serial No. 169,557, filed January 29, 1962.

No testimony was taken by either party and the senior party Nelson is restricted to his August 11, 1959 filing date for conception and reduction to practice. Before the Board, Kilby relied for priority on two prior applications of which his involved application is stated to be a continuation-in-part but, before us, he limits his reliance to just one of them, Serial No. 811,486 (the '486 application), filed May 6, 1959.[2]

Nelson contended before the Board that none of the Kilby applications [3] support the counts and the Board agreed with that contention. In determining whether the Board was guilty of reversible error, we conclude that the '486 application does not support the counts and that the Board's decision must be affirmed for that reason.

The invention relates to a semiconductor circuit element, such as a diode or transistor, of the mesa type. The record shows that a mesa type element may be formed by diffusing into a semiconductive wafer of one conductivity type, such as P-type, an active impurity which will convert the surface of the wafer to the opposite conductivity type, such as N-type, and provide a rectifying P-N junction at the interface between the surface zone and the wafer interior. Thereafter a portion of the wafer surface is removed down to and including the junction region to leave the remaining portion of the surface zone of N-type conductivity extending like a plateau or mesa from the remaining portion of the wafer of P-type conductivity. The size and the shape of the P-N junction of the device between the mesa and the wafer corresponds to the size and shape of the mesa and may be controlled with precision.

Counts 1 and 4 are representative:

1. A circuit element comprising a semiconductor wafer having two opposed major faces; at least one mesa of semiconductor material on one of said major wafer faces; an insulating coating on said one major wafer face around each said mesa; and a conductive film over the top of, and in contact with, each said mesa and the surrounding coating.

4. A two-terminal device comprising a semiconductor wafer having two opposed major faces; a surface zone of given conductivity type on said wafer including one of said major faces; an opposite conductivity type mesa on said other of said major faces; a rectifying barrier between said mesa and said surface zone; an insulating coating on said other major face around said mesa; a conductive film over the top of, and in contact with, said mesa and the top of the surrounding coating; and electrical leads to said conductive film and to the opposite major face.

[1] Serial No. 833,031, for "Semiconductor Devices."
[2] Patent No. 3,138,744, issued on that application on June 23, 1964.
[3] Kilby's right to make in his directly involved application was raised initially through a motion to dissolve by Nelson, which motion was denied by the Examiner.

For an understanding of the invention as disclosed by Nelson, reference is made to a sectional view shown in FIG. 2 of his patent and reproduced in enlarged scale in his brief as follows:

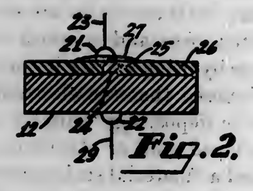


Fig. 2.

This figure shows a diode comprising a P-type germanium wafer having an N-type mesa projecting upwardly therefrom with a P-N junction between the mesa and the bulk of the wafer. The element is extremely small as evidenced by the disclosure that the mesa may measure less than 2 mils in diameter. An insulating coating 26 is deposited around the mesa and then a conductive film 27, with a thickness of about 0.1 to 0.5 mil, is evaporated over the top of the mesa and a portion of the insulating coating 26. This film forms a conductive member which has a lateral area considerably greater than the mesa. To complete the diode, a conductive pellet 21, which may also have a greater lateral area than the mesa, is bonded to the conductive film 27, a conductive pellet 22 is bonded to the opposite face of the unit, and lead wires 23 and 29 are attached to electrodes formed by pellets 21 and 22, respectively.

The structure disclosed in the Kilby '486 application is illustrated in plan and cross-sectional views in FIGS. 1 and 3, respectively, thereof:

Fig. 1.

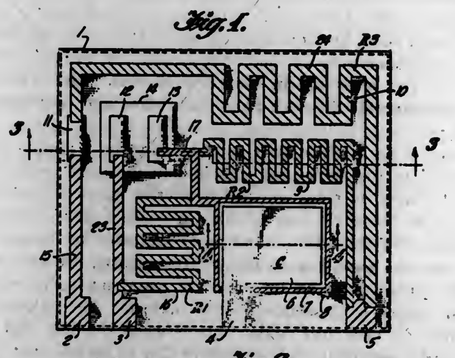


Fig. 3.



The figures show, in greatly enlarged scale, a miniaturized electronic module made up of interconnected elements, including a transistor designated generally as 14. The module includes a block of semiconductor material 19 which may be of N-type. The transistor which is formed within and upon the block comprises a portion of the block of N-type conductivity together with a mesa portion made up of layers 21 and 22 of semiconductor material which are of conductivity types respectively opposite to and similar to the type of the main body of the block. The layer 21 constitutes the base region of the transistor

and the upper layer 22 the emitter region. A portion of the block 19 itself forms the collector. After the block with the layers 21 and 22 is formed, a coating 20 of insulating material is provided over the entire block. Thereafter, small apertures are etched in the coating at locations for the emitter, base and collector contacts or electrodes shown at 12, 13 and 11 as by using a mask in conjunction with a photoresist process. It is disclosed that the electrodes may be formed by evaporating or otherwise depositing "suitable ohmic-contact-making material" ("antimony-doped gold or other suitable material" for the emitter and collector and a "material such as aluminum" for the base) in the apertures and the entire assembly heated to a predetermined temperature "at which the deposited material alloys with the base, emitter, and collector to form severally distinct ohmic contacts therewith." Next, a film of highly conductive material, "such as copper or gold," may be applied by vacuum deposition techniques to those areas shown in FIG. 1 with a cross hatch line extending upwardly to the right, including areas 15, 17 and 23 connected to collector, base and emitter electrodes 11, 13 and 12, respectively.

In reaching the conclusion that the Kilby applications do not support the counts, the Board held unsupported the term in count 1 reading:

> * * * and a conductive film over the top of, and in contact with, each said mesa and the surrounding coating.

The Board's reasoning was as follows:

> In our opinion the term "in contact with" is normally used to denote touching physically. In the electrical arts a "contact" is used to provide an electrical connection with a cooperating part or "contact." However, the electrical connection connotation urged by Kilby is not a normal one. It is true that an electrical connection results from physical contact or touching of a conductive body with another such body, but this does not mean that every electrical connection between two components of an electrical circuit can properly be the basis for stating that the two parts are in contact with each other. The two parts may be spaced a considerable distance from each other and connected by a wire or bus.
>
> Viewing count 1 as a whole it is considered to be a simple and straightforward description of the structural embodiment disclosed in the Nelson patent. It describes the mesa as being of semiconductive material and it states that a conductive film is "over the top of, and in contact with," the mesa and surrounding coating. We think that this clearly indicates an intention that the conductive film and the mesa top be physically touching. Clearly, Kilby's conductive film is in contact with an intermediate metal button or contact plate, not with the mesa, which is of semiconductive material. The natural way to broadly claim merely an electrical connection between the film and the top of the mesa would be by requiring the conductive film to be over the top of and electrically connected to the mesa.

In addition to arguing in support of the Board's position, Nelson urges that the Kilby applications fail to support the immediately preceding recitation in count 1 describing the insulating coating as "around each said mesa."

Kilby disagrees with the Board's interpretation of the counts, urging that the limitation cited by the Board demands "nothing more than that there shall be an *electrical* contact between the *conductive* film and the mesa and the surrounding coating." He states that the counts are not ambiguous and that the issue here revolves around the "holding" of the Board "that the claims copied from the Nelson patent require the insertion of the limitation *physical* into that part of the counts which reads 'and a conductive film over the top of, and in *contact* with, each said mesa and the surrounding coating.'"

Thus, the basic issue here involves the meaning of "contact" as used in the counts. While Webster's New International Dictionary of the English Language, Unabridged, 2nd ed., G. & C. Merriam Co., 1949, sets forth ten definitions of that word, all that need be considered here are those designated 1 and 6 and reading as follows:

> 1. A union or junction of bodies; a touching or meeting; as, a disease communicated by *contact; contact* with the air.
>
> * * * * * * *
>
> 6. *Elec.* The junction or touching surface of two conductors through which a current passes; also, a special part, as a platinum stud, made for such a junction for temporary or momentary connection. Cf. ARCING CONTACT.

Despite Kilby's arguments, we are in full accord with the analysis of the Board quoted hereinabove. [1] In our opinion, the statement that "the conductive film is in contact with" both the "mesa" and "the surrounding [insulating] coating" plainly dictates that the word "contact" has the same meaning as applied to both the mesa and the coating. As applied to the coating, "in contact with" necessarily means "a touching or meeting" in the physical sense since the coating is of insulating material and cannot be part of a junction or touching surface of two *conductors* through which a *current* passes. Thus, the normal, and at the same time the broadest reasonable, understanding of the language, is that no less than physical touching is required in both cases. Such touching additionally provides a connecting surface through which current passes in the case of the contact with the mesa of semiconducting material.[4]

[2] While we think our reasoning is warranted even if the counts are deemed unambiguous and are interpreted without reference to the Nelson disclosure, the fact that Kilby urges that different interpretations of "contact" are applicable may properly be treated as justifying analysis from the viewpoint that ambiguity is involved. See *Smith* v. *Wehn*, 50 CCPA 1544, 318 F.2d 325, 138 USPQ 52 (1963). Therefore, interpretation of the counts in the light of the Nelson patent in which they originated is appropriate. Such consideration reinforces the conclusion that a physical contact or touching is required between the conductive film and the top of the mesa. Thus, Nelson attains a construction where connection to the very small mesa area, without short-circuiting the P-N junction, is facilitated by having the mesa surrounded by an insulating coating which is as thick as the mesa height, but does not cover the top of the mesa at the time the conductive film is applied. That construction results in the film being in physical contact with the entire top of the mesa and the surrounding coating. It avoids any need for the delicate task of etching an extremely small aperture accurately through an insulating coating on top of the mesa, which itself is of very small lateral area, and depositing a contact-forming metal therein prior to depositing the conductive film.

Kilby also argues that the button-like electrodes of his structure, as 12 and 13, should be considered as part of the mesa or, alternatively, as part of the conductive film. With respect to considering the electrodes 12 and 13 as part of the mesa, he refers to the law of fixtures

[4] An interesting analogy exists between this case and *Rajchman* v. *Lockhart*, 52 CCPA 853, 339 F.2d 233, 144 USPQ 34 (1964), wherein the court agreed with the Board's refusal to assign a purely magnetic meaning, as contrasted to a meaning requiring physical linking or embracing, to the word "linking" used in conjunction with windings on a magnetic core.

as it pertains to personalty such as machinery firmly attached to the earth or a building being legally annexed to real property. That point is entirely too remote to even suggest consideration of the semiconductive mesa and the conductive metallic electrodes as one and the same.

As to the alternative argument, Kilby refers to the possibility of "the use of a common material for producing a rectifying junction, such as aluminum, and, then, because aluminum is an excellent electrical conductor, using aluminum as the conductive film." He states that the first deposited portion of aluminum would be the "button" and the second deposited portion the conductive film, and asks "who could say which was the 'button' and which was the conductive film * * * ?" Kilby further argues that the conductive film and the electrode between it and the semiconductor, when made of dissimilar materials, would be "mechanically, electrically and chemically" connected together.

The first of those contentions involves a hypothetical construction not disclosed in Kilby '486, where the electrodes or "buttons" are described only as making ohmic-contact in contrast to a rectifying junction. Moreover, there is no justification in any event for regarding the electrodes 12 and 13 of Kilby as being but a part of the conductive film. The fact is that these electrodes are shown as separate from the film and are described as separate. Thus the electrodes are described as "distinct ohmic contacts" and the connections to them are described as "highly conductive films."

[3] Finally, Kilby contends that the Board has ignored the "'gist of the invention' doctrine applicable in interferences involving a patent and an application based on claims copied from the patent." It is true that consideration of the "gist of the invention" has been found useful in resolving the question of support for counts copied from a patent in certain circumstances, notably in *Hall* v. *Taylor*, 51 CCPA 1420, 332 F.2d 844, 141 USPQ 821, involving limitations in the counts to certain range limits. However, we think the basic rule that an applicant who copies a claim from a patent must show that he is entitled to make the claim and that all limitations in the copied claim will be considered material in determining applicant's right to make the claim, *Smith* v. *Wehn*, supra, and *Segall* v. *Sims*, 47 CCPA 886, 276 F.2d 661, 125 USPQ 394 (1960), compels the conclusion that the Kilby '486 application does not support the present counts. Moreover, it seems to us that consideration of what the gist of the claimed invention here is can only lead to the determination that it constitutes the improved structure which offers the previously set forth advantages in making the connection to the mesa of minute area and is defined by the counts in a manner not supported by the Kilby '486 construction.

Since we are convinced that the only application antedating Nelson's record date which Kilby relies on does not provide support for the counts, the matter of whether the directly involved Kilby application provides such support is moot.

The decision is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,480,358, Curtis and Tomlinson, APPARATUS FOR COATING THE INTERIOR OF PIPE LINES; **2,663,326**, A. C. Curtis, END CLOSURE FOR PUP JOINTS USED IN COATING THE INTERIOR OF PIPE LINES; **2,707,988**, Wheeler and Micheletti, GOVERNOR HYDRAULIC CIRCUIT CONTROLLER; **2,713,908**, same, APPARATUS FOR COATING THE INTERIOR OF WELL PIPES; **2,717,688**, same, METHOD FOR CLEANING AND COATING THE INTERIOR OF WELLS; **2,966,530**, Mills and Bryan, GOVERNOR FOR PIPELINE APPARATUS; **2,989,428**, D. K. McLean, INTERNAL HOLIDAY INSPECTION AND PAINT SPRAY APPARATUS; **3,067,721**, D. P. Collins, Jr., ACCESS JOINT ASSEMBLY; **3,079,888**, D. K. McLean, PIPELINE COATING THICKNESS CONTROL; **3,099,227**, H. J. Bryan, PIPELINE VEHICLE GOVERNING DEVICE; **3,104,671**, D. K. McLean, APPARATUS FOR PIPELINE TREATMENT WITH CONTAMINANT FREE FLUID; **3,107,380**, same, PIPELINE ACCESS JOINT ASSEMBLY; **3,106,012**, A. C. Curtis, METHOD OF CONDITIONING TRANSMISSION LINES IN SITU; **3,112,227**, same, ROTARY DEVICE FOR APPLICATION OF A PROTECTVE COMPOUND COATING ON THE INNER WALL OF CONDUITS; **3,118,791**, D. K. McLean, SHUTTLE SYSTEM FOR INTERNAL PIPE COATING; **3,135,629**, same, PIPELINE COATING UNIT, filed Jan. 30, 1970, D.C., N.D. Tex. (Dallas), Doc. CA-3-3617-B, *Pipelife Corporation of Nevada* v. *A. C. Curtis, Intra-Coat, Inc. and Pipelife corp. of Tex.*

2,663,326. (See 2,480,358.)

2,707,988. (See 2,480,358.)

2,713,908. (See 2,480,358.)

2,717,688. (See 2,480,358.)

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2,938,279, Hemstreet and Woodson, MEANS FOR PRODUCING VISUAL DISPLAY IN GROUNDED AIRCRAFT TRAINERS; **2,975,670**, H. S. Hemstreet, METHOD AND APPARATUS FOR PRODUCING VISUAL DISPLAY; **2,975,671**, same, MEANS FOR ALTERING APPARENT PERSPECTIVE OF IMAGES; **2,999,322**, same, VISUAL DISPLAY METHOD AND APPARATUS; **3,015,963**, same, PERSPECTIVE ALTERATION MEANS; **3,101,645**, same, SIMULATED VIEWPOINT DISPLACEMENT APPARATUS, filed Apr. 28, 1969, D.C., S.D.N.Y. Doc. 69-C-1772, *Singer General Precision Inc.* v. *Farrand Optical Co. Inc.* Filed order of dismissal, Jan. 7, 1970.

2,975,670. (See 2,938,279.)

2,975,671. (See 2,938,279.)

2,999,322. (See 2,938,279.)

3,015,963. (See 2,938,279.)

3,066,530. (See 2,480,358.)

3,089,428. (See 2,480,358.)

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3,099,227. (See 2,480,358.)

3,101,645. (See 2,938,279.)

3,104,671. (See 2,480,358.)

3,107,380. (See 2,480,358.)

3,106,012. (See 2,480,358.)

3,112,227. (See 2,480,358.)

3,116,566, J. J. Ferreira, INJECTION MOLDED SHOE BOTTOM AND SHOE HAVING SAME; **3,177,596**, same, SOLE UNIT OR SHOE BOTTOM, filed Jan. 27,1970, D.C., Mass. (Boston), Doc. 70-153-M, *Joseph F. Corcoran Shoe Co., Inc.* v. *Frank Noone Shoe Company, Inc.*

3,118,791. (See 2,480,358.)

3,135,629. (See 2,480,358.)

3,152,381, Priester and McWhorter, METHOD FOR PRODUCING FABRIC, filed Jan. 16, 1970, D.C., S.C. (Greenville), Doc. C.A. 70-9, *Collins and Aikman Corporation* v. *J. P. Stevens & Co., Inc.*

3,166,693. (See 3,083,883.)

3,175,040, D. R. Von Recklinghausen, BALANCED STEREOPHONIC DEMODULATOR APPARATUS, filed Sept. 30, 1965, D.C., S.D.N.Y., Doc. 65-C-2927, *H. H. Scott, Inc.* v. *Fisher Radio Corp.* Order action dismissed for lack of prosecution without prejudice, Feb. 2, 1970.

3,177,596. (See 3,116,566.)

3,188,468, L. E. Packard, METHOD AND APPARATUS FOR AUTOMATIC STANDARDIZATION IN LIQUID SCINTILLATION SPECTROMETRY, filed Apr. 25, 1968, D.C.N.J. (Newark), Doc. C-389-68, *Packard Instrument Company, Inc.* v. *Intertechnique, S.A. and Intertechnique Instruments, Inc.* Consent judgment patent infringed, Jan. 26, 1970.

3,212,909, A. B. Leigh, ANTIFOGGING COMPOSITION, filed Jan. 24, 1969, D.C., S.D.N.Y., Doc. 69-C-282, *Arthur B. Leigh* v. *Fred S. Karaman.* Stipulation and order discontainuing action, Nov. 14, 1969.

3,267,587, Niemiec and Satterlee, HAIR DRYER, filed Feb. 10, 1970, D.C., Minn. (St. Paul), Doc. 3-70-C-28, *Sunbeam Corporation* v. *Faberge, Inc.*

3,470,633, Friedman, Harris, Mauch, Harris and Manzo, WATCHBAND CONSTRUCTION, filed Jan. 1, 1970, D.C., S.D.N.Y., Doc. 70-23, *Brite Industries Inc.* v. *Westerman Manufacturing Co. Inc.*

Erratum

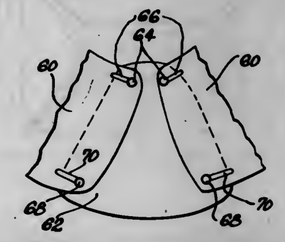
In Patent Suits of the OFFICIAL GAZETTE of January 13, 1970, vol. 870, page 390, the paragraph beginning with 3,444,707 should be deleted.

PATENTS

GRANTED MAY 5, 1970

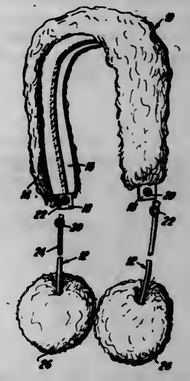
GENERAL AND MECHANICAL

3,509,579
SHOULDER PAD CONSTRUCTION
Gerard E. Morgan, Lake Forrest, Ill., assignor to Riddell, Inc., a corporation of Illinois
Original application May 10, 1965, Ser. No. 454,504, now Patent No. 3,366,970, dated Feb. 6, 1968. Divided and this application Oct. 13, 1967, Ser. No. 675,216
Int. Cl. A41d *13/00*
U.S. Cl. 2—2 4 Claims



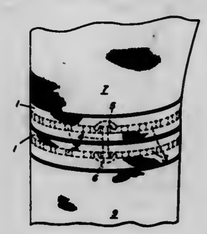
A shoulder pad construction including a pair of U-shaped body members defining an opening at the top for insertion of the head of the wearer. The downwardly extending chest and back portions of the body members are spaced apart and plates fill the gaps between these members. The interior edges of the members overlap the plates, and swivel connections are provided between the overlapping pieces so that freedom for arm movements is provided without disturbing the overlapping relationship.

3,509,580
MULTI-PURPOSE DRESS ACCESSORY
Freda Rubenstein, 2000 Lynwood Ave., Fort Lee, N.J. 07024, and Jack Weisberg, 392 Central Park W., New York, N.Y. 10025
Filed Nov. 27, 1968, Ser. No. 779,396
Int. Cl. A41d *5/00*
U.S. Cl. 2—65 7 Claims



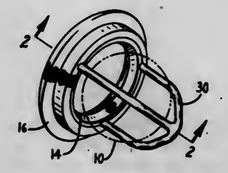
A multi-purposed dress accessory article formed by a fur-piece adapted to fit around a wearer's neck, with its ends separably fastened to one another, and ornamental tie-pieces, each separably engageable to one end to one end of the fur-piece, whereby the fur-piece may be worn over the head with the tie-pieces tied under the chin; the tie pieces each engageable by their said ends separably to one another, whereby they may be tied around the neck or head of a wearer; the tie pieces having a pom-pom ornament at their other ends.

3,509,581
FOUNDATION GARMENT AND HOSE SUPPORTER
Arthur R. Lewis, New York, N.Y., assignor to Arthur R. Lewis, Inc., New York, N.Y., a corporation of New York
Filed Mar. 27, 1968, Ser. No. 716,601
Int. Cl. A41b *11/00*
U.S. Cl. 2—240 7 Claims



A device is described for fastening stockings to foundation garments and the like. The bottom of the foundation garment has an elastic tape and the top of the stocking has another one. A flat, essentially rigid fastener with a smooth flat shank and sideways projections at both ends fastens into loops or other small openings on the tape attached to the foundation garment and is anchored into the tape on the top of the stocking. Preferably the tape on the foundation garment has openings such as loops that do not stretch as easily as the elastic band on the stocking, so that fasteners stay in the foundation garment but can easily be attached and detached onto and out of the band on the stocking.

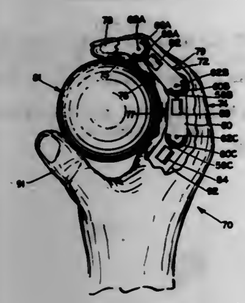
3,509,582
HEART VALVE WITH PLASTIC COVERED CAGE LEGS
Will R. Pierie, Tustin, and Donald A. Raible, Corona, Calif., assignors, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed July 3, 1967, Ser. No. 650,852
Int. Cl. A61f *1/22*
U.S. Cl. 3—1 5 Claims



A plastic covering for the metal cage legs of a heart valve having a metal valve member, to reduce noise and

wear. In cages having a closed apex, the plastic covering is injection-molded over the cage legs. In cages having an open apex, the plastic covering is molded as a separate sleeve piece which is slipped over the ends of the cage legs.

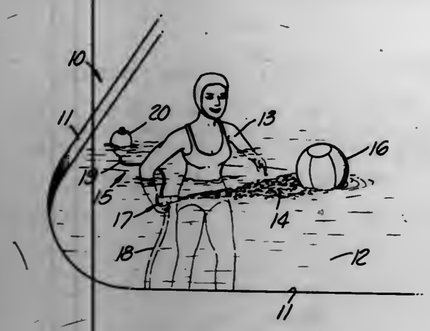
3,509,583
ELECTRO-MECHANICAL HAND HAVING TACTILE SENSING MEANS
Anthony V. Fraioli, Essex Fells, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 9, 1965, Ser. No. 486,069
Int. Cl. A61f 1/06
U.S. Cl. 3—1.1 15 Claims



TACTILE MANIPULATOR

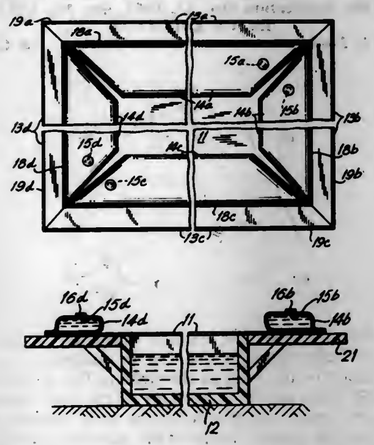
An electro-mechanical hand having tactile sensors on links of finger elements of the hand, and motor means supported by inner adjacent links for pivotally driving outer links of the finger elements in response to pressures applied to the tactile sensors on the outer links.

3,509,584
SWIMMING POOL RECREATIONAL DEVICE
Chester A. Sable, 9314 Ethel St., Cypress, Calif. 90630
Filed Sept. 18, 1967, Ser. No. 668,568
Int. Cl. E04h 3/16
U.S. Cl. 4—172 5 Claims



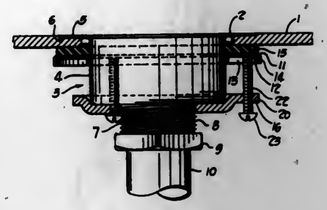
A hand-held nozzle device is connected via a flexible hose to a supply of pressurized water. The nozzle is also connected via a second flexible hose, the other end of which is maintained above the pool water surface by a float. As pressurized water is expelled from the nozzle, it is mixed with air brought via the second flexible hose to form a pressurized stream of water and entrained air. The device can be used for recreational purposes in a swimming pool, such as propelling a small boat or rubber air-filled mattress, or for directing onto the body of an individual to produce a pleasing sensation, among other uses.

3,509,585
PORTABLE WEIGHTABLE COVER
Samuel Solomon, 2402 65th St., Brooklyn, N.Y. 10004
Filed Sept. 18, 1967, Ser. No. 668,534
Int. Cl. E04h 3/19
U.S. Cl. 4—172.12 9 Claims



Sleeves of plastic vinyl cover material are affixed to a sheet of plastic vinyl material in the area of the edges thereof. Each of the sleeves comprises a closed envelope adapted to contain ballast and an opening in the envelope for the supply and removal of ballast. Each of the sleeves is movable to a position in juxtaposition with the sheet. A sheet of meshed material on the sheet of cover material is interposed between the sheet of cover material and each of the sleeves at its boundary areas.

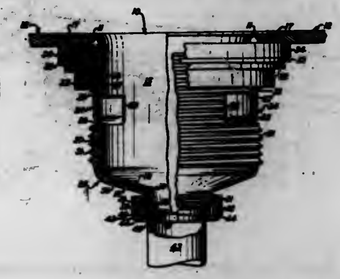
3,509,586
SINK STRAINER MOUNTING MEANS
William E. Politz, Delphi, Ind., assignor to Stephen A. Young, Monticello, Ind.
Filed June 23, 1967, Ser. No. 648,368
Int. Cl. E03c 1/26
U.S. Cl. 4—190 1 Claim



The invention herein is directed to means for mounting a sink strainer which eliminates the necessity to thread a portion of the body of the strainer but at the same time enables rapid mounting and adjustment of the strainer in the drain outlet by the provision of a carrier in which are mounted machine screws which in conjunction with certain pressure members and the flange of the strainer make
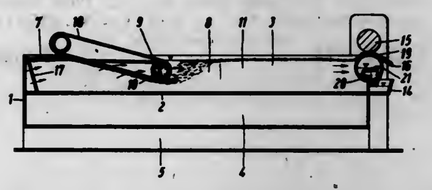
possible the sealing engagement of the flange with the outlet of the sink and by minimum application of simple tools.

3,509,587
SINK STRAINER BODY ASSEMBLY
Irving Fine, 15 Klondcutt Road, Worcester, Mass. 01602
Filed Jan. 5, 1968, Ser. No. 696,014
Int. Cl. E03c 1/26
U.S. Cl. 4—288 10 Claims



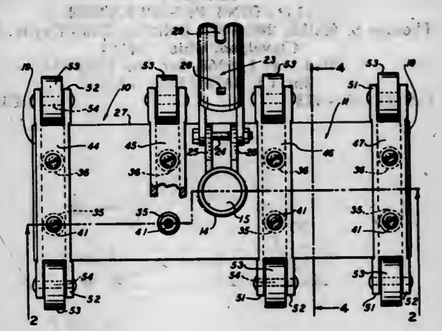
A strainer body assembly composed of a threaded body member constituted of an inner part made of thin gauge metal and an outer part made of plastic material, the threads being formed in the plastic material.

3,509,588
PROCESS AND APPARATUS FOR THE WET-TREATMENT OF LOOSE FIBROUS MATERIAL
Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to VEPA AG, Basel, Switzerland
Filed Mar. 25, 1968, Ser. No. 715,604
Claims priority, application Germany, Apr. 14, 1967, V 33,442
Int. Cl. D21c 9/02; D06f 17/02
U.S. Cl. 8—156 21 Claims



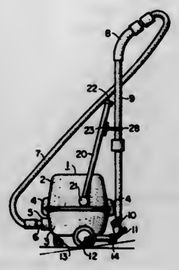
The present disclosure relates to a process and apparatus for the wet-treatment of loose fibrous material, particularly to a method and apparatus for scouring raw wool. The apparatus of the present disclosure comprises a liquid container containing a treatment bath, means for introducing the fibrous stock into the liquid container, a first conveying element disposed in the liquid container at the inlet, said first conveying element being partially immersed in the treatment bath, a second conveying element disposed in the liquid container at the outlet and partially immersed in the treatment bath, said second conveying element being perforated to permit the treatment liquid to flow from the treatment bath to the inside of said second conveying element, means for returning the treatment liquid drawn into the perforated conveying element to the liquid container at the inlet, thereby producing in the liquid container a flow in the direction of material passage and means for removing the material being treated from the liquid container.

3,509,589
POOL CLEANING SUCTION HEAD
William D. Bond, Arcadia, Calif., assignor to World Industries, Inc., Irwindale, Calif., a corporation of California
Filed May 29, 1968, Ser. No. 732,953
Int. Cl. E04h 3/20
U.S. Cl. 15—1.7 5 Claims



A suction head for cleaning swimming pools by circulating water through the filter pump in which a base plate of flexible material has a central hollow boss for attachment to a suction hose from the pump and mount means for a propelling handle. Transverse elongate weights on the base plate at longitudinal intervals protrude beyond the plate at each of their ends. Rollers secured to the protruding ends space the under surface of the plate from the surface being cleaned. Base plate bosses accept bolts which secure the weights each at two places transversely aligned on the base plate such that the plate flexes only in its elongate extent.

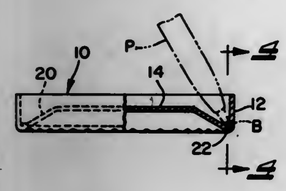
3,509,590
VACUUM CLEANER
Hideya Koshiyama, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Tokyo-to, Japan
Filed Jan. 26, 1967, Ser. No. 611,939
Claims priority, application Japan, Jan. 26, 1966, 41/5,775, 41/5,778; Apr. 13, 1966, 41/33,409, 41/33,433; Aug. 12, 1966, 41/75,661; Oct. 4, 1966, 41/92,719
Int. Cl. A47l 5/36
U.S. Cl. 15—323 13 Claims



This specification discloses a mobile vacuum cleaner combination including a housing mounted on main wheels and front caster wheels and having a rearwardly

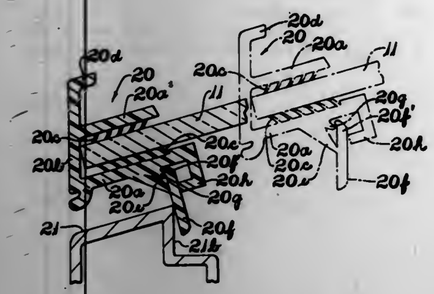
extending rest member secured to said casing for preventing tipping and for cooperating with an upwardly extending handle to support the partly flexible, partly rigid air conduit connected to the cleaner. There is also described a foldable handle and various air conduit holding arrangements in association with the handle.

3,509,591
BALL POINT PEN CLEANER
Thomas S. Kulka, 200 Film Building, 2108 Payne Ave., Cleveland, Ohio 44114
Filed May 1, 1968, Ser. No. 725,608
Int. Cl. B43h *13/00, 15/00*
U.S. Cl. 15—423 4 Claims



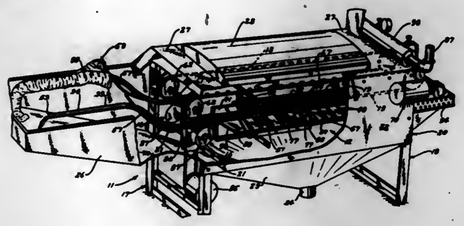
A device for restoring temporarily inoperative ball point pens by dislodging or otherwise removing of eliminating dried ink particles or other foreign material from the area between the ball point and the socket for such point. In all of the disclosed forms, means are provided against which the point of the pen is firmly engaged and briskly moved, with the friction resulting from such movement serving to reinstitute rotation of the ball in the socket an thus restore the pen to proper condition for use.

3,509,592
PLASTIC EXTRUSION
Richard L. Schrock, Marietta, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed July 17, 1967, Ser. No. 653,998
Int. Cl. A47b *95/02*
U.S. Cl. 16—110 4 Claims



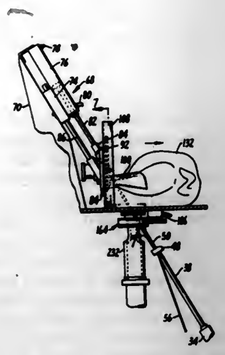
A one-piece plastic extrusion for use as a combined handle and stop for a cabinet door, the extrusion having portions of different stiffness including a rigid combined handle and channel portion, for engagement over the edge of a sliding glass door, a rigid latch portion for limiting the movement of the door and a flexible plastic hinge portion interconnecting the said rigid portions with stop portions of rigid plastic extending from the channel portion for limiting movement of the latch relative to the channel.

3,509,593
APPARATUS FOR CLEANING ANIMAL INTESTINES
Leonard De Moss, Des Moines, Iowa, assignor to Strickler-De Moss Mfg. Co., Des Moines, Iowa, a partnership composed of Richard A. Strickler and Leonard De Moss, both of Des Moines, Iowa
Filed Oct. 10, 1967, Ser. No. 674,214
Int. Cl. A22c *17/16*
U.S. Cl. 17—43 3 Claims



An animal intestine cleaning machine provides for the initial travel of the intestine on a fluid carrying pipe wth its fatty upper side guided for support on the top surface of the pipe. The lower side of the intestine is cut longitudinally and the slit intestine is spread out while supported on the fluid carrying pipe. On commencement of the washing operation, the fatty side is moved to a supported position on a small diameter rod spaced above and parallel to the fluid carrying pipe so that water discharged upwardly from the pipe and from nozzles arranged at opposite sides of the pipe act to wash all portions of the under surface of the spread out intestine.

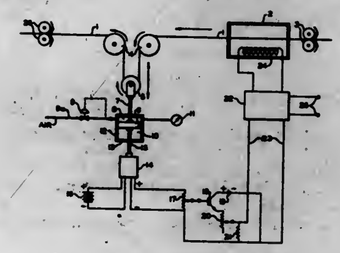
3,509,594
METHOD FOR TYING CARCASSES
George G. Kliewer and John H. Roberts, Fresno, Calif., assignors to Dun-Rite Manufacturing Corporation, Fresno, Calif., a corporation of California
Original application Feb. 21, 1967, Ser. No. 617,643, now Patent No. 3,474,489, dated Oct. 28, 1969. Divided and this application May 19, 1969, Ser. No. 825,713
Int. Cl. A22c *21/00*
U.S. Cl. 17—45 7 Claims



A method for tying the legs of eviscerated animals, and particularly birds, to the bodies thereof with an axially continuous thread. In the method the legs of the animal

are forced against its body and then an axially continuous thread is directed around the legs and body to form a loop which performs the tying function. To form the loop, spaced portions of the thread are secured together.

3,509,595
TENSION CONTROL OF RUNNING THERMOPLASTIC FILAMENTS
George E. Mader, Jr., Bartlesville, Okla., and Thomas J. Huddleston, Boulder, Colo., assignors to Phillips Petroleum Company, a corporation of Delaware
Original application Dec. 12, 1964, Ser. No. 417,981, now Patent No. 3,395,200, dated July 30, 1968. Divided and this application Apr. 22, 1968, Ser. No. 723,227
Int. Cl. D01d *5/12, 9/08*
U.S. Cl. 18—1 5 Claims



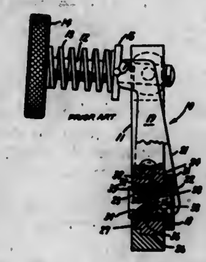
Device for controlling the tension in a running filament which includes a movable member attached to a piston over which the filament passes. The piston is arranged so that the force of the tension in the filament is balanced by a constant fluid pressure proportional to the desired tension, physical movement of the piston as the tension varies is sensed, and the tension-varying means is controlled in response to the sensed movement.

3,509,596
APPARATUS FOR BLOW MOLDING PLASTIC ARTICLES
Charles H. Shaw, Bloomfield, and Robert G. Strauss, West Hartford, Conn., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 17, 1966, Ser. No. 587,255
Int. Cl. B29c *5/06*
U.S. Cl. 18—5 8 Claims



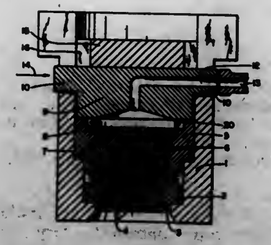
An apparatus for blow molding non-cylindrical articles by pre-inflating a tubular parison prior to final expansion within the blow mold. The apparatus includes a scissors assembly for clamping a leading end of the extruding parison, and may include an integral cutting blade for severing the parison and cooperating jaws for supporting the parison after cutting.

3,509,597
DIAMOND HIGH PRESSURE CELL
Robert S. Kirk, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 2, 1968, Ser. No. 694,917
Int. Cl. B29c *3/00*
U.S. Cl. 18—16.5 9 Claims



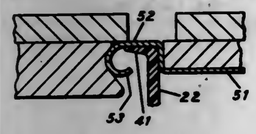
An improvement is described in high pressure optical cells which employ diamond anvils for exerting very high pressures to specimens disposed therebetween whereby the specimen and phase change(s) brought about therein are visible during actual pressure application. The improved structure enables the use of inexpensive transparent natural unpolished diamond crystals in combination with inexpensive back-up means for supporting the opposed diamond crystals over the entire area of the face thereof opposite the juxtaposed faces, which apply pressure to the specimen. The back-up means for the diamonds are also transparent being of ordinary polished plate glass, such as a soda-lime or borosilicate glass.

3,509,598
SPINNERET PACK ASSEMBLY
Paul V. M. van den Biggelaar, Hulsten, Gilderland, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,418
Claims priority, application Netherlands, Apr. 27, 1966, 6605607
Int. Cl. D01d *3/00*
U.S. Cl. 18—8 2 Claims



An improved spinneret pack assembly for the melt spinning of synthetic filaments, fibers or yarns adapted to be completely sealed under polymer pressure with flange means supporting the distribution plate and the spinneret plate, respectively, against pressures imparted by the polymer.

3,509,599
TOOL FOR FLARING AND SEVERING SLEEVES FROM PLASTICS TUBING
Charles E. Brion, Belleville, and Philip R. O'Brien, Westfield, N.J., assignors to Chevron Research Corporation, San Francisco, Calif., a corporation of Delaware
Original application Mar. 17, 1965, Ser. No. 440,479, now Patent No. 3,410,939. Divided and this application Apr. 5, 1968, Ser. No. 740,004
Int. Cl. B29c *17/00, 27/00*
U.S. Cl. 18—19 1 Claim



A tool and method for operating the tool is described for severing sleeve sections from an elongated tubular plastics member in a manner to form permanently a flare at each end of the sleeve sections severed from the elongated tube.

3,509,600
ELECTROHYDRAULIC SERVO CONTROL
Paul Hodgson Noble, Grafton, Vt., assignor to The Fellows Gear Shaper Company, Springfield, Vt., a corporation of Vermont
Filed Oct. 30, 1967, Ser. No. 679,144
Int. Cl. B29f *1/02*
U.S. Cl. 18—30 11 Claims



An improved servo control unit for a closed loop hydraulic circuit is described. The servo control unit receives programmed and adjusted electrical command signals for dictating hydraulic pressure differentials within the unit, and the hydraulic pressure differentials are utilized to control a reversible pump within a closed loop hydraulic circuit. The closed loop hydraulic circuit may include an injection molding machine, or other machine requiring a flow of hydraulic fluid to perform work, and all functions of the machine may be programmed into the servo control unit so as to actuate the pumping means and to dictate the direction and rate of hydraulic fluid flow from the pumping means.

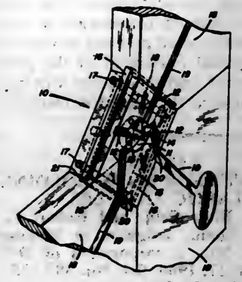
3,509,601
INJECTION MOLDING MACHINE
Oskar R. Johansson, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 19, 1968, Ser. No. 706,418
Int. Cl. B29f *1/02*
U.S. Cl. 18—30 10 Claims

In a reciprocating screw injection molding machine wherein independently controlled rotary and axial movements are imparted to the plasticizing screw by a piston-cylinder motor having its reciprocable piston slidingly driven by a rotary splined shaft driven by a separate motor means, the improvement which comprises interposing and extending a sleeve, fixed on one end relatively to the cylinder, for a substantial distance between the piston and a driving cap co-axial with and fixedly attached to the piston and the plasticizing screw, with the driving cap also being in sliding, driving engagement with the rotary



splined shaft, thus permitting sealing of the piston inner peripheral surface against the smooth outer peripheral surface of the interposed sleeve.

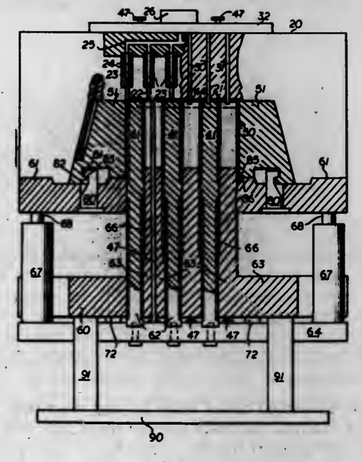
3,509,602
INJECTION MOULDING DEVICE WITH A PLURALITY OF CAVITY PLATES
Hans Gustav Erik Ahlbin, Sturegatan 14, Sundbyberg, Sweden
Continuation-in-part of application Ser. No. 539,212, Mar. 31, 1966. This application Sept. 6, 1968, Ser. No. 758,055
Claims priority, application Sweden, Apr. 2, 1965, 4,275/65
Int. Cl. B29c *1/16*; B22d *17/22*
U.S. Cl. 18—42 4 Claims



An arrangement in casting and moulding apparatus by which a plurality of separate cavity plates can be grouped about a common polygonal supporting block which has a gate communicating with casting material distribution passages in the cavity plates. One corner of each cavity plate is cut away at such an angle to the side edges thereof that the length of the cut surface corresponds exactly with the length of the support surfaces in the block so that, when pressed into abutment with their respective support surfaces, the side edges of the cavity plates firmly abut the side edges of neighbouring cavity plates in interlocking relationship.

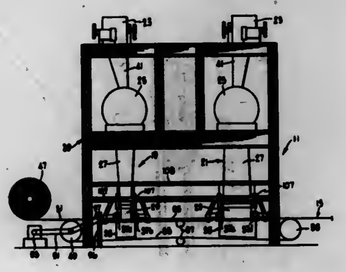
3,509,603
APPARATUS FOR FABRICATING BATTERY CASES
Vincent Michael Halsall, Bayside, Wis., and Peter Anthony Cosme, Lockport, Ill., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 608,104
Int. Cl. B29c *1/06*
U.S. Cl. 18—42 6 Claims

A molding apparatus and method for injection molding long thin walls of uniform thickness such as the walls of a battery case. The uniform thickness walls are molded between cores. The pressure at the walls is relieved, preferably by withdrawing some of the cores, before the



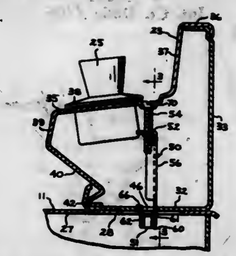
molded part is entirely separated from the mold. Dimensional stability is improved by rigidly supporting the mold cores during the initial stage of plastic injection.

3,509,604
AIR LAYING SYSTEM HAVING A SEAL ROLL
Warren R. Furbeck, Knoxville, Tenn., assignor, by mesne assignments, to International Paper Company, New York, N.Y., a corporation of New York
Filed Oct. 3, 1967, Ser. No. 672,477
Int. Cl. D01g *25/00*
U.S. Cl. 19—156.3 7 Claims



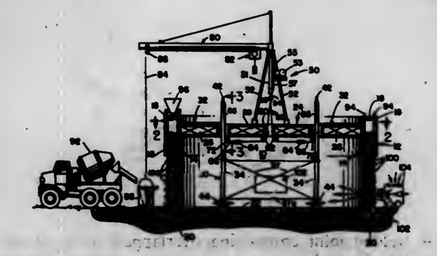
A stream of air carries loose fibers through enclosed ducts and deposits them on a continuously moving carrier as it moves through a generally enclosed chamber. The carrier and now formed fibrous pad exit the chamber through an opening which is sealed by a unitary seal roll. The seal roll is provided with a groove corresponding to the contour of the pad and is slightly embedded in the pad to seal against air leakage which would cause an undesirable movement of the fibers in the chamber. The seal roll is rotated so that its walls defining the groove have a tangential velocity which differs from the linear velocity of the pad and carrier whereby the fibrous surface of the pad is brushed and worked by the roll.

3,509,605
SLIDABLE FASTENING MEANS BETWEEN RELATED MEMBERS
Philip J. More, Chattanooga, Tenn., assignor to General Electric Company, a corporation of New York
Filed Sept. 10, 1968, Ser. No. 758,844
Int. Cl. F24c *15/10*
U.S. Cl. 24—73 6 Claims



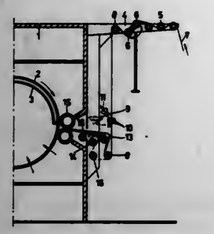
The present invention relates to cooking appliances in general and adjustable fastening means in particular between two members where one member is a fixed member and the other member is adapted to be mounted to the first member. The fastening means is a quick-connect fastening means assembled with the second member, and they move relative to the first member, but cannot easily be separated therefrom. Screw means are combined with the adjustable fastening means for locking the second member in place on the first member.

3,509,606
APPARATUS FOR THE CONSTRUCTION OF VERTICAL TUBULAR CONCRETE STRUCTURES
Richard D. Fisher, Milton-Freewater, Oreg., assignor to De Muth Steel Products Company, Schiller Park, Ill., a corporation of Illinois
Filed Feb. 13, 1967, Ser. No. 615,770
Int. Cl. E03b *11/00*
U.S. Cl. 25—124 7 Claims



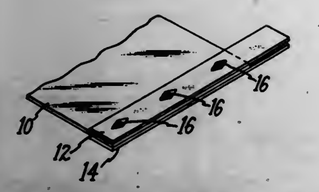
Method and apparatus for constructing vertical, tubular concrete structures, such as silos and the like, wherein the concrete is poured on a continuous or intermittent basis comprising a vertically extending form structure having spaced inside and outside form walls. A horizontal work platform is mounted inside the form structure and is connected around its periphery to the inside form wall to support the structure. An independent, surface supported, vertical scaffold structure is constructed inside the form structure for supporting the platform, and includes a plurality of vertical posts. The scaffold structure includes a plurality of sections adapted to be stacked vertically upon one another to support the platform as it is elevated. Lifting means interconnected between the work platform and the posts of the scaffold sections for elevating the platform and form structure as pouring of the concrete proceeds at ever increasing elevations until the silo is completed.

3,509,607
APPARATUS FOR THE CREASE-FREE HEAT-TREATMENT OF LENGTHS OF TEXTILE MATERIALS
Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to VEPA AG, Basel, Switzerland
Filed Oct. 30, 1967, Ser. No. 679,047
Claims priority, application Germany, Nov. 3, 1966, V 32,251
Int. Cl. D06c 3/06
U.S. Cl. 26—68 14 Claims



An apparatus for introducing one or more lengths of variable width material into a heat-treatment chamber wherein a cloth guide means and a spreading device are advantageously provided at the inlet of the treatment chamber. The cloth guide means and the spreading device can be optionally used for treating one material length or several material lengths, preferably for treating two material lengths disposed in a side by side relationship.

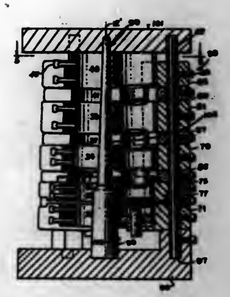
3,509,608
TAB WELDED JOINT AND METHOD OF MAKING
Moreland P. Bennett, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Feb. 17, 1967, Ser. No. 616,945
Int. Cl. B23k 1/20
U.S. Cl. 29—482 5 Claims



A welded joint comprising overlapped strips of metal with tabs formed by piercing or lancing through the overlapped portion. The formed tabs are flattened against the metal and resistance spot welded to such metal. The resistance welding forms a metallurgical bond between the metal members.

3,509,609
MEANS FOR ASSEMBLING A MULTIPLE ELECTRON GUN STRUCTURE FOR CATHODE RAY TUBE
Glen A. Burdick, Waterloo, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Original application May 31, 1966, Ser. No. 553,752, now Patent No. 3,396,297, dated Aug. 6, 1968. Divided and this application Mar. 6, 1968, Ser. No. 711,074
Int. Cl. H01j 9/06, 9/10, 9/46
U.S. Cl. 29—25.19 5 Claims

Means for assembling a multiple electron gun structure comprising a plurality of related unipotential low-voltage focusing lens guns employing overlapping focusing electrodes. A common longitudinal central support means is utilized to provide alignment for assembling the plurality of successive cylindrical electrodes of each gun. The successive electrodes have related external diameters compatible with the common support means to facilitate alignment in sequential order from an end electrode. A plurality of external electrode support means provide cradle-like aligned support for the electrodes of each gun, while related securing means position the external support means relative to the common support means to confine the electrodes in spaced alignment.

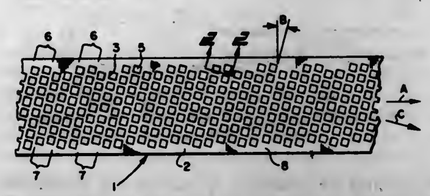


3,509,610
METHOD OF MANUFACTURING CAPACITORS
Sho Masujima, 3366-9 Oaza Ueda, Ueda-shi, Nagano-ken, Japan
Filed Apr. 11, 1967, Ser. No. 629,972
Claims priority, application Japan, Apr. 28, 1966, 41/27,036, 41/27,037
Int. Cl. H01j 9/00
U.S. Cl. 29—25.42 8 Claims



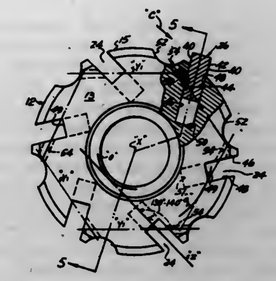
A method for manufacturing a capacitor wherein the internal electrode is formed from a continuous flat band body of electrically conductive material while the external electrode is formed from a plurality of discrete lengths of a second flat band body wrapped transversely about said first flat band body with a dielectric body disposed at least therebetween. Lead wires are connected to each discrete length of said second band body and to the portion of the first band body associated therewith. The external electrodes are spaced longitudinally along the first flat band body which is cut in the region of said space to define a plurality of discrete capacitors.

3,509,611
RASP FILE
David E. Kifer, Parma, Ohio, assignor to The L. R. Oatey Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 30, 1968, Ser. No. 701,628
Int. Cl. B26d 1/00; B21k 21/00
U.S. Cl. 29—78 8 Claims



A rasp file having a multitude of cutting edges arranged in pairs of diagonal rows, with the cutting edges in the alternate pairs of rows axially aligned with each other and the cutting edges in the intermediate pairs of rows axially aligned with each other but slightly staggered or offset with respect to the alternate pairs of rows so that the paths of the cutting edges in the intermediate pairs of rows transversely overlap the paths of cutting edges in the alternate pairs of rows when the file is moved in a generally longitudinal direction. Each cutting edge is immediately preceded by a generally square opening of sufficient size for effective removal of chips.

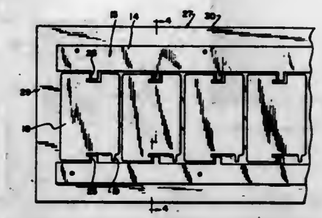
3,509,612
MILLING CUTTER AND BLADE ASSEMBLY
Richard Lankin, Farmington, Mich., assignor to Borite Manufacturing Corporation, Madison Heights, Mich., a corporation of Michigan
Filed June 16, 1969, Ser. No. 833,333
Int. Cl. B26d 1/12
U.S. Cl. 29—105 11 Claims



A milling cutter having a plurality of detachable blades attached thereto in spaced relationship with the outer surface of the cutter head provided with angularly inclined slots to receive the cutting blades, and the blades being secured in the slots by set screws inserted angularly from the outer surface of the cutter head and disposed angularly relative to the front face of the cutter head.

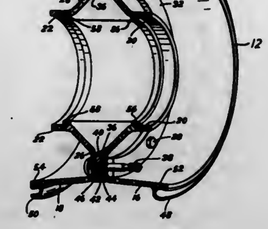
3,509,613
METHOD OF FORMING AN AIR CONDITIONER LOUVER STRUCTURE
Andrew C. Koenig, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Feb. 14, 1968, Ser. No. 705,542
Int. Cl. B29; B29c 17/02
U.S. Cl. 29—157 9 Claims

A method of forming a louver structure for use in an air conditioner wherein the louver structure is molded in a substantially flat configuration, and the louvers are hingedly carried therein and turned out of the flat configuration in use in the air conditioner. A mold apparatus



is provided for molding the louver structure wherein one mold section is substantially planar and the other mold section is machined for cooperating with the planar section to form the mold structure.

3,509,614
METHOD OF MAKING A FILAMENT WHEEL
Wendell E. Eldred, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Original application Jan. 17, 1966, Ser. No. 521,089, now Patent No. 3,357,747, dated Dec. 12, 1967. Divided and this application Aug. 7, 1967, Ser. No. 658,784
Int. Cl. B21d 53/26; B21k 1/28
U.S. Cl. 29—159 4 Claims

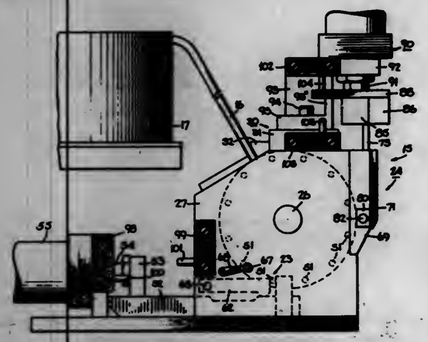


A method for constructing a filament wheel comprising bands of filaments integrated by a binder wrapped into a toroidal body thereafter severed providing sections that are placed back-to-back with their severed edges facing outwardly and joined.

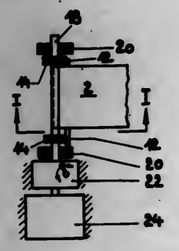
3,509,615
FEEDING AND STAKING MACHINE FOR MAKING A CONNECTION
David L. Jackson, Doylestown, Pa., assignor to Thomas & Betts Corporation, a corporation of New Jersey
Filed June 26, 1967, Ser. No. 648,795
Int. Cl. H01r 43/04
U.S. Cl. 29—203 25 Claims

The connectors are deposited in the rotary wheel at the rear of the machine and fed to the staking station at the front of the machine. The staking jaws come together to stake the connector on a pair of conductors by crimping the notched ends of the connector over the conductors.

The index system indexes the rotary wheel in synchronism with the staking jaws to sequentially advance another connector into the staking station after a connection has been made with a previous connector.



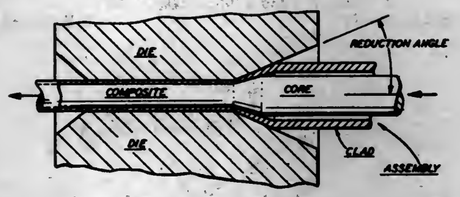
3,509,616
METHODS FOR ROLLING METAL POWDER
Eckard Gabring, Duesseldorf, Germany, assignor to Schloemann Aktiengesellschaft, Duesseldorf, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 362,864, Apr. 27, 1964. This application Sept. 30, 1966, Ser. No. 583,299
Claims priority, application Germany, May 3, 1963, Sch 33,230
Int. Cl. B22f 3/24
U.S. Cl. 29—420 2 Claims



A method of rolling discrete metal particles, of a diameter greater than one millimeter, into strips, by heating the particles to a temperature above their recrystallization temperature but below their melting point, and then allowing them to fall into the roll gap between a pair of rolls having their axes substantially in the same horizontal plane, from such a height that their speed on reaching the roll gap is at least as great as the peripheral speed of the rotating rolls.

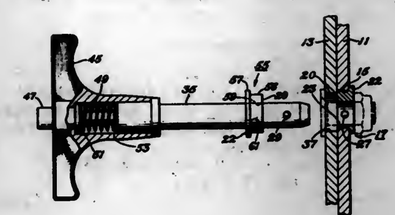
3,509,617
CYLINDRICAL OR ROD-LIKE COMPOSITE ARTICLE
Joseph Winter, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Continuation-in-part of application Ser. No. 565,664, May 23, 1966. This application Feb. 28, 1968, Ser. No. 708,936
Int. Cl. B23 5 31/02
U.S. Cl. 29—497.5 11 Claims

The instant disclosure teaches a process for obtaining a high strength cylindrical or rod-like composite material which may be either a clad solid rod or a clad hollow tube and the improved cylindrical or rod-like composite article obtained thereby. In particular, the process com-



prises forming an assembly by placing one component inside another component and reducing the assembly diameter from 10 to 70% by rotary swaging.

3,509,618
FASTENER AND ASSEMBLY MEANS
Joseph T. Siler, P.O. Box 514, McKinney, Tex. 75069
Filed Apr. 17, 1968, Ser. No. 722,114
Int. Cl. B23p 19/06, 21/00; B23q 3/18
U.S. Cl. 29—467 14 Claims

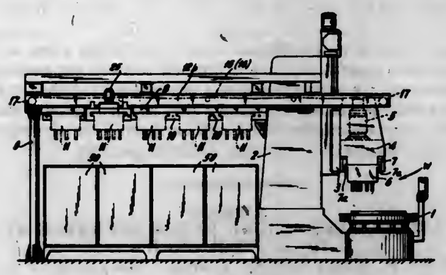


Following is disclosed a method and apparatus for securing "work" and "blind side" structural members, having misaligned holes, by means of a conventional fastener inserted through "work" and "blind side" bushings that have eccentric, axially extending bores. The blind side bushing has one or more indentations formed in its axially extending bore or laterally extending surface and a shaft is sized to extend through the bore of the work side bushing and into the bore of the blind side bushing. A latch element laterally movably carried by the shaft is adapted to extend into and retract from the indentation to enable selective rotation of the blind side bushing for alignment with the bore of the work side bushing.

3,509,619
MULTI-HEAD DRILLING MACHINE WITH HEAD CHANGING MEANS
Will Lipp, Witten-Annen, Germany, assignor to Rheinstahl Huttenwerke AG., Essen, Germany
Filed Nov. 15, 1967, Ser. No. 683,169
Claims priority, application Germany, Mar. 8, 1967, R 45,459
Int. Cl. B23q 3/157
U.S. Cl. 29—568 14 Claims

A multi-head machine for drilling, reaming, threading and the like is comprised of a machine frame having a movable holder member positioned on it for securing individual heads in the working position and for moving them between a working position and a replacement position. On the opposite side of the frame from the holder member is a longitudinally extending magazine for storing the heads when not in use. A track is located along

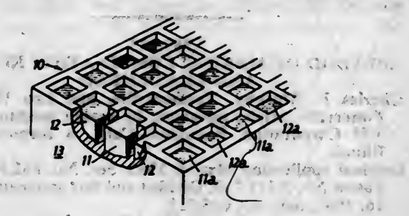
each side of the magazine and extends to the replacement position on the machine frame. One track is employed for removing working heads from the magazine and bringing them to the replacement position, while the other track is utilized for removing the working heads from the replacement position and moving them into a storage position in the magazine. In operation as a head is removed from the replacement position onto the track, a new head is inserted into the holder member in the replacement position and the head is then moved to its working position on the machine. At the same time the removed head is moved along the track to a storage position on the magazine which contains the next head to be employed. As the head is inserted into the storage position in the magazine, the next head is displaced onto the opposite track and then is transported to the replacement position to await the completion of the drilling or working operation when it will be ready to replace the head in the holder member for the next operation to be performed. The transport means on the opposite tracks



operate together to provide the insertion-withdrawal operation at both the storage position in the magazine and at the replacement position on the machine frame. In one embodiment, the member holding the working head is arranged to move vertically from a lower working position to an upper replacement position with the magazine extending in a horizontal plane from the replacement position. In another arrangement, a pair of working heads can be arranged on opposite sides of a bench holding the work piece with the heads movable horizontally between the working position and the replacement position and with the magazine containing the replacement heads horizontally aligned with the working and replacement positions. In the transport means, members may be provided on each of the tracks for inserting and withdrawing the working heads or, as an alternative, a member may be provided on one track for withdrawing the working head from its storage position and inserting it into the replacement position.

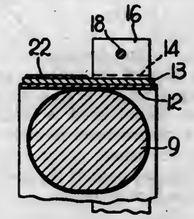
3,509,620
METHOD OF MAKING THERMOELECTRIC DEVICES
Leopold Samuel Phillips, Edgware, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Aug. 24, 1967, Ser. No. 662,943
Claims priority, application Great Britain, Aug. 31, 1966, 38,946/66
Int. Cl. H01l 7/02
U.S. Cl. 29—573 17 Claims

Method of providing contact straps between the ends of adjacent pairs of thermoelectric members of an encapsulated thermoelectric power generator or refrigerator module in which the end face level of the encapsulant material surrounding the thermoelectric members is made higher than the related end faces of the thermoelectric



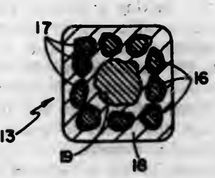
members to define cavities corresponding to the required contact straps, which cavities are then filled with electrically conductive metal.

3,509,621
METHOD OF APPLYING A SUPPORT FOR THE END TURNS OF A DYNAMOELECTRIC MACHINE
Vernon B. Honsinger, Clarence B. Hilpmann, and Paul D. Wagner, Cincinnati, Ohio, assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed May 29, 1968, Ser. No. 733,031
Int. Cl. H02k 15/00
U.S. Cl. 29—596 2 Claims



A method for supporting the coil end turns of a dynamoelectric machine which includes an open-ended insulated ring loosely applied about the end turns. A tightening strap is then positioned about the open-ended ring and tightened until the end turns are sufficiently compressed. A heat curable tape is then tightly wound around the exposed portion of the open-ended ring and after this is done the tightening strap is removed and another layer of heat curable tape is wound around the portion formerly occupied by the tightening strap.

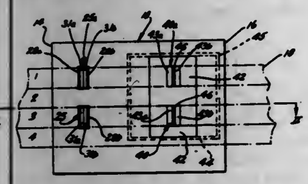
3,509,622
METHOD OF MANUFACTURING COMPOSITE SUPERCONDUCTIVE CONDUCTOR
Robert E. Bernert, Boxford, and Ahmed ElBindari, Cambridge, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Sept. 28, 1967, Ser. No. 671,399
Int. Cl. H01v 11/08
U.S. Cl. 29—599 4 Claims



A method of fabrictating a composite superconductive conductor wherein a billet comprising superconductive material disposed in a normal metal is cold reduced as

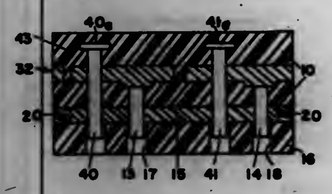
by drawing or rolling to a final configuration, during which procedure the billet is annealed at various times and heat treated after it has been highly cold reduced.

3,509,623
METHOD OF MAKING COMBINATION RECORD AND ERASE HEAD
Charles F. Murphy, Vermontville, and Leo W. Page, Potterville, Mich., assignors, by mesne assignments, to VSI Corporation, Pasadena, Calif., a corporation of Illinois
Original application Mar. 4, 1963, Ser. No. 262,525, now Patent No. 3,311,710. Divided and this application Mar. 16, 1967, Ser. No. 635,937
Int. Cl. H01f 7/06
U.S. Cl. 29—603 1 Claim



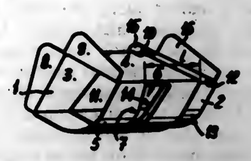
A method of fabricating a combination record and erase head wherein a housing is formed having two aligned openings in its top, which openings are of equal width and aligned in a parallel manner, an erase head means is mounted in one opening so that the core pieces abut against the sides of the opening and protrude above the face of the top, a record head is magnetically insulated and shielded, the record head is magnetically insulated and shielded, the record head is mounted in the second opening in the same manner as the erase head is mounted in the first opening, and both of the core pieces are ground down flush with the face of the top.

3,509,624
METHOD OF MAKING MULTILAYER PRINTED CIRCUITS
Gerald Boucher, Hudson, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Original application Dec. 2, 1965, Ser. No. 415,378. Divided and this application Sept. 11, 1967, Ser. No. 672,674
Int. Cl. H02g 15/00
U.S. Cl. 29—624 7 Claims



A method for making a printed circuit is described in which headed metallic pins are inserted into holes in a sheet of insulating material with the bottom of the heads engaging the surfaces and the shanks protruding. Additional insulating material is laminated to the surface over the heads of the pins and then enough is removed to expose the heads to make them flush with the surface. Next, a metallic film is deposited on the entire surface, after which a layer of metal is built up by electroplating. A circuit is formed by coating resist, making, exposing and etching. The finished circuit is covered with additional insulating material. Additional layers can be formed by repeating these steps.

3,509,625
METHOD TO OPEN A TETRAHEDRON SHAPED CONTAINER AND DEVICE FOR CARRYING OUT SAID METHOD
Roger Bejuiar, Genthod-Geneva, Switzerland, assignor to Roger Bejuiar S.A., Genthod-Geneva, Switzerland, a corporation of Switzerland
Filed Feb. 15, 1966, Ser. No. 527,684
Claims priority, application Switzerland, Mar. 15, 1965, 3,584/65
Int. Cl. B67d 7/30
U.S. Cl. 30—2 4 Claims



An apex of a paper container for liquids can be cut off by insertion in a pair of telescoping tubes the outer of which has an inclined cutting edge intermediate its length and the inner of which has its internal end formed as a cutting edge of opposite inclination. The cutting edges have a nonrectilinear contour such that when the apex of a paper container is inserted between the cutting edges and the tubular members are pressed together, the apex will be cut off so that the line of cut intersects the edge over which the liquid will be poured, at an angle greater than 45°, thereby to facilitate pouring.

3,509,626
ELECTROMECHANICAL RAZOR OPERABLE AT HIGH FREQUENCIES
Bruce R. Mead, Fairfield County, Conn., assignor to Eversharp, Inc., Milford, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 431,606, Feb. 10, 1965. This application Mar. 11, 1968, Ser. No. 711,954
Int. Cl. B26b 21/00
U.S. Cl. 30—45 11 Claims



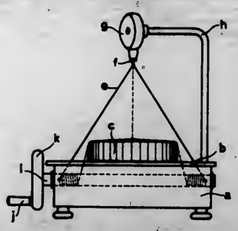
An electromechanical razor in which transducer means operable at an ultrasonic frequency, is mechanically coupled to one end of a razor or like blade held in razor head means, and wherein the vibrational energy of the transducer causes ultrasonic vibrations in the cutting blade. In a preferred embodiment, the output of an electronic inverter is fed to a piezoelectric crystal held against a back edge of the blade, and vibrational energy from the crystal is fed to the blade, preferably in resonance with a natural or imposed frequency thereof, causing the blade, or portions thereof, to vibrate at a frequency of at least about 100,000 cycles per second. The power supply, such as the inverter, or an oscillator and amplifier may be contained in, or partially or completely remote from, the blade support means. Piezoelectric as well as magnetostrictive transducers are described.

3,509,627
UTILITY KNIFE
Richard Gilbert, Dronfield, Sheffield, England, and John C. Robertson, East Berlin, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Dec. 6, 1967, Ser. No. 688,565
Int. Cl. B25g 1/08; B26b 5/00
U.S. Cl. 30—125 9 Claims



A knife including releasably secured handle parts having internal blade clamping and blade storage compartments, and an elongated spring clip mounted inside the handle and having blade retaining portions respectively disposed in the blade clamping and blade storage compartments and biased in a lateral direction toward one of the handle parts.

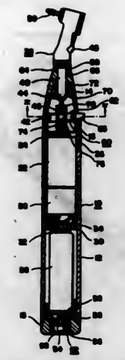
3,509,628
MACHINE FOR CUTTING CHEESE
Inserio Carturan, Via Rio 14, Sossano, Vicenza, Italy
Filed July 30, 1968, Ser. No. 748,803
Claims priority, application Italy, Aug. 2, 1967, 61,998/A/67
Int. Cl. A01j 23/00
U.S. Cl. 31—25 5 Claims



A machine for cutting cheese includes a support for the cheese, a manually rotatable shaft located below the support and a cutting wire suspended centrally from another wire and having ends extending through a slit provided in the support and attached to opposite ends of the shaft.

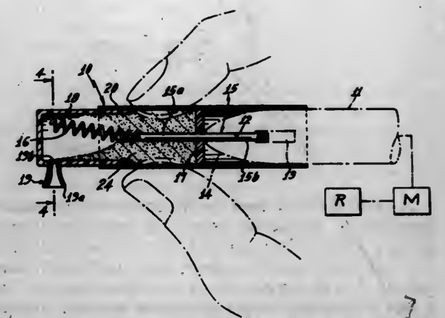
3,509,629
PORTABLE AND ADJUSTABLE CONTRA-ANGLE DENTAL INSTRUMENT
Masanao Kidokoro, Tokyo, Mikio Ogawa, Kawasaki, Motoi Morimoto, Tokyo, and Hisao Takei, Noboru Ogawa, and Koji Fukuda, Gunma Prefecture, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan
Filed Sept. 27, 1967, Ser. No. 671,000
Claims priority, application Japan, Oct. 1, 1966, 41/91,834, 41/91,835, 41/91,836, 41/91,837, 41/91,838, 41/91,839
Int. Cl. A61c 1/10
U.S. Cl. 32—27 7 Claims

A contra-angle member of the conventional structure of a dental instrument is secured to a portable, pencil-shaped handpiece includes a miniature DC motor, a speed governor for controlling the motor speed, and a storage battery for energizing the motor. The longitudinal axes of the motor and battery are aligned with the axis of the rotary shaft of the contra-angle member. The



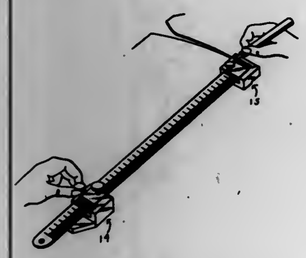
contra-angle member may be selectively adjusted to different orientations to allow the dentist to assume a comfortable posture irrespective of the location of the cutting. A pushbutton switch is provided on the handpiece and a recharging receptacle is disposed on the bottom of the handpiece for recharging the storage battery.

3,509,630
DENTAL PROPHYLAXIS INSTRUMENT
Ronald P. Spinello, 523 Post Ave., Westbury, N.Y. 11590
Filed July 1, 1966, Ser. No. 562,297
Int. Cl. A61c 3/06
U.S. Cl. 32—58 12 Claims



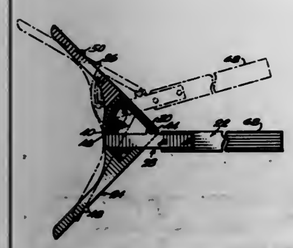
A dental prophylaxis instrument and container for a cleaning compound adapted to be attached to a rotary dental tool and in which there is a rotary member which is eccentric in rotary motion to perform the combined functions of moving the cleaning compound into a tooth cleaning tip and vibrating the unit to cause the cleaning tip to vibrate on the tooth. A flexible coupling between the rotary dental tool and the cleaning tip affords vibratory motion of the instrument and also allows the operator to control the rate of cleaning compound discharge.

3,509,631
ADJUSTABLE SLIDING COMPASSES
Eiji Shimoyama, 2-35-8 Nishi-magome, Ohta-ku, Tokyo, Japan
Filed Mar. 18, 1968, Ser. No. 713,687
Claims priority, application Japan, Mar. 20, 1967, 42/22,845; July 1, 1967, 42/56,217
Int. Cl. B43l 9/04
U.S. Cl. 33—27 7 Claims



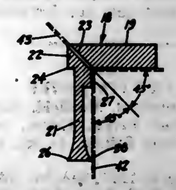
A compass is provided for describing arcs of selected radius length, comprising two separate elements adapted to be connected by a standard measuring means such as a tape measure or a straightedge. One element establishes the center of the arc to be described. The other element holds an arc-describing means, as for example a pencil, pen or knife edge. The measuring means defines the radius of the arc.

3,509,632
VARIABLE BLADE DRAFTING DEVICE
Gerald A. Allison, 11 Ryerson Place, Pompton Plains, N.J. 07444
Filed Apr. 23, 1969, Ser. No. 818,574
Int. Cl. B43l 13/14
U.S. Cl. 33—75 15 Claims



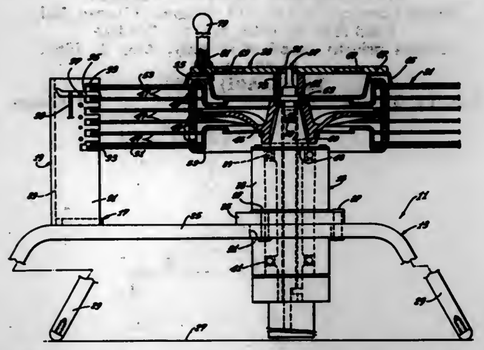
A drafting device used for the creation of physical relationships to intangible points of reference (vanishing points) which points can be accurately projected as close to an illustration working area as five inches, as distant as infinity. The device consists of a straight edge ruler having a pair of variable blades adjustably attached to one end thereof and a pair of pivot pins associated with the variable blades to permit manipulation of the straight edge ruler to draw "parallel" lines which converge at intangible points as determined by the angular relationship setting of the pair of variable blades to the straight edge ruler. Various accessories are provided, such as an incline plane attachment to create intangible convergence points for perspective "parallel" lines of incline planes, variable blade extension attachments to increase the size of the illustration area and a bracket for arc ruling instruments.

3,509,633
CUTTING GUIDE
Anthony M. Fernandez, 7207 Morgan Ave. N., Minneapolis, Minn. 55430
Filed Apr. 22, 1968, Ser. No. 723,696
Int. Cl. B43l 7/00
U.S. Cl. 33—174 11 Claims



A wall paper cutting guide for directing a cutting edge longitudinally along the corner of a wall to cut the wallpaper along the corner. The guide is an angle member having a longitudinal slot along the corner forming a guideway for the knife. Longitudinal ribs extended along the corner section of the angle member adjacent the slot subjects the wall paper adjacent the corner to pressure so that the knife will accurately cut the wall paper.

3,509,634
FIELD PACK TESTER
Charles W. David, El Segundo, Richard J. Penny, Playa del Rey, and Harry A. Riley, Torrance, Calif., assignors to Disc Pack Corporation, Hawthorne, Calif., a corporation of California
Filed Sept. 15, 1967, Ser. No. 668,643
Int. Cl. G01b 5/20
U.S. Cl. 33—174 9 Claims



A field pack tested which may include a test stand, a spindle mounted on the test stand for mounting a disc pack for rotation, and a member attachable to the disc pack to facilitate manual rotation of the disc pack on the spindle. Various testing or cleaning devices may be mounted on the test stand. For example, a runout gauge may be suitably mounted on the test stand to check runout of the disc pack while the latter is being manually rotated.

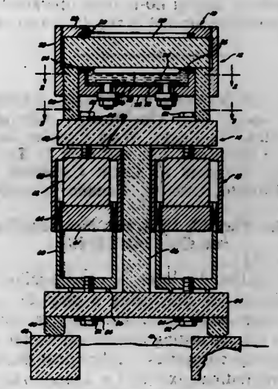
3,509,635
APPARATUS FOR MEASURING AND INSPECTING ARTICLES OF MANUFACTURE
Wilbur E. Meinke, Fairview Park, Ohio, assignor to The New Britain Machine Company, Cleveland, Ohio, a corporation of Ohio
Filed July 21, 1966, Ser. No. 572,634
Int. Cl. G01b 7/28
U.S. Cl. 33—174 3 Claims
In a numerically controlled measuring and inspection apparatus, a probe head movable in a system of coordinate

axes and including a probe holder assembly mounted for rotational and pivotal movement, a probe member carried



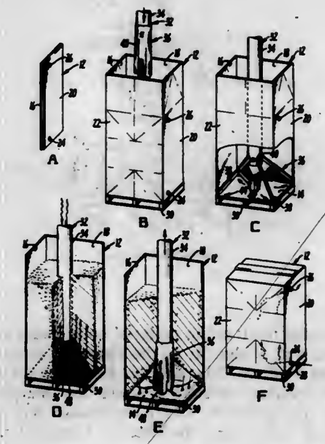
by the probe holder assembly, and signal generator means actuated by pivotal movement of the probe holder assembly and probe member.

3,509,636
BUBBLE SEISMOMETER
Siegfried Hansen, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 519,673, Jan. 10, 1966. This application Oct. 16, 1967, Ser. No. 675,491
The portion of the term of the patent subsequent to Nov. 12, 1985, has been disclaimed
Int. Cl. G01c 9/24; G01p 15/00
U.S. Cl. 33—211 11 Claims



The bubble seismometer is an improved device for precisely monitoring the state of tilt of a critical surface with respect to a local reference surface. It has a flat having a bubble moveable along the under surface of the flat in a direction and with a velocity proportional to the tilt or inclination of the critical surface, and an integrally associated control system responsive to movement of the bubble to generate restoring signals proportional to the inclination. The control system signals are applied to a force means to reposition the flat to a level position to make the bubble stationary. The restoring signals are indicative of the degree and direction of displacement of the critical surface and may also be utilized to determine the rate of change of inclination. Since the bubble is in a viscous liquid confined beneath the substantially horizontally positioned flat, the movement of the bubble under the flat is also a function of horizontal earth accelerations so that seismic disturbances are also indicated.

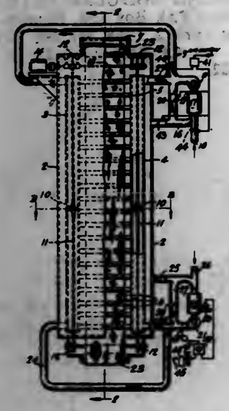
3,509,637
METHOD AND APPARATUS FOR TREATING AND STORING NODULAR ARTICLES
Robert T. Collier, P.O. Box 158, Escalon, Calif. 95320
Filed Apr. 12, 1968, Ser. No. 720,927
Int. Cl. F26b 9/04, 25/14
U.S. Cl. 34—22 9 Claims



The method is concerned with the drying and storage of in-shell nuts, or other nodular articles, in disposable bag or carton-like containers. In the method, a container is first erected with the upper portion thereof in open condition. A hot air heating conduit is then positioned within the container to discharge into its lower portion. Once the conduit is positioned, articles to be dried are loaded into the container around the conduit. The conduit is then activated to force hot air into the lower portion of the container, from whence it passes upwardly around the articles and vents through the open upper portion. After the hot air has dried the articles to the desired degree, the heating conduit is removed and the container is sealed. The method may also include additional steps, such as charging the container with an inert or fumigating gas.

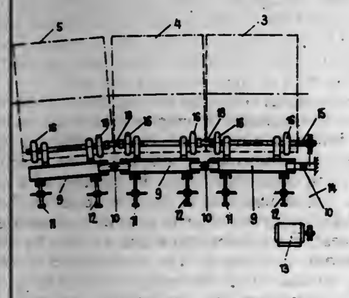
The apparatus comprises heating conduit and container constructions suitable for employment in the method. One of the heating conduit constructions employs a permeable umbrella-like construction adapted to be selectively expanded and contracted within the confines of a container. In use, this arrangement is expanded prior to the loading of articles into a container to provide a permeable chamber beneath the articles into which air may be discharged for uniform distribution. The arrangement is contracted during withdrawal of the heating conduit to facilitate its removal. The container constructions comprise bags or cartons provided with arrangements to facilitate the receipt of heating conduits and the distribution of hot air therethrough. Certain of the container constructions also include valving arrangements to provide for the selective charging and purging of gas after their sealing.

3,509,638
TREATING APPARATUS
Gordon Ross Macleod, Pointe Claire, Quebec, Canada, assignor to Midland-Ross of Canada Limited, La Salle, Quebec, Canada
Continuation-in-part of application Ser. No. 656,538, July 27, 1967. This application Apr. 3, 1969, Ser. No. 813,164
Claims priority, application Great Britain, Aug. 4, 1966, 34,813/66; Canada, Aug. 3, 1967, 997,665
Int. Cl. F26b *21/00*
U.S. Cl. 34—54 15 Claims



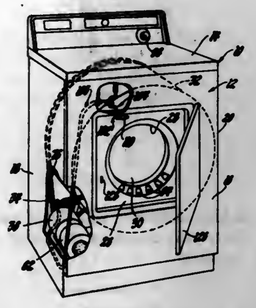
Apparatus for treating material comprising a treatment chamber, and a plenum in the chamber supplied with a treatment medium. The plenum has openings for directing the treating medium against the material passed through the chamber. The plenum also has a movable baffle in it for varying the effective length of the plenum chamber.

3,509,639
ROTARY DRIER FOR TEXTILES
Hans Fritz Arendt, Bleichinsel, Biefighelm, Wurttemberg, Germany
Filed Apr. 9, 1968, Ser. No. 719,884
Claims priority, application Germany, Apr. 10, 1967, A 55,407
Int. Cl. F26b *11/04*
U.S. Cl. 34—129 12 Claims



A rotary or drum-type drier for drying textiles is disclosed. The drier has a plurality of inclined drum means, each of which is inclined at a different angle. In one embodiment all the drums are inclined downwardly. In a second embodiment the drums at the charging end are inclined upwardly, while the drums at the discharge end are inclined downwardly. The heated air runs countercurrent to the wash.

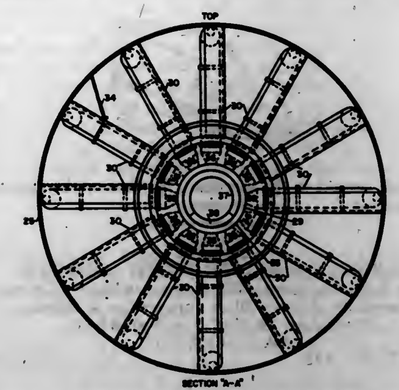
3,509,640
DOMESTIC DRYER SPEED CONTROL
Norman J. Bullock and Ted C. Davis, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 3, 1968, Ser. No. 756,915
Int. Cl. F26b *11/02*
U.S. Cl. 34—133 3 Claims

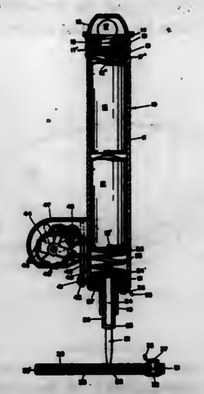


In preferred form, a domestic dryer apparatus having an outer cabinet surrounding a tumbling drum mounted for rotation on a horizontal axis. An air heating and distribution system directs heated air through the tumbling drum during normal drying wherein the drum is rotated by a belt pulley system. During a no-tumble drying period a drive motor is maintained energized to operate the air blower of the heating system. A belt directed over a drive motor sheave and a periphery of the drum is held away from the drive sheave by an extension on an idler pulley position compensating lever which is shifted to a belt unloading position during no-tumble operation by means including an operator located in the door well of the dryer.

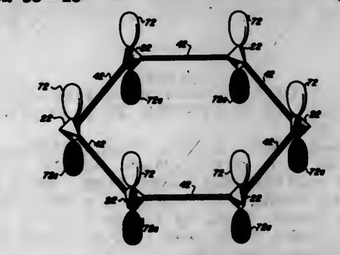
3,509,641
TAR SANDS CONDITIONING VESSEL
Marshall R. Smith, Fort MacMurray, Alberta, Canada, and Frederick W. Camp, West Chester, and George H. Evans, Wallingford, Pa., and Jack D. Tinkler, Claymont, Del., assignors to Great Canadian Oil Sands Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed May 17, 1968, Ser. No. 729,970
Int. Cl. E26b *23/10*
U.S. Cl. 34—134 2 Claims

The specification discloses a conditioning drum designed specifically for producing a pulp by mulling tar sands with steam and water. The pulp is used in a hot water process for separating bitumen from tar sands. The conditioning drum comprises a cylindrical drum rotatable around its longitudinal axis and a sparge valve disposed at one end of the drum for receiving steam. The sparge valve comprises a rotatable outer sleeve with a plurality of ports spaced along its circumference and a stationary seat of circular cross section with at least one port at its lower portion. The valve conducts steam through the spaced sleeve ports only when they are in line with the seat ports. The drum also contains a plurality of steam conduits adjacent the drum wall extending longitudinally inside the drum from the ports in the sparge valve sleeve. The conduits rotate with the drum and valve sleeve and receive steam from the valve. The steam is injected into the tar sands in the drum through perforations in the conduits. If desired, pitched retarder blades can be mounted on the inside circumference of the drum for controlling the forward flow of material therethrough.





3,509,642
SEMI-SKELETAL MOLECULAR MODEL ASSEMBLY
George C. Brumlik, 154 Upper Mountain Ave., Montclair, N.J. 07042
Filed Sept. 13, 1967, Ser. No. 667,581
Int. Cl. G09b *23/26*
U.S. Cl. 35—18 8 Claims



A molecular model assembly including a plurailty of units representing atom cores and having solid bodies formed as tetrahedrons, trigonal bipyramids and octahedrons, with a bore formed at each corner of each body and arranged in accordance with the symmetry axes of valence orbitals and bond angles of the atom to be depicted by the body. A plurality of elongated rods are also provided for interconnecting the atom core units to form semi-skeletal models of selected molecules, and the assembly also includes spherical bodies representing terminal atoms, ellipsoid bodies representing orbital lobes, and bodies of bulbous, eccentric shape representing antibonding orbital lobes, these bodies being adapted to be mounted on the interconnected atom core bodies to complete the assembled molecular model.

3,509,643
METHOD AND MEANS FOR SELF-TEACHING
Patrick A. Kane, Hartline, Wash. 99135
Filed Feb. 24, 1967, Ser. No. 618,484
Int. Cl. G09b *7/06*
U.S. Cl. 35—9 8 Claims

A method and apparatus for self-teaching which totals every attempt to answer multiple choice type questions and simultaneously indicates categorically either right or wrong answers; the apparatus having a digital recorder and an electrical circuit including an indicator energized each time the said recorder is actuated but said circuit being open for one category of answers and closed for the other.

3,509,644
SELF-CLEANING BLACKBOARD
Michael P. Santell, 5545 S. 106th St., Hales Corners, Wis. 53130; Richard E. Powers, 6098 N. Hopkins St., Milwaukee, Wis. 53209; and Steven F. Claus, 1509 Manitowoc St., South Milwaukee, Wis. 53172
Filed June 28, 1968, Ser. No. 741,037
Int. Cl. B43l *1/00*; G09f *7/04*
U.S. Cl. 35—66 2 Claims

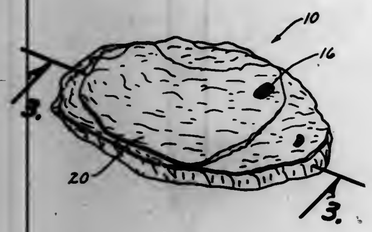


An immobile blackboard writing surface and a magnetic sheet on a top hinged panel behind it, whereby a ferrous material can be applied in writing on said writing surface and will remain thereon until the magnetic sheet is pulled out of magnetic range, whereupon the ferrous writing material will fall into a receptacle from which it may be reclaimed.

3,509,645
PALEONTOLOGICAL AND ARCHAEOLOGICAL EDUCATIONAL ARTICLE
Norman N. Denton, Rte. 4, Newton, Iowa 50208
Filed Jan. 2, 1968, Ser. No. 694,613
Int. Cl. G09b *23/00*
U.S. Cl. 35—10 8 Claims

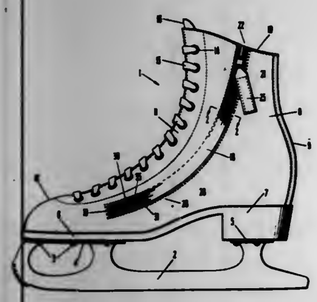
A new article of manufacture for teaching the excavation of fossils or the like. The article is comprised of a slab including a relatively hard base portion having one

or more specimens protruding upwardly therefrom. The base portion and the specimens are imbedded in a relatively soft matrix which may be removed from the base portion and the fossils by utilizing excavation procedures



thereby exposing the fossils for display or collection purposes. A second embodiment of the article includes at least two material layers with various artifacts, fossils or the like either removably imbeded in the layers or removably positioned on one of the layers.

3,509,646
SHOE
Frank Vieira, Bedford, Mass., assignor to A. R. Hyde & Sons Co., Cambridge, Mass., a corporation of Massachusetts
Filed July 17, 1968, Ser. No. 745,491
Int. Cl. A43b
U.S. Cl. 36—2.5 1 Claim



A high-cut shoe skate having a sole and an upper with the upper having a pair of quarters providing an elongated pair of edges, each of which has provided a row of longitudinally extending eyelets adapted to receive and secure a shoe lace. A zipper extends parallel to the edge of one quarter from just forward of the instep to the upper edge of the foot opening in the upper.

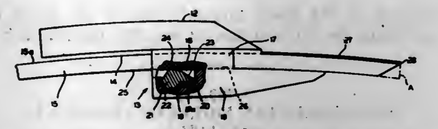
3,509,647
ARTICLES OF FOOTWEAR
John Tyas, Hordon on the Hill, and Leslie C. Lawrence, Stanford, Le Hope, England, assignors to Bata Shoe Company, Inc., Belcamp, Md.
Filed Mar. 3, 1969, Ser. No. 803,874
Claims priority, application Great Britain, Mar. 4, 1968, 10,468/68
Int. Cl. A43b
U.S. Cl. 36—2.5 3 Claims

An article of footwear in which the vamp portion of the upper is provided with means constituting the components of a sundial whereby upon a day when the sun is shining and the article of footwear is positioned in a given orienta-



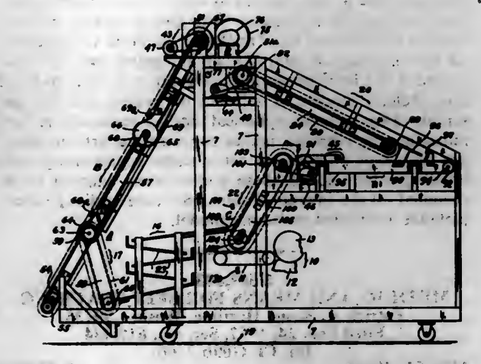
tion with respect to the meridian, the time of the day can be indicated.

3,509,648
ADJUSTABLE DIGGER TOOTH ASSEMBLY
Fred T. Smith, Aurora, Ill., assignor to Barber-Greene Company, Aurora, Ill., a corporation of Illinois
Filed Aug. 29, 1967, Ser. No. 664,141
Int. Cl. E02f 9/28
U.S. Cl. 37—142 5 Claims



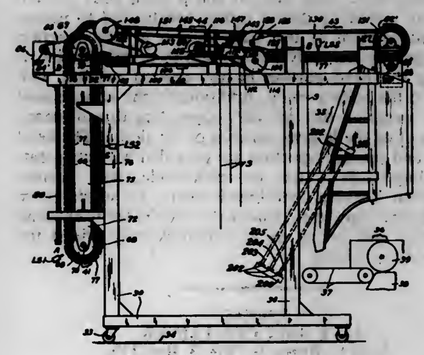
A bucket digger tooth assembly wherein a tooth wedging element is swung in in one direction upon digging pressure against the tooth to secure it in place and in an opposite direction upon pressure on the remote end of the tooth to release it for bodily adjustment for wear.

3,509,649
METHOD OF AND APPARATUS FOR FEEDING SHEETS OF FLATWORK TO A FLATWORK IRONER
James Bruce Orkney, Bellevue, Wash. (822 Denny Bldg., 2200 6th Ave., Seattle, Wash. 98121), Joseph T. Mijich, 1625 IBM Bldg., Seattle, Wash. 98101, Donald W. Tyler, Seattle, Wash., and Byron A. Wood, deceased, late of Seattle, Wash., by Eleanor F. Wood, administratrix, Seattle, Wash.; said Tyler and Wood assignors to said Orkney and Mijich
Filed Aug. 22, 1967, Ser. No. 662,552
Int. Cl. D06f 69/00
U.S. Cl. 38—7 14 Claims



A frame having sides of roughly triangular shape straddles the infeed means and forward end of the ironer. A large number of sheet storage rollers extend across the frame and are supported by the frame for movement in a generally triangular path. The edge of a sheet is clamped to each roller at the forward end of the frame. Each roller is then elevated with the sheet outspread, is rotated to wind the sheet on the roller and then, along with a large number of other rollers carrying sheets, it travels lengthwise over the ironer and back to an unwinding position where the sheet is delivered onto the infeed means of the ironer under the control of photo-electric cells which sense and are responsive to the position of the trailing edge of each sheet entering the ironer and control the delivery of the following sheet so as to avoid gaps between adjacent sheets and insure full capacity operation of the ironer.

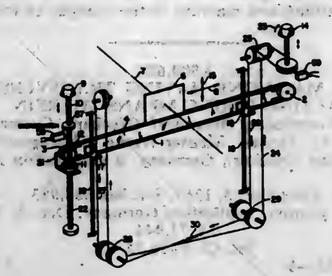
3,509,650
METHOD OF AND APPARATUS FOR FEEDING FLATWORK INTO A FLATWORK IRONER
James Bruce Orkney, Bellevue, Wash. (822 Denny Bldg., 2200 6th Ave., Seattle, Wash. 98121), Joseph T. Mijich, 1625 IBM Bldg., Seattle, Wash. 98101, and Donald W. Tyler, Seattle, Wash.; said Tyler assignor to said Orkney and said Mijich
Filed Dec. 8, 1967, Ser. No. 689,062
Int. Cl. D06f 67/04
U.S. Cl. 38—143 4 Claims



Flatwork ironer feeding mechanism in which a wide frame in front of the ironer supports a plurality of sheet carrier cross bars for movement in a continuous path. The edges of the sheets are attached to these bars and the bars lifted and placed on conveyors which support a large number of bars each carrying a sheet of flatwork and urge them toward the ironer. The suspended sheets are successively drawn by suction against downwardly moving screens which deliver them onto the feed means of the ironer. This delivery is timed by electrical sensing means to keep the ironer operating at full capacity. The screens stretch the sheets lengthwise and crosswise to smooth them and remove wrinkles. Conveyors return the sheet carrier bars to a starting position.

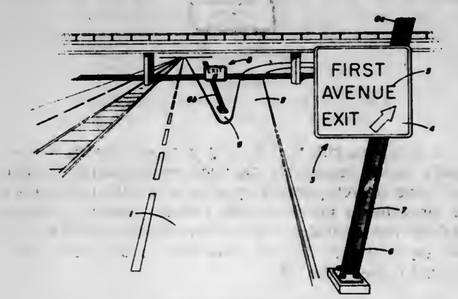
3,509,651
OPTICAL VIEWER
Daniel H. Robbins, Henry N. Fairbanks, Robert H. Powers, and Edmund J. Pierce, Rochester, N.Y., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 526,934
Int. Cl. G09f 11/32
U.S. Cl. 40—78 5 Claims

Apparatus is disclosed herein which supports and selectively positions a chip transparency with respect to a film gate to selectively display various positions of the indicia carrier by the transparency. The system is designed so that the viewer need not make large changes in the



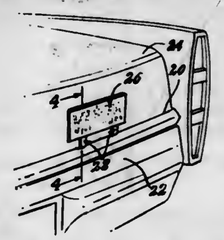
position of the transparency or support mechanism as various chips are viewed.

3,509,652
VEHICLE TRAFFIC SIGN
Earl C. Kern, 11578 N. Tully Road, Lodi, Calif. 95240
Filed Jan. 31, 1968, Ser. No. 702,060
Int. Cl. G09f 7/00
U.S. Cl. 40—125 1 Claim



A traffic-guidance sign arrangement for the benefit of vehicle drivers using a roadway, and features an inclined symbolic bar directly associated with a sign and which bar is—as an indicator—inclined in a plane transversely of the roadway.

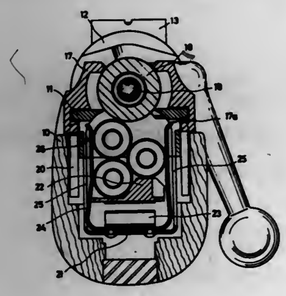
3,509,653
REMOVABLE DISPLAY PLATES FOR AUTOMOBILE
Peter W. Hummel, 1205 N. Santa Fe, Space 77, Vista, Calif. 92083
Filed Aug. 2, 1968, Ser. No. 749,881
Int. Cl. G09f 7/18, 3/18
U.S. Cl. 40—129 4 Claims



A removable display device, which is deatchable, connected to either the bumper or trunk lid of an automobile.

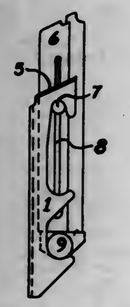
It includes a display plate. A padding is disposed between the rear of the plate and the bumper or trunk lid to prevent rattling and marring of the bumper or trunk lid.

3,509,654
RIFLE MAGAZINE HAVING TRANSVERSELY ACTING SPRING MEANS THEREIN
Ludwig Vorgrimler, Oberndorf (Neckar), Germany, assignor to Mauser-Werke Aktiengesellschaft, Oberndorf (Neckar), Germany, a corporation of Germany
Filed Dec. 5, 1967, Ser. No. 688,083
Claims priority, application Germany, Dec. 8, 1966, M 71,944
Int. Cl. F41c *25/02*
U.S. Cl. 42—6 3 Claims



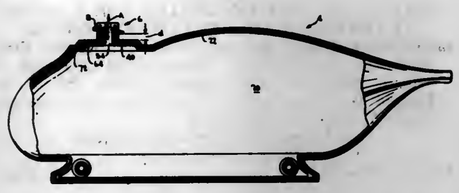
A magazine rifle for hunting purposes having a stock and a barrel removably mounted on the stock, the barrel being interchangeable by a barrel of different caliber. A magazine is provided with resilient means to engage at least one cartridge case and attached to exert a force on the cartridges directly transverse to the mean longitudinal plane of the rifle.

3,509,655
PISTOL MAGAZINE FOLLOWER DEPRESSOR
Gary Wilhelm, Hamden, Conn., assignor to Stoeger Arms Corporation, South Hackensack, N.J., a corporation of New Jersey
Filed Mar. 22, 1968, Ser. No. 715,284
Int. Cl. F41c *25/02, 25/06;* F42b *39/04*
U.S. Cl. 42—50 2 Claims



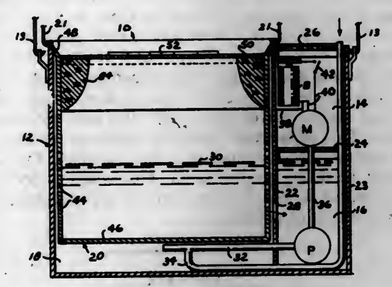
Disclosed is a cartridge magazine follower depressor that basically consists of a rigid, channel shaped member adapted to embrace a cartridge magazine equipped with a follower button and to hold the follower a selected fixed distance from the top of the magazine while it is being loaded and thus to limit the number of cartridges that may be inserted.

3,509,656
DECOY CONSTRUCTION
Richard G. Woolworth, Lancaster, Pa., assignor to Woodstream Corporation, Lititz, Pa., a corporation of Pennsylvania
Filed July 12, 1968, Ser. No. 744,453
Int. Cl. A01m *31/06*
U.S. Cl. 43—3 8 Claims



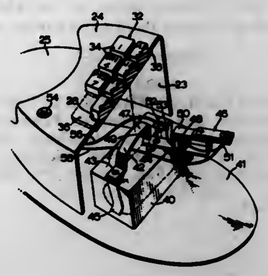
A decoy has a head portion and a main body portion releasably joined by thread means constructed to permit continued rotation of the head portion in one direction with respect to the body portion and to permit frictionally fixing the head portion in any desired relation with respect to the body portion. Additionally the arrangement permits breathing through the cooperating thread means into or out of the hollow portions of the decoy. The head portion and the body portion are provided with cooperating sealing faces which are engageable, with normal cooperation between the thread means, to substantially preclude any significant amount of liquid from entering the decoy, and yet so as to simultaneously afford the requisite breathability.

3,509,657
LIVE BAIT CONTAINER
Orval C. Bross, Jr., Rte. 3, Box 239, Guthrie, Okla. 73044
Filed Oct. 30, 1967, Ser. No. 679,269
Int. Cl. A01k *97/04*
U.S. Cl. 43—57 1 Claim



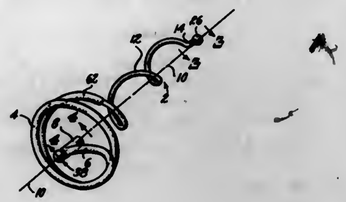
An upwardly open outer container is transversely divided adjacent one end to form a water tight compartment above a pump compartment. A perforated wall minnow container is telescopingly received loosely by the outer container. A motor, in the water tight compartment, is drivably connected with a pump having a conduit connected with its output end and an air tube connected with the conduit for circulating the water and injecting air to aerate the water.

3,509,658
TOY TELEPHONE
Ben Degaetano, Armonk, N.Y., assignor to Continental Research & Development Ltd., Toronto, Ontario, Canada, a company of Canada
Filed Aug. 13, 1968, Ser. No. 752,235
Int. Cl. A63h *33/30*
U.S. Cl. 46—33 8 Claims



A toy telephone cradle having simulated push-buttons in combination with a switch assembly for operating an electric buzzer and light circuit.

3,509,659
SPINNING AMUSEMENT DEVICE
Joshua Kau, 44-749 Malulani St., Kaneohe, Oahu, Hawaii 96744
Filed Feb. 29, 1968, Ser. No. 709,315
Int. Cl. A63h *1/10*
U.S. Cl. 46—47 8 Claims



A generally circular wheel-like rim having a first rotatable handle at its axis and an axially extending rigid helical portion, fixed to the rim and terminating in a second rotatable handle coaxial with the first rotatable handle. The center of gravity of the device being eccentric to the common axis of rotation of the handles.

3,509,660
HULA HOOP WITH ORBITING SATELLITE
William D. Seymour, 1100 NE. 160th St., Miami, Fla. 33162
Filed Sept. 13, 1967, Ser. No. 667,493
Int. Cl. A63h *1/32*
U.S. Cl. 46—51 6 Claims

This invention shows a combined toy and exercise game that is adaptable to various uses. It comprises essentially of a Hula Hoop with a weighted satellite member attached to the Hula Hoop by a flexible line. Said line being attached to a collar which is slidably connected to the Hula Hoop. The device can be used by a person in the normal Hula Hoop manner so that the satellite stands out from the Hula Hoop in motion, and with two persons using two such devices an exciting game can be devised where each person attempts to hit the other person's satellite with his satellite. In addition a totally different amusement can be enjoyed whereby the satellite is held in the hand and the Hula Hoop is made to orbit



itself in the nature of a lasso. In this latter application a propeller can be fixed inside the Hula Hoop so as to make the Hula Hoop go up or down depending on its direction of rotation. A release mechanism can be built into the collar so as to release the hoop to rise to considerable height.

3,509,661
DOLLS, PUPPETS AND THE LIKE
Rene Ach, 47 Avenue des Gobelins, Paris 13°, France
Filed Feb. 28, 1968, Ser. No. 713,563
Claims priority, application Great Britain, Mar. 8, 1967, 10,846/67
Int. Cl. A63h *11/14*
U.S. Cl. 46—149 6 Claims

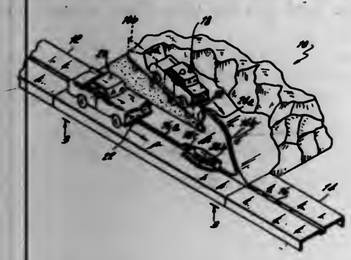


This invention provides an improved puppet or doll adapted to move with what may be termed a rolling gait. The doll has rotatable feet and the axis of rotation of the feet converge towards the body of the doll so that as the doll walks along the weight is first on the left foot and then on the right foot. When the weight of the doll is on the left foot the right foot swings forward to take the weight and vice versa.

3,509,662
ACCESSORY TRACK UNIT
Frederic A. Lunzer, New York, N.Y., assignor to Ideal Toy Corporation, Hollis, N.Y., a corporation of New York
Filed Oct. 12, 1967, Ser. No. 674,888
Int. Cl. A63h *29/00*
U.S. Cl. 46—232 5 Claims

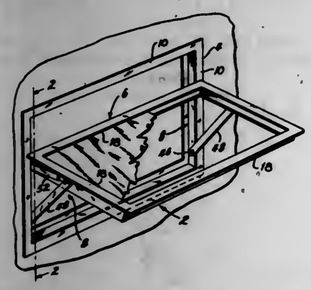
An accessory track unit for interconnected tracks having a closed main guide groove therein of the type used with battery-operated vehicles, each of which has a depending guide which engages the groove to steer the vehicle about the tracks, wherein the accessory track unit

has switching which temporarily restrains a simulated police vehicle and thereafter functions to cause, in sequence: the release of the police vehicle, upon actuation by a "speeding" second vehicle, for movement in simulated



pursuit of the second vehicle; the production of a siren sound during the pursuit of the vehicles; and eventually the termination of the siren sound, but only after a traverse of the vehicles about the tracks.

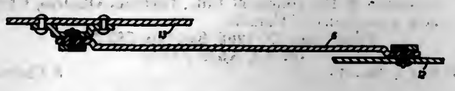
3,509,663
CLOSURES
Rolland L. Miller, Ballwin, Mo., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 2, 1968, Ser. No. 749,791
Int. Cl. E05d *15/46*
U.S. Cl. 49—248 **7 Claims**



A closure including a frame, a sash, and a bracket assembly for connecting the sash to the frame. The bracket assembly comprises a stay arm pivotally connected to the sash and a cam arm pivotally connected to the stay arm inwardly from its pivotal connection to the sash. One of the arms is pivotally connected at its opposite end to the frame, while the other is pivotally connected to a slide which moves on a track fastened to the frame. The sash is provided with a follower which engages a camming slot in the cam arm so that that portion of the sash experiences a compound movement along a predetermined path away from the frame as the sash is opened.

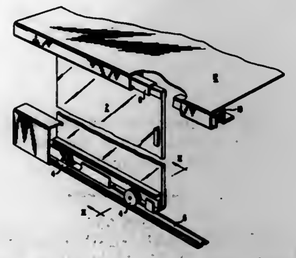
3,509,664
HINGE ASSEMBLIES
Albert Cheng Shu Lok, Kowloon, Hong Kong, assignor to The Hong Kong Chiap Hua Mfy. Co., (1947) Ltd., Hong Kong
Filed May 1, 1968, Ser. No. 725,727
Claims priority, application Great Britain, May 1, 1967, 20,123/67
Int. Cl. E05d *15/30*
U.S. Cl. 49—251 **4 Claims**

A hinged window assembly is made up of a rectangular frame and a window sash. A hinge member is attached to the frame and another to the sash. A pivot pin connects the two hinge members. One of the latter is a



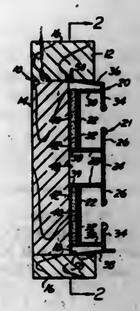
nylon block which slides relative to the window frame member. Friction between these parts can be adjusted.

3,509,665
ROLLER AND TRACK SYSTEM
Robert N. Bartlett and William F. Pendergast, Grand Rapids, Mich., assignors to Steelcase, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Feb. 28, 1968, Ser. No. 708,986
Int. Cl. E05d *13/02*
U.S. Cl. 49—410 **4 Claims**



This disclosure relates to a roller and track system for sliding doors and the like, wherein a grooved wheel rides on a raised rib track. The grooved wheel contains a pair of annular rubbery tires which provide a noise reducing barrier between the wheels and the raised rib track.

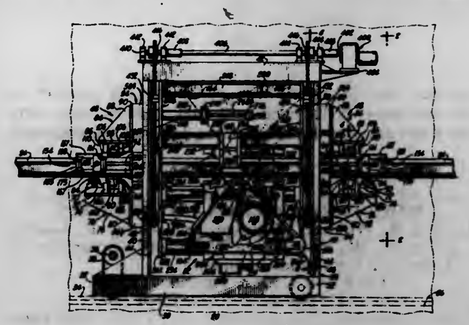
3,509,666
QUICKLY-ATTACHABLE RESILIENTLY-MOUNTABLE SASH GUIDE STRUCTURE
Donald M. Trout, 15750 Meyers Road, Detroit, Mich. 48227
Filed Sept. 16, 1968, Ser. No. 759,978
Int. Cl. E06b *1/04*
U.S. Cl. 49—504 **3 Claims**



This channel sash guide structure for double-hung sliding sash windows consists of an elongated member of metal or synthetic plastic with twin longitudinal channels to the backs which are secured longitudinal backing strips of resilient foam rubber or foam plastic which in turn are coated with a slow-drying pressure-sensitive

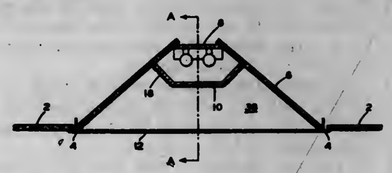
adhesive layer covered by a protective strip of paper or other suitable sheet material. To mount the sash guide in a window frame. the workman peels off both protective strips, lines up the sash guide properly with the window frame jamb, and then presses it firmly against the jamb. This eliminates screws, drilling, alignment of screw holes, and greatly reduces the cost of labor.

3,509,667
METHOD OF GRINDING WELDED RAIL
Karl L. Lindmark, Rockford, Ill., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 595,738
Int. Cl. B24b *1/00, 23/00, 21/00*
U.S. Cl. 51—328 **12 Claims**



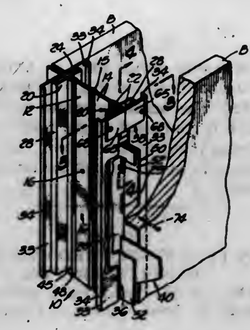
A method of grinding welds formed by welding rail sections in end-to-end relation to form a continuous rail. A pair of belt type grinding heads simultaneously grind the rail head running surface and the rail base with only minimal areas adjacent the upset or weld areas being engaged by the belts. The rail is held in stationary position during the grinding and one of the heads is turned around the rail head to effect curvilinear or arcuate grinding while the other head grinds the underside of the rail base. The heads are moved longitudinally across the weld and are simultaneously moved transversely into and out of grinding engagement with the weld during each longitudinal pass so that each belt follows a curved path lying tangent to the rail at the upset, whereby maximum grinding occurs at the upset and depth of the grind feathers out as each head moves beyond the upset.

3,509,668
GRIDMATE LUMINAIRE END PANEL AND SUPPORT BRACKET
James C. Ollinger and Ronald R. Thomas, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Apr. 1, 1968, Ser. No. 717,520
Int. Cl. H05b *33/02*; E05b *1/82, 5/52*
U.S. Cl. 52—28 **2 Claims**



A lighting fixture mounting bracket for use in a vaulted module luminaire system. The mounting bracket is a metal end panel which serves the dual purpose of supporting the light fixture and providing a decorative trapezoidal-shaped end panel on which the sloping sides of the acoustical boards would be supported. The end panel is clamped to the main runners of the ceiling suspension system. A recess is formed in the upper portion of the end panel to provide a mounting point for the ends of the light fixture and a support and/or end cover for the lens which covers the light fixture.

3,509,669
SUPPORT STRUCTURE FOR SHELVING
Gordon J. Plemons, Burbank, Calif., assignor to Angeles Metal Trim Co., Los Angeles, Calif., a corporation of California
Filed Apr. 17, 1968, Ser. No. 730,213
Int. Cl. A47g *29/02*; E04c *3/30*
U.S. Cl. 52—36 **16 Claims**

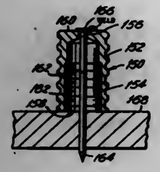


This invention includes a vertical metal stud structure having two channeled metal stud members arranged usually back-to-back and having at one of their edges, at least, oppositely disposed integral flanges providing opposed narrow channels slidably receiving a longitudinally adjustable bar slotted to receive shelf brackets. The bar fixedly carries thereon longitudinally disposed spaced stabilizing flanges between which the shelf brackets are to project from the slotted bar to steady the brackets against lateral sway and against which spaced flanges the edges of attached wall boards abut. According to this improvement, corresponding ends of the respective bar and its spaced flanges are cut off substantially flush, and an anchor clip, for at least one end of the bar, which is slidable in the longitudinal space between the stud flanges has a positioning tongue or stem which slidably projects into such space. Such tongue has a tongue-extension or key to project along such space behind said slotted bar and engage in a slot thereof to anchor the bar to the stud. The clip has flange means (which may be in the form of short opposed flanges) to be anchored as by means of welding, or preferably by self-threading screws extending through such flange means of the clip and the opposed flanges of the stud structure, to anchor the bar and its flanges against sliding displacement vertically along the upstanding stud.

3,509,670
STRUCTURAL CONCRETE INSERT OR ANCHOR
Martin William Boll, East Rockaway, and Robert Murray MacRobbie, Seaford, N.Y., assignors to Richmond Screw Anchor Co., Bronx, N.Y.
Continuation-in-part of application Ser. No. 725,410, Apr. 30, 1968. This application Mar. 7, 1969, Ser. No. 805,180
Int. Cl. E04c *5/12*; E04g *17/06, 21/12*
U.S. Cl. 52—99 **1 Claim**

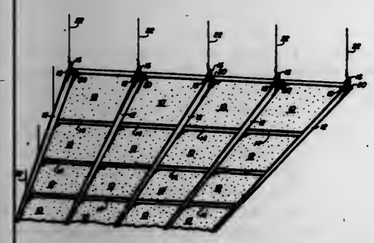
A structural concrete insert or anchor is provided which is intended to be embedded in a concrete mass to be retained therein and to provide a receptacle for a bolt

or the like so that attachment or connection can be made to the concrete mass. The insert or anchor is made of struts which straddle a ferrule which opens to the outside of the concrete mass and serves to receive and connect with a bolt. The construction also includes a coil which encircles the struts and is welded to the outside



thereof. A fastening device may be provided by which the insert or anchor is affixed to a form into which the concrete is poured. The fastening means may be a nail-like member which is connected to the bolt receptacle, but is capable of being removed therefrom. The ferrule may be used independently of or without the struts under certain circumstances.

3,509,671
LAY-IN TYPE SUSPENDED CEILING AND PANEL THEREFOR
David W. Akerson, St. Paul, Minn., assignor to Conwed Corporation, St. Paul, Minn., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,583
Int. Cl. E04b 1/86, 5/52
U.S. Cl. 52—145 6 Claims



In a lay-in type suspended ceiling, the acoustical panels are comprised of boards of mineral fiber bonded together with an hydrophilic binder, which boards are faced with a perforated metal foil facing to prevent sagging in areas of excessive humidity.

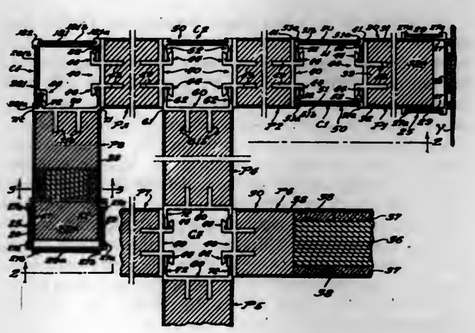
3,509,672
CURTAIN WALL CONSTRUCTION
Marvin V. Brooks, Kokomo, Ind., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Filed Dec. 21, 1967, Ser. No. 692,440
Int. Cl. E04b 1/70, 2/88
U.S. Cl. 52—235 6 Claims

An insulated curtain wall construction comprising a structural frame member carrying a panel-facing member, a panel with an edge disposed between said panel-facing member and a panel-retaining member, connector means joining said panel-facing member to said panel-retaining member, insulating material disposed between said connector means and said panel-facing member so that said panel-retaining member and panel-facing member are insulated from each other and insulating material disposed



between said panel and said panel backing member so that said panel is insulated from said panel backing member when an edge of said panel is disposed therebetween.

3,509,673
MODULAR PARTITION WALL SYSTEM
Edward R. Witkosky, Chicago, and Henry F. Golder, Riverdale, Ill., assignors to Woodwork Corporation of America, a corporation of Illinois
Filed Apr. 1, 1968, Ser. No. 717,498
Int. Cl. E04b 2/08, 2/72; E04h 1/00
U.S. Cl. 52—242 13 Claims



A modular partition wall system which includes a plurality of rectangular panels and five different types of interlocking components which are used in combination with the panels for the following purposes:

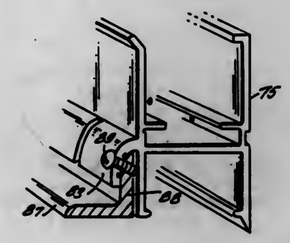
(1) To arrange two or more panels in alignment and in spaced relationship to one another with their adjacent vertical ends secured together by friction connector means which cooperate to form hollow post-like structures;

(2) To join the adjacent vertical ends of two panels which are aligned with one another to the adjacent vertical end of a single panel which is at right angles to the two aligned panels to form a T corner;

(3) To connect the adjacent vertical ends of two aligned panels with the adjacent vertical ends of two other aligned panels which are at 90° to the first pair of panels at the corner of four enclosures;

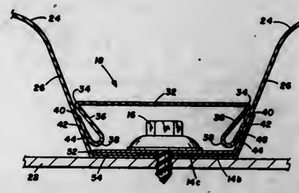
(4) To join the adjacent vertical ends of two panels which are at right angles to one another with the ends of the adjacent panels exposed, and conceal the exposed end with a corner closure member which frictionally engages with elements on the adjacent vertical ends of the two panels.

3,509,674
EXTERIOR WALL ACCESSORIES
Herbert L. Birum, Jr., Pleasant Valley, Titusville, N.J. 08560
Original application May 13, 1966, Ser. No. 549,834. Divided and this application Nov. 29, 1968, Ser. No. 780,147
Int. Cl. E04b 1/70; E04c 3/34
U.S. Cl. 52—302 5 Claims



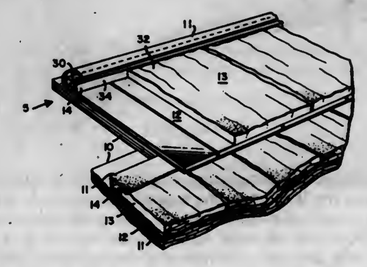
Exterior batten assemblies for securing building facings to building superstructure in which exterior batten strips are securely fastened to interior batten strips for support of building facings by means of elongated projections defining a cavity in which one interior surface of the cavity is substantially flat while the opposing surface is ribbed for firmly receiving an embracing fastening means threadedly engaged within the cavity. The batten strips are further provided with mounting projections having apertures. The mounting projection is further provided with elongated notches extending transverse to the length thereof interspersed between the apertures. The notches permit selective bending of portions of the mounting flange.

3,509,675
WALL PANELING HAVING CONCEALED CONNECTION REGIONS
Richard C. McClain, Moore, Okla., assignor to Star Manufacturing Company of Oklahoma, Oklahoma City, Okla., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,379
Int. Cl. E04d 1/39
U.S. Cl. 52—462 4 Claims



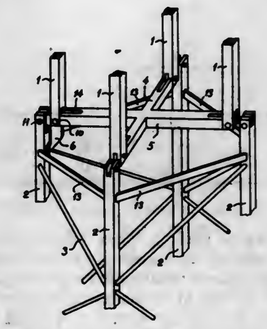
A panel with elongated recessed channels is fastened to the building frame by fasteners which extend through the bottom wall of the channels into the frame members. Projections extend into the channels from each of the opposite side walls of the channel. The upper portions of the projections slope toward the bottom wall and the lower portions are squared and face the bottom wall. An elongated cover strip is formed to prove a U-shaped channel with resilient side walls sized to fit within the channel so that the strip covers the fasteners. The ends of the side walls are folded back to form outwardly facing hooks. As the cover strip is pressed into the channel, the hooks are cammed inwardly by the upper portions of the projections, and then snap outwardly into position behind the squared portions of the projections to securely retain the cover strips within the channel. The channels may be formed at the joint between two adjacent panels as well as intermediate of the individual panels.

3,509,676
BLOWBACK SEAL FOR BUILDING PANELS
John K. Kough and Blair B. Kough, Morgan Hill, Calif., assignors of four-sixths to Otis M. Martin, San Jose, Calif., and Silas N. Miller, Saratoga, Calif.
Filed Jan. 24, 1969, Ser. No. 793,865
Int. Cl. E04d 1/26, 1/30
U.S. Cl. 52—541 3 Claims



Disclosed is a panel a plurality of which may be used to surface the exteriors (roof and/or sides) of buildings. The panel is prefabricated and incorporates the sheathing, waterproofing, shingling and shakes often found in building surfacing of high quality and is installed in abutting vertical courses each course containing as many adjacent panels as required by the roof dimensions. The panel is substantially modular so that only a small amount of on-site custom fitting is required as compared to conventional construction. In addition, the panel includes provision for inhibiting the seepage of water into the building attic even as a result of rain driven by intense wind.

3,509,677
CRANE JIB OR MAST
Helge E. Krex, Charlottenlund, and Julius N. M. Waerum, Hellerup, Denmark, assignors to Byggeriets Maskinstationer, Aktieselskab (BMS), Copenhagen, Denmark
Filed Aug. 16, 1968, Ser. No. 753,207
Int. Cl. E04b 1/32; E04c 3/38
U.S. Cl. 52—646 3 Claims



In a crane jib or mast comprising mutually connected lattice-girder sections the sections have different sectional areas so as to be telescopable into each other and the main

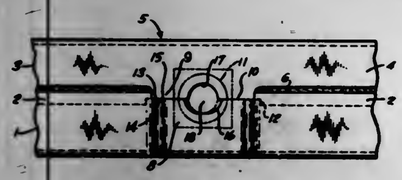
bars of adjacent sections are connectable by means of two-armed levers compensating for the different sectional areas of the sections and providing an appropriate transfer of the stresses between the main bars of two adjacent sections.

3,509,678
APPARATUS FOR SUPPORTING ELECTRICAL COMPONENTS AND METHOD OF MAKING THE SAME
Lee J. Duba, Elmhurst, Ill., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 618,663, Feb. 27, 1967. This application Dec. 10, 1968, Ser. No. 804,335
Int. Cl. E04h 12/04, 12/24
U.S. Cl. 52—721 10 Claims



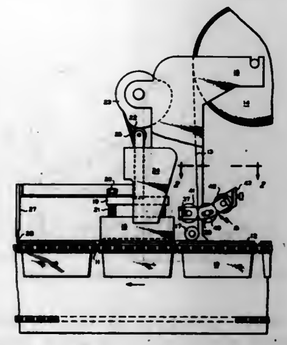
Apparatus for supporting electrical components from poles and the like, including a bracket attached to the pole having a pair of parallel vertical side plates and a spacer web joined therebetween forming the bottom of a beam pocket and sloping upwardly and outwardly of the pole. A support arm having an inner end supported in the pocket and extending upwardly and outwardly of the pole. The support arm is constructed of wood members laminated together and is tapered from a maximum dimension at the bracket to a minimum dimension at the outer end. The arm is curved along a neutral axis sloping upwardly and outwardly adjacent the bracket to approach a horizontal plane adjacent the outer end whereon the electrical components are supported. The arm is secured to the bracket by a horizontal bolt extending through the side plates of the bracket and an upwardly extending bolt which passes through the spacer web and controls the angular relation of the arm with respect to the pole.

3,509,679
PLANAR BODY MOUNT SURFACE IN BOX SECTION FRAME ELEMENT
Stanley F. Lindquist, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Oct. 24, 1965, Ser. No. 504,564
Int. Cl. E04c 3/30
U.S. Cl. 52—731 4 Claims



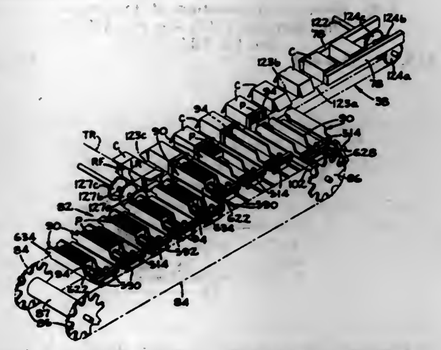
A body mount surface for a vehicle frame member. The frame member comprises a pair of flanges disposed in lapping contiguous relation and a portion of one flange is offset and located in co-planar relation with the other flange to provide a planar mount supporting surface. The edge of at least one of the flanges is provided with a recess coextensive with the length of the offset portion to accommodate the width of overlap. The planar supporting surface is provided with an opening to receive a body mount.

3,509,680
PRINTING ON PACKAGES
William J. Weber, Fulton, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,489
Int. Cl. B65b 61/02, 61/26
U.S. Cl. 53—14 6 Claims



Packages are formed by sealing two members together. Information is printed on one of the members before sealing, at the region of the seal and on the side of the one member which is sealed to the other. The one member is transparent at the region of the seal so that the printing can be observed through the seal.

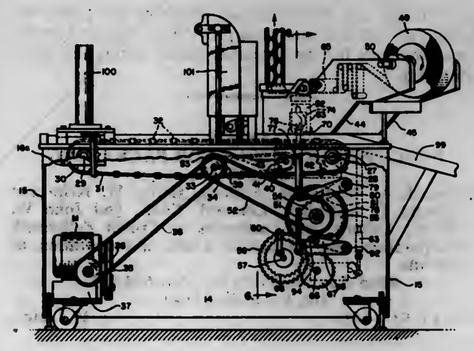
3,509,681
CARTONING MACHINE AND METHOD
Frank J. Sass, Elverson, Pa., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 25, 1966, Ser. No. 580,139
Int. Cl. B65b 5/06
U.S. Cl. 53—35 14 Claims



The present disclosure relates to a machine and method for inserting various products, particularly food products packaged in flexible thermoplastic film, in board cartons. The disclosed machine is provided with a magazine storing a stack of collapsed cartons. A carton transfer and erecting head removes and places expanded cartons on a carton conveyor provided with carton flap closing plows. Longitudinally adjacent the carton conveyor a product conveyor is provided which has product containing receptacles or buckets in transverse alignment with the location

of the cartons and they travel at the same speed as the carton conveyor. Camming tracks are associated with the product conveyor for the purpose of translating the receptacles or buckets toward and into an aligned carton. Translation of the receptacles is terminated after it has entered the carton and a pusher, also actuated by cam track, moves relative to the bucket toward the carton to thereby insert the product into the carton. The cam tracks thereafter move the buckets out of the filled carton and the flaps at the loading end of the carton are plowed closed. At the discharge end of the machine suitable means are provided, such as hot air guns, for conditioning hot melt adhesive to securely close the cartons.

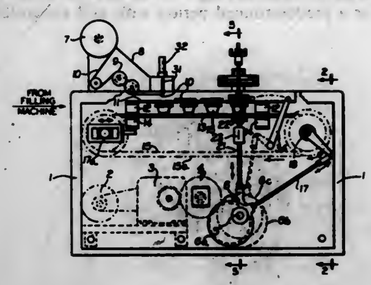
3,509,682
METHOD AND APPARATUS FOR THE ASSEMBLING OF HEAT SEALABLE COVERS TO FILLED CONTAINERS
George H. Logemann, Mundelein, Ill., assignor to Ekco Products, Inc., Wheeling, Ill., a corporation of Illinois
Filed Apr. 3, 1968, Ser. No. 718,490
Int. Cl. B65b 7/28; B67b 3/04
U.S. Cl. 53—39 10 Claims



This disclosure relates to a packaging apparatus wherein foil laminated paper cover stock is fed from coil stock to a blanking die assembly mounted at a horizontal angle of 32 degrees to the line of travel of a two lane conveyor which carries containers through the filler station to the closure station in straight line intermittent motion. The blanking die blanks 2 covers at a time from the cover stock and a transfer head rotates to withdraw the covers from the blanking die assembly and to positively place and seal the covers simultaneously while the head has straight line vertical motion in the direction of the containers. Application of heat for sealing the cover is confined to the rim of the container.

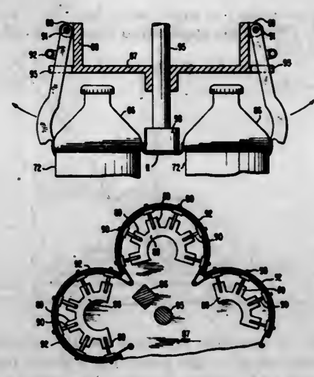
3,509,683
APPARATUS AND METHOD FOR SIMULTANEOUSLY MAKING CLOSURES AND SEALING CONTAINERS
Martin M. Sternau, Flushing, N.Y., assignor to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut
Filed July 20, 1967, Ser. No. 654,761
Int. Cl. B65b 7/28
U.S. Cl. 53—42 7 Claims

This invention pertains to an apparatus, and to a method, for simultaneously capping and sealing containers, employing the method of selective or controlled shrinkage of heat shrinkable, oriented plastic film or sheet, by placing the film or sheet over the mouth of a filled container, the film being larger than the mouth of the container, and applying heat, selectively, first only to the extended edge of the film whereby to cause the edge of the film to shrink



quickly, and second to the remaining portion of the film so as to form a closure hermetically sealing the container.

3,509,684
APPARATUS FOR PACKAGING CONTAINERS
John Hohl, Katen Berne, Switzerland, and Thomas L. Scribner, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Original application Jan. 27, 1965, Ser. No. 428,406, now Patent No. 3,404,505, dated Oct. 8, 1968. Divided and this application May 31, 1968, Ser. No. 733,607
Int. Cl. B65b 17/02, 27/04; B31b 1/80
U.S. Cl. 53—48 5 Claims

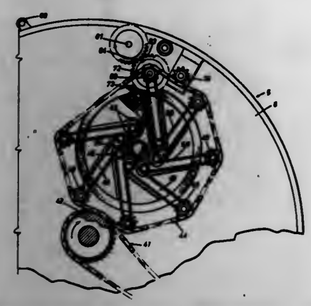


Apparatus is provided for assembling bottles or other containers into a package. The bottles for a package are arranged in a group, a band is placed around the group, and a resilient apertured carrier is telescoped over the upper shoulder of the bottles to form a package convenient for handling and carrying.

3,509,685
BUNDLING APPARATUS
Thomas R. Sykes, Toronto, Ontario, Canada, assignor to Toronto Star Limited
Filed Nov. 13, 1961, Ser. No. 151,943
The portion of the term of the patent subsequent to May 5, 1981, has been disclaimed
Int. Cl. B65b 57/20, 63/04
U.S. Cl. 53—55 42 Claims

1. Apparatus for bundling a plurality of papers or the like delivered to the apparatus in successive overlapped relation comprising an indexing head, at least two expansible cages for rolling sheet material carried by said

head, means for indexing said head to carry said expensible cages between an infeed station and an eject station, means for interrupting movement of said indexing head for a predetermined period with said expansible

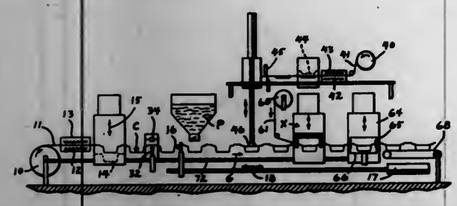


cages disposed at said infeed and eject stations whereby sheet material is adapted to be delivered into one of the expansible cages at the infeed station to be rolled thereby while rolled sheet material is ejected from the other expansible cage at said eject station.

3,509,686
APPARATUS FOR PACKAGING IN PROTECTIVE ATMOSPHERE

Roger C. Bergstrom, Rockford, Ill., assignor to Anderson Bros. Mfg. Co., Rockford, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 596,581, Nov. 23, 1966. This application June 27, 1968, Ser. No. 740,713
Int. Cl. B65b *31/02*
U.S. Cl. 53—112 10 Claims



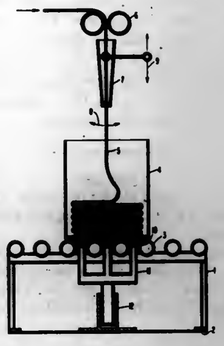
A machine is provided for periodically advancing a sheet of plastic material and providing a dwell period at forming, filling and sealing stations. The sealing station includes an evacuable chamber for removal of air and introduction of a protective atmosphere prior to sealing. Control apparatus is provided for sequentially performing these operations independent of time, so the container remains unsealed unless operations are completed within the dwell period.

3,509,687
APPARATUS FOR FILLING CONTAINERS

Gerold Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to Anstalt fur Patentdienst, Vaduz, Liechtenstein

Continuation-in-part of application Ser. No. 408,196, Nov. 2, 1964. This application Apr. 26, 1968, Ser. No. 724,584
Claims priority, application Switzerland, Dec. 2, 1963, 14,696/63
Int. Cl. B65b *63/04, 1/22, 13/20*
U.S. Cl. 53—116 11 Claims

An apparatus for filling and packing material such as cables, silver combinings and other continuous groups of threads into a container which comprises a container means, means for introducing said materials into said container means in a zig-zag manner, a plurality of tappet means connected to lifting and lowering means

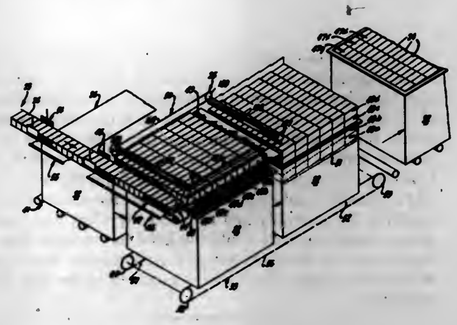


and directly and simultaneously communicating with the bottom of said container thus providing lifting and lowering movements for the container means during the filling operation.

3,509,688
PROCESSING CARTONS FOR PACKAGING THEREOF

Ellsworth A. Hartbauer, Antioch, Henry W. Rehr and Donald F. Kowalick, Concord, Calif., and John W. Wyatt, Auburn, Ala., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Apr. 24, 1967, Ser. No. 633,157
Int. Cl. B65b *35/40*
U.S. Cl. 53—163 19 Claims



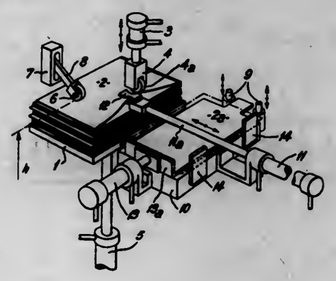
Method of and apparatus for handling cartons of facial tissue prior to packaging the same in shipping containers therefor. Such handling involves transient storage of individual cartons in metal receptacles called tote boxes each of which is sufficiently large to hold a great number of cartons; and the apparatus employed in such handling includes a tote box loader operative to fill each such tote box with facial tissue cartons for storage thereof, and further includes a tote box unloader for subsequently removing facial tissue cartons from tote boxes preparatory to packaging the cartons in shipping containers therefor. Such transient storage of facial tissue cartons prior to packaging thereof enables cartons containing variously colored tissue to be accumulated so as to permit cartons

respectively containing tissue of different color to be packaged in a single shipping container.

3,509,689
BAGGING MACHINES

Henri Perrin, Pau, Basses-Pyrenees, France, assignor to Azolacq, Societe Chimique d'Engrais et de Produits de Synthese du Sud-Ouest, Paris, France, a French body corporate

Filed Aug. 8, 1967, Ser. No. 659,179
Claims priority, application France, Oct. 14, 1966, 80,062
Int. Cl. B65b *43/30*
U.S. Cl. 53—188 13 Claims



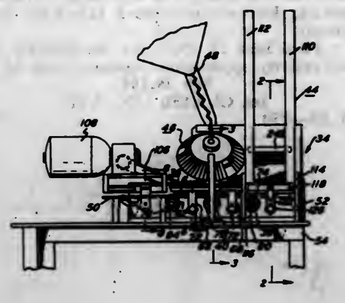
A bagging machine in which each individual bag is brought into a vertical position, and then partially opened by means of a pair of retractable adhesive members which hold it in the region of its neck, the invention giving provision for the introduction to the neck of a pair of spatulate members which can be retracted to open the bag fully. When the bag is open it is held firmly between, on its inside, the spatulate members and, on its outside, a pair of stops. The adhesive members can then be retracted further so as to release their hold on the bag. The curved spatulate members are introduced in part longitudinally to the bag and then rotated through 90° so that their contours can be taken up by the bag to be filled on the said retraction.

3,509,690
MACHINE FOR ASSEMBLING ELECTRICAL COMPONENTS IN A CARD PACKAGE

Charles W. Fluhrer, Philadelphia, and Joseph F. Larkin, Holland, Pa., assignors to TRW Inc., a corporation of Ohio

Filed Dec. 20, 1967, Ser. No. 692,157
Int. Cl. B65b *5/04*
U.S. Cl. 53—246 7 Claims

A machine for assembling electrical components of the type having a central body portion and terminal wires extending axially from opposite ends of the body portion in a corrugated paper card package with the components arranged in side-by-side relation along one edge of the card. The machine comprises a horizontally extending track for supporting the cards in a vertical position. A hopper is mounted at one end of the track for successively feeding the cards to the track. Means is mounted below the track for moving the cards along the track from the hopper to the other end of the track. A transfer mechanism is mounted over the track for successively transferring electrical components from a hopper to a position over the track. The transfer mechanism feeds the electrical components in a vertical position to a position over the upper edge of the cards so that the electrical components drop into the edge of the card with the terminal wires extending into the corrugations in the cards. Means is provided at the other end of the track for moving the filled cards off the

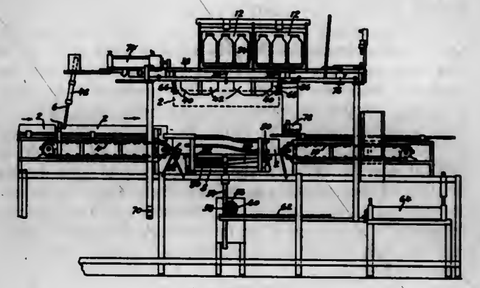


track and onto a platform from which the cards can be easily transferred to a box.

3,509,691
EQUIPMENT FOR PACKING ARTICLES IN CARTONS OR THE LIKE

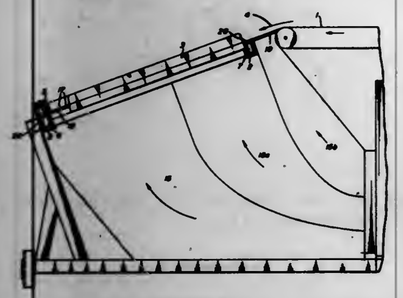
Anton J. Wild, 968 Bonnell Court, Union, N.J. 07083

Filed Apr. 18, 1967, Ser. No. 631,756
Int. Cl. B65b *5/06, 39/14, 35/32*
U.S. Cl. 53—247 12 Claims



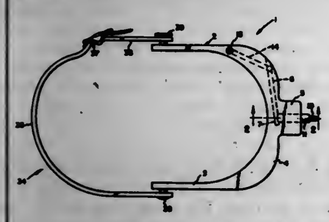
Equipment for packing bottles, cans or other articles or packages in a case wherein the equipment is provided with a packing head having channels in which the articles to be packed are positioned in a predetermined arrangement. A packer grid is located beneath the packing head and is movable transversely of the packing head from a position displaced with respect to the head to an article discharging and guiding position in alignment with the head. The packer grid has article supporting means thereon which are located beneath the channels in the head when the grid is displaced with respect to the head but are movable with the grid transversely of the channels to release the articles from movement downward through the grid when the grid is moved to its article discharging and guiding position. The equipment further has means for moving a case to be filled into registration with the packer grid and the case thereafter is held in registration with the packer grid and movable therewith until after the articles have passed from the channels in the packing head through the packer grid into the case.

3,509,692
DEVICE FOR TRANSFERRING ARTICLES ONTO TRAYS
Rolf Kattenmann, Stuttgart-Mohringen, and Eberhard Müller-Lobeck, Stuttgart-Feuerbach, Germany, assignors to Firma Schoko-Buck G.m.b.H., Stuttgart, Germany
Filed June 15, 1967, Ser. No. 646,375
Claims priority, application Germany, June 24, 1966, Sch 39,168
Int. Cl. B65b *1/06, 5/00*
U.S. Cl. 53—250 9 Claims



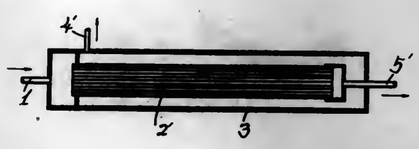
The present invention relates to a machine for removing articles, particularly chocolates or other confectionery, from a conveyor and transferring them to pallets on a cushion of air. The rotatable cam stacking device is to stack the full pallets in a vertical stack with the new pallets being added to the bottom of the stack and a similar stacking apparatus for individually removing empty stacked pallets from the bottom of a stack of empty pallets. Each of the pallets is provided with an air permeable bottom support surface through which compressed air is blown to support the articles on a cushion of air as they slide on to the pallet. These stacking devices include rotatable members having cam-like projections on their periphery so that adjacent cam-like projections will engage adjacent pallets and move the adjacent pallets relative to each other in correspondence with the change in vertical spacing between the adjacent projections during rotation of the rotatable members. Preferably, the pallets are inclined in the direction of transport and automatically moved into and out of an immediately adjacent loading position with respect to an endless horizontally extending conveyor belt.

3,509,693
EQUESTRIAN ELECTRIC SPUR
Herbert C. French, 691 E. Deerfield Road, Rte. 3, Mount Pleasant, Mich. 48858
Filed July 26, 1967, Ser. No. 656,282
Int. Cl. A43c *17/00*
U.S. Cl. 54—83 8 Claims



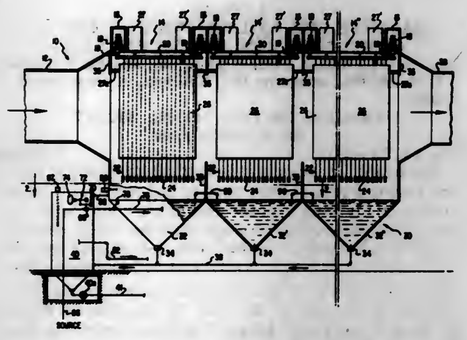
An electric spur construction having a support adapted for mounting on the foot of a person and including two spaced apart electrodes to which a voltage is applied whereby engagement of the electrodes with the flank of a horse will cause a mild electrical shock to be transmitted to the horse.

3,509,694
PROCESS AND APPARATUS FOR SELECTIVELY PERMEATING OXYGEN
Yunoshin Imai, 20 Gekicho-douri, Sendai-shi, Japan; Tamechika Yamamoto, 266 Shimotokorojima-Kamikawamae, Niigata-shi, Japan; and Yasuru Isoya, 10–1 Magamachi-aza-Kashiji, Sendai-shi, Japan
Continuation-in-part of application Ser. No. 455,245, May 12, 1965. This application Apr. 1, 1968, Ser. No. 717,891
Claims priority, application Japan, May 16, 1964, 39/27,439
Int. Cl. B01d *59/10*
U.S. Cl. 55—16 4 Claims



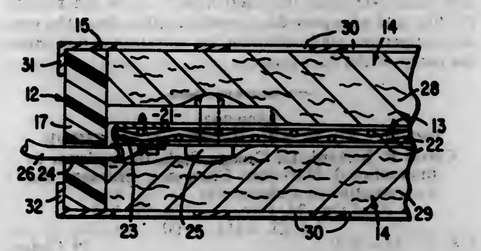
A process and apparatus for selectively permeating oxygen with a dispersion type oxidized thin membrane having oxygen selective permeability characteristics approximating that of pure silver and having a high temperature yield point and comprising a mixture of at least one metal selected from the group consisting of aluminum, beryllium, cerium, cadmium, magnesium, manganese, silicon, thorium, titanium and zirconium, in the amount of approximately from 0.005% to 10% and the remainder being substantially silver.

3,509,695
WET BOTTOM PRECIPITATOR
Richard T. Egan, Basking Ridge, and Lawrence M. Roberts, Bound Brook, N.J., assignors to Research-Cottrell, Inc., Bridgewater, N.J., a corporation of New Jersey
Filed July 21, 1965, Ser. No. 473,783
Int. Cl. B03c *3/74*
U.S. Cl. 55—120 4 Claims



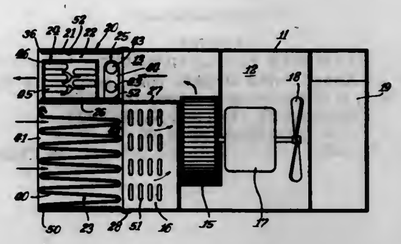
An electrostatic precipitator having a plurality of hoppers positioned beneath the electrodes, with the hoppers being filled with a liquid. Collected particles abstracted from the dirty gas fall into the liquid and are carried away. The liquid is recirculated, a portion is discharged to waste, and new liquid is drawn into the system.

3,509,696
COLLECTOR ASSEMBLY FOR ELECTROSTATIC AIR PRECIPITATORS
Joseph L. Thompson, Covina, Calif., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,123
Int. Cl. B03c *3/36*
U.S. Cl. 55—131 2 Claims



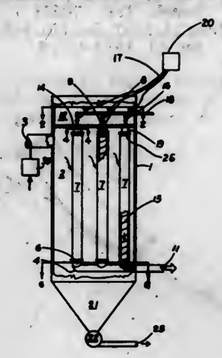
A collector assembly for use in an electrostatic air precipitator employed as an air filter wherein the collector includes a frame of electrically insulating material, a screen arranged centrally of the frame for receiving an electrical charge and a grid member arranged about the frame to serve as a ground for the charge so as to create an electrostatic field between the screen and the grid in a space accommodating a pervious filter composed of a dielectric material. The grid is arranged to embrace the outer surface of the frame in the manner of a clamp so as to permit easy removal in order to clean the parts of the collector.

3,509,697
FILTER-SOUND FRONT FOR AIR CONDITIONER
James F. Dewey, Evansville, Ind., Thomas G. Scheidler, St. Paul, Minn., and William R. Thomas, St. Joseph, Mich., assignors to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed Apr. 24, 1967, Ser. No. 633,078
Int. Cl. B01d *46/00*
U.S. Cl. 55—276 16 Claims



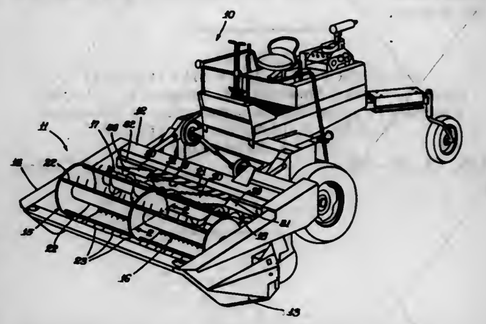
An air purifier for use with air conditioner apparatus, comprising an auxiliary structure wherein one or more of the following elements, (a) a filter, (b) germicidal radiation means, (c) charcoal absorbent means is provided for treating air moved therethrough by the air moving means of the air conditioner. Means are provided on the enclosure of the auxiliary structure for mounting the grill of an air conditioner thereon after removing the grill from the air conditioner and placing the auxiliary structure in the opening previously occupied by the grill, and means are provided for bringing the controls of an air conditioner through the enclosure for manual control thereof from the front of the grill. The air purifier is lined with sound deadening material for reducing the sound level of air conditioner operating noise.

3,509,698
FILTER ARRANGEMENT
William A. Medcalf and Leo Ashbrook, Louisville, Ky., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed May 1, 1967, Ser. No. 634,999
Int. Cl. B01d *46/04*
U.S. Cl. 55—302 7 Claims



A gas cleaning arrangement of the type including at least one gas permeable tubular filter element where a gas stream is passed through the filter element to remove particulate matter carried by the gas stream and the clean filtered gas stream is removed from the central chamber of the tubular element. A diffuser is disposed within the tubular element to define an annular opening between the outer periphery of the diffuser and the inner periphery of the tubular element, and a source of compressed gas is provided to selectively direct an impulse of compressed gas through the anuular opening so the gas is passed along a portion of the inner surface of the tubular element as a generally hollow cylindrical wave.

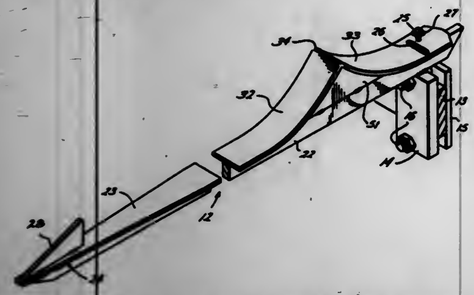
3,509,699
HARVESTER PLATFORM FOR WINDROWERS
Robert A. C. Calder, Hamilton, Ontario, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,100
Int. Cl. A01d *43/10*
U.S. Cl. 56—23 9 Claims



A harvester platform including a cutter and a reel for cutting a crop and moving the same rearwardly onto an auger mounted lengthwise of the platform. The auger spans a crop discharge opening defined through the platform and includes flights of variable pitch for supporting and moving the cut crop toward the discharge opening. A pair of crushing rollers are rotatably mounted on the platform rearwardly of the discharge opening in close

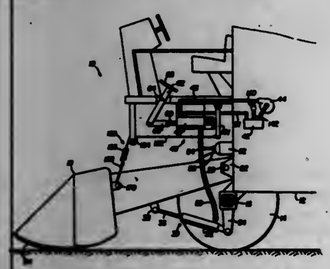
proximity to the auger for stripping the crop from the auger in conjunction with crushing the crop for deposit on the ground in a windrow.

3,509,700
COTTON STRIPPING APPARATUS
Henry J. Jezek, 1204 E. Downs Ave., Temple, Tex. 76501
Filed June 14, 1967, Ser. No. 645,993
Int. Cl. A01d 45/18
U.S. Cl. 56—34 5 Claims



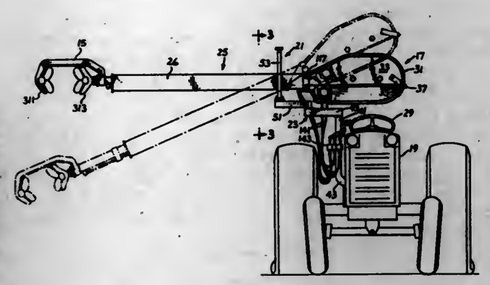
Cotton stripping apparatus is disclosed that includes a plurality of elongated cotton stripping fingers for moving through the cotton to strip the bolls from the cotton stalks. Each finger has an undulated upper surface that provides a ridge or wave crest intermediate the ends of the finger above the plane of the upper surface of the finger. The undulation provides a first portion of the top surface that is inclined downwardly from the crest or ridge toward the front end of the finger. A second portion of the surface is inclined downwardly from the crest or ridge toward the rear of the finger. Both such first and second portions of the top surface are arcuate. A first feeding reel having a plurality of prongs is mounted to rotate so that the ends of its prongs move along the first arcuate portions of the top surfaces on the fingers to move bolls stripped from the cotton rearwardly along the fingers to the crest or ridges in their upper surfaces. A second feeding reel having a plurality of prongs is located to rotate so its prongs move along the second arcuate portions of the top surfaces of the fingers to move the bolls from the crests or ridges to the rear end of the fingers from where they are transported to a collecting bin or hopper.

3,509,701
HEADER FLOTATION MECHANISM
Evans L. Clarke, Sherrard, Ill., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Apr. 5, 1968, Ser. No. 719,109
Int. Cl. A01d 67/00
U.S. Cl. 56—208 9 Claims



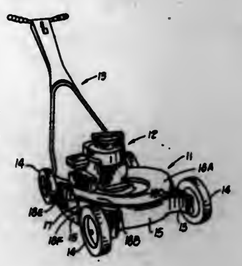
The float and adjusting mechanism for a crop treating part pivotally supported on a mobile frame in overhanging relation with respect to one end of the frame. The crop treating part is raised and lowered with respect to the frame through fluid rams selectively supplied with fluid from a reservoir by a pump with the flow being controlled by a valve and an accumulator connected between the valve and the fluid rams. The accumulator floatingly mounts the crop treating part on the frame. The control valve is capable of isolating the fluid rams and the accumulator whenever the control valve is in the neutral position and also provides a restricted flow from the ram to the reservoir while allowing for unrestricted flow from the pump to the fluid rams.

3,509,702
FRUIT AND NUT HARVESTING MACHINE
Calvin P. Rickerd, La Grange Park, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 588,845
Int. Cl. A01g 19/00
U.S. Cl. 56—328 19 Claims



A mobile tree shaker apparatus including an elongated boom having a tree-engaging clamp on one end and a shaker mechanism on the other end. The boom is swingably mounted on a mobile carrier for selective positioning adjacent to a tree to be gripped and shaken. Hydraulic mechanisms are provided for operating the clamp and extending and retracting the boom.

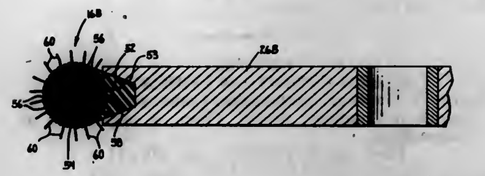
3,509,703
MOWER BLADE HOUSING
Martin W. Kunz, Parma Heights, Ohio, assignor to The M.T. & D. Company, a corporation of Ohio
Filed Aug. 22, 1967, Ser. No. 662,437
Int. Cl. A01d 35/26
U.S. Cl. 56—25.4 10 Claims



A rotary-type mower having a blade housing which has a side wall extending completely around the cutting chamber without a lateral discharge opening in the side wall and having a chute member extending gradually upward from the horizontal plane of the upper wall of the housing

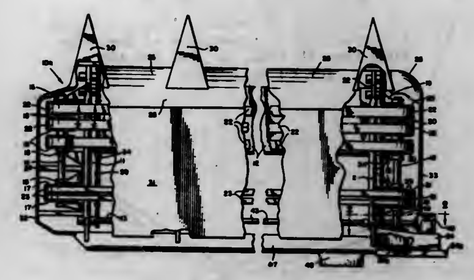
to receive cut grass thrown upwardly and tangentially by the rotative cutting blade which has a deflecting portion that deflects cut grass upwardly, the chute member having an arcuate portion over an arcuate open space in the upper wall of the housing and an extension portion extending tangentially and generally rearwardly of the housing, the extension portion over-lying and extending above the upper wall of the housing a distance sufficient to limit direct linear intrusion through the discharge end of the extension portion downwardly past the upper wall of the housing into the path of the rotative blade, and to thus improve safety in the use of the mower.

3,509,704
CABLE-TYPE CUTTER
Ramey L. Heasman, Fairland, Ind. (R.R. 3, Dale, Ind. 47523)
Filed Oct. 19, 1967, Ser. No. 676,514
Int. Cl. A01d 55/24
U.S. Cl. 56—291 3 Claims



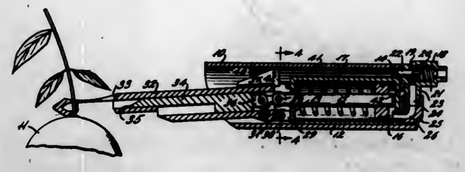
A cutter assembly comprising a frame, a pair of spaced-apart rotors journalled for rotation on the frame about generally parallel axes, and endless means trained about the rotors to define a first run disposed outwardly from the frame, the endless means being drivingly associated with at least one of the rotors. The first run of the endless means is effective as a cutting means when the endless means is driven. Preferably, the endless means comprises a plurality of strands bundled together to define a cable and a plurality of resiliently flexible pieces randomly dispersed in the strands and extending outwardly therefrom to provide a jagged surface.

3,509,705
VERTICALLY RISING BRANCH SEPARATOR AND FRUIT PICKER
Kermit H. Burgin, Box 212, R.R. 1, Whitestown, Ind. 46075
Filed Apr. 8, 1968, Ser. No. 719,460
Int. Cl. A01g 19/08
U.S. Cl. 56—328 9 Claims



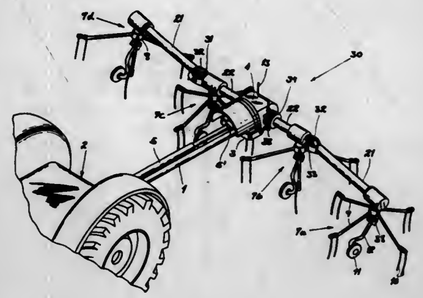
A fruit picker having vertically stacked pairs of endless belts, each pair approximately horizontally disposed one belt flight opposite one another and spaced apart to form a channel to receive fruit and branches therethrough from upper belt edges; a plurality of chains directed downwardly on each side of the channel and across the opposing faces of the belt flights for slower speeds than that of the belts; and cleats on the chains engaging the branches; and a series of spires along the top edges of the channel to divide branches upon movement upwardly of the picker through a tree.

3,509,706
AUTOMATIC FRUIT PICKER
John B. McCutcheon, 1033 Marjorie St., and James R. Powell, 314 Tuscarora St., both of Lakeland, Fla. 33801
Filed Oct. 2, 1968, Ser. No. 764,475
Int. Cl. A01g 19/08
U.S. Cl. 56—338 4 Claims



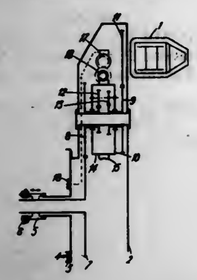
Automatically operated fruit picking apparatus having both an inner and outer housing portion. The inner housing embraces a blade which is slidably mounted therein and actuated by a spring-biased piston, fluidically controlled. When a valve is opened, fluid fills the piston chamber of the outer housing causing the knife to slide forward and sever the fruit from the stem.

3,509,707
HINGEDLY INTERCONNECTED ROTARY RAKES
Michael Stampfer, Gottmadingen, Germany, assignor to Maschinenfabrik Fahr Aktiengesellschaft, Gottmadingen, Germany, a German firm
Filed Sept. 6, 1966, Ser. No. 577,335
Int. Cl. A01d 77/06
U.S. Cl. 56—370 1 Claim



Haymaking machine with interleaved rotary rakes orbiting at a peripheral speed between about 1.5 and 5 times the forward speed of the vehicle for the dispersing of crop material piled in windrows, the hubs of the rakes being mounted at the outer ends of respective hingedly interconnected sections of a tubular beam and driven by respective shaft members inside the beam which are coupled together by universal joints in the regions of the hinges.

3,509,708
CABLE WINDING MACHINE WITH INDIVIDUAL CRADLE DRIVE
Amund Braaten, Oslo, Norway, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 11, 1967, Ser. No. 689,690
Int. Cl. D01h 7/90, 13/22; D07b 3/04
U.S. Cl. 57—58.32 3 Claims



Cradles for pay-off reels of a machine for winding sector core conductors into a cable are provided with individual gearing and angular displacement compensating motors mounted in a rotatable carriage. Only one set of slip rings from the supply line is required.

3,509,709
PNEUMATICALLY BUNDLED YARN
Motohiro Tsuruta, Kyoto-shi, Hirotaka Kimura and Akio Koshima, Uji-shi, Nobuhiro Kobayashi, Kobe-shi, Mitsufumi Ishibashi, Nara-ken, Yoshinori Mineda and Katsumi Yasuzuka, Uji-shi, Kentaro Kanamoto, Kyoto-shi, and Takaaki Matsuo, Kyoto-fu, Japan, assignors to Nippon Rayon Kabushiki Kaisha (Nippon Rayon Company Limited), Kyoto-fu, Japan, a corporation of Japan
Filed June 4, 1968, Ser. No. 734,400
Claims priority, application Japan, June 6, 1967, 42/36,894
Int. Cl. D02g 3/26
U.S. Cl. 57—140 3 Claims

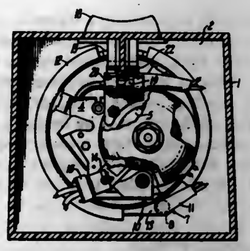


The present invention relates to pneumatically bundled yarn having good running and handling properties, having substantially no twist as a whole, and being composed of at least 3 monofilaments forming a plurality of repetitive units. Each unit includes 2 sections entwisted in the opposite directions and a no-twist section located between them, each twisted section including a plurality of subsections formed by entwisting one or more monofilaments with random others, and further relates to a process and apparatus for producing the same wherein at least 3 monofilaments are passed a steady fluid stream flowing in the vortex.

3,509,710
REINFORCED RUBBER ARTICLES
Glyn B. Redmond, Erdington, England, assignor to The Dunlop Company Limited, St. James, England, a British company
No Drawing. Filed Sept. 25, 1967, Ser. No. 670,424
Claims priority, application Great Britain, Oct. 7, 1966, 44,863/66
Int. Cl. B29h 17/28
U.S. Cl. 57—153 5 Claims

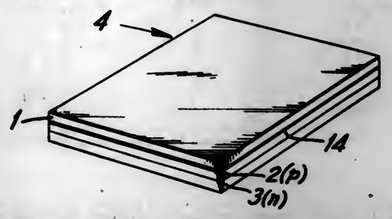
A rubber article, particularly a pneumatic tire reinforced by metallic cords, the individual wires of which have a diameter less than 0.010 inch. The wires are arranged in strands which have a helix angle greater than $\cos^{-1} 0.95$, and have a twist of no more than ±20% of the cord as they lie in the cord.

3,509,711
ALARM CONDITION INDICATOR
George N. Kasiwec, Southington, Conn., assignor to The Ingraham Company, Bristol, Conn., a corporation of Connecticut
Filed Apr. 5, 1967, Ser. No. 628,677
Int. Cl. G04b 13/00, 25/00; G04c 21/16
U.S. Cl. 58—22.7 4 Claims



An electric timepiece including alarm set and alarm postponement devices wherein illumination is provided for the timepiece dial face and signal means, including illumination enhancing its visibility, is provided and coordinated with the alarm mechanism to extensively visually indicate the "set" condition of the alarm mechanism.

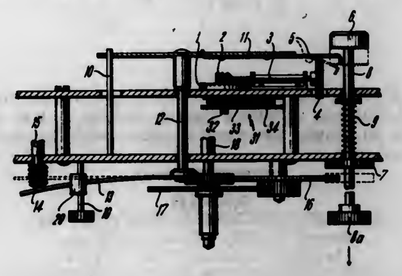
3,509,712
PHOTOELECTRIC CONVERSION SYSTEM IN A HOROLOGICAL DEVICE
Theodore S. Grohoski, Woodbury, Conn., assignor to Timex Corporation, a corporation of Delaware
Filed June 22, 1966, Ser. No. 559,489
Int. Cl. G04c 3/00
U.S. Cl. 58—23 7 Claims



1. A horological device comprising a case, a base plate within the case, gear train means pivotally mounted on

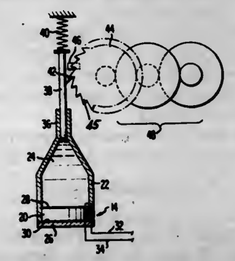
the plate, a plurality of hands attached to the gear train, motor means mounted on the plate to drive the gear train, a solar cell for converting actinic energy into electrical energy mounted within the case, a storage battery positioned on the plate and connected to said solar cell and said motor means, and a layer of phototropic material positioned in the case over said solar cell.

3,509,713
ELECTRONIC WATCH
Manfred Grozinger, Schwenningen, Germany, assignor to Muller-Schlenker, Schwenningen, Germany
Filed Apr. 15, 1968, Ser. No. 721,464
Claims priority, application Germany, Apr. 25, 1967, M 73,747
Int. Cl. G04c 3/00
U.S. Cl. 58—23 23 Claims



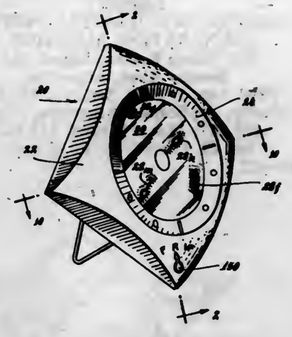
A watch with a purely electronic oscillator for generating periodic signals to drive the hands. The electronic oscillator is provided with at least one-frequency determining component which can be varied in size and which is coupled to a setting mechanism for correcting the setting of the hands so that its size is varied when the hands are adjusted. The coupling between the setting mechanism and the adjustable component of the electronic oscillator can be made effective only within a small angular portion of the range within which the setting mechanism can be adjusted.

3,509,714
ELECTROMECHANICAL TIMEPIECE
Richard S. Walton, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Apr. 25, 1968, Ser. No. 724,144
Int. Cl. G04c 3/00
U.S. Cl. 58—23 7 Claims



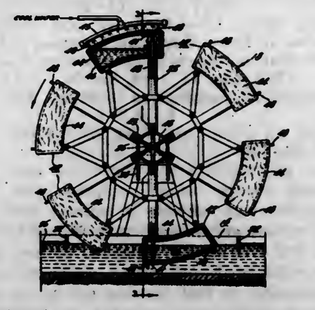
The timepiece has a fluid chamber mounting a piezoelectric element at one end and a piston slidably mounted in a reduced diameter portion of the chamber opposite the element. A timebase, including a high frequency oscillator and a frequency divider, applies an electrical signal across the piezoelectric element whereby the element moves to displace the fluid in the chamber thereby driving the piston outwardly against the bias of a spring. The piston is coupled to the gear train of a timepiece. The timed electrical signal is thus converted to an incremental mechanical movement which is amplified by the fluid system to provide timed indexing of the gear train.

3,509,715
ELECTRONIC CLOCKS
Heinz A. de Koster, Stamford, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,827
Int. Cl. G04b 19/30
U.S. Cl. 58—50 9 Claims



An improved electronic counting system which may be used as a time keeping system, including a glow discharge tube containing an ionizable gas and a series of spaced internal electrodes. The electrodes are arranged in a plurality of annular series so that the transfer of glow discharges along the electrode series simulate the appearance of clock hands. The glow discharge tube is generally thin and flat, and the cathodes are formed on the surface of a thin and flat substrate within the tube. The electronic control system for transferring the glow discharges around the electrode series includes a circuit board mounted parallel and adjacent to the substrate member so as to provide a compact assembly.

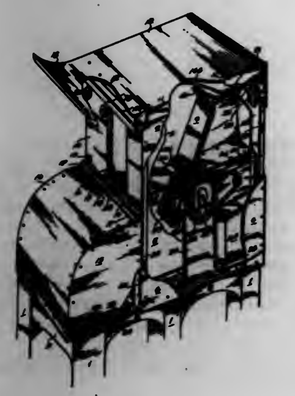
3,509,716
SOLAR ENERGY THERMODYNAMIC MOTOR
Edward N. Avery, 201 N. Grove St., Dunmore, Pa. 18512
Original application Sept. 5, 1967, Ser. No. 665,618, now Patent No. 3,441,482, dated Apr. 29, 1969. Divided and this application Jan. 14, 1969, Ser. No. 790,916
Int. Cl. F03g 3/00
U.S. Cl. 60—10 5 Claims



In apparatus for purification of impure water by humidification using solar energy as a heat source, compris-

ing: an impure water heating pool covered by a material to prevent water evaporation therefrom while promoting absorption of solar energy into the heating pool, and a solar energy still; a rotary thermodynamic motor to circulate the impure water between the pool and the still. The motor consists of a framework with a plurality of arcuate tanks positioned about the circumference. Diagonally opposite pairs of tanks are interconnected by conduits to effect transfer of volatile liquid from the lower tank to the upper tank as a result of the heat energy supplied to the lower tanks by the pool water. The transfer of the volatile liquid effects rotation of the framework.

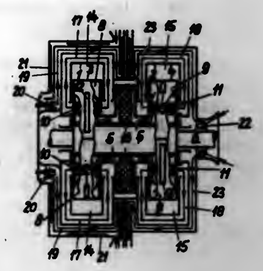
3,509,717
ELECTROMECHANICAL POWER GENERATING MACHINE
Jose Maria Bolaño, Juncal 824, Buenos Aires, Argentina
Filed Aug. 5, 1968, Ser. No. 750,171
Claims priority, application Argentina, Aug. 19, 1967, 209,087; Mar. 11, 1968, 212,961
Int. Cl. F03b 7/00; F03d 5/06
U.S. Cl. 60—22 31 Claims



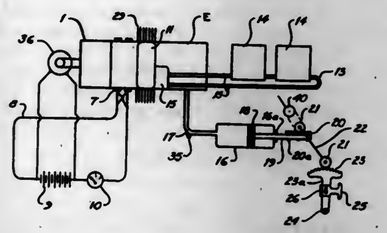
A power generating machine, adapted to be actuated by natural fluid currents and waves, having enclosed fluid driven reciprocating members driving a shaft and gate means for periodically admitting fluid to act on the reciprocating members.

3,509,718
HOT GAS MACHINE
Eberhard Fezer, Essen-Bredeney, and Wilhelm Hohenhinnebusch, Essen, Germany, assignors to Fried. Krupp Gesellschaft mit beschränkter Haftung, Essen, Germany
Filed Aug. 23, 1968, Ser. No. 754,923
Claims priority, application Germany, Aug. 25, 1967, 1,576,895
Int. Cl. F03g 7/06; F25b 9/00; F01k 23/02
U.S. Cl. 60—24 7 Claims

A hot gas machine for converting heat energy into mechanical energy, which comprises first and second housing chambers variable in volume and respectively formed by first and second epitrochoidal housing means and by first and second triangular pistons having their interior subdivided into piston chambers, said pistons being rotatable in said housing means on an eccentric shaft while being interconnected by double wall pipe means, the housing chambers pertaining to said first piston forming hot chambers and the housing chambers pertaining to said second piston forming cold chambers, each hot chamber communicating with a cold chamber through passage means in said pistons which establish communication between said housing chambers and the respective piston chambers pertaining thereto, said double wall pipe having an annular intermediate section with regenerator means therein.



3,509,719
STIRLING ENGINE POWER SYSTEM
Donald A. Kelly, 58—6 69th Place, Maspeth, New York, N.Y. 11378
Filed June 10, 1968, Ser. No. 735,613
Int. Cl. F03g 7/06; F25b 9/00
U.S. Cl. 60—24 8 Claims



The Stirling engine power system is comprised of several units which provide reliable heating, cooling and pressurization to achieve high operating efficiencies for all types of Stirling engines.

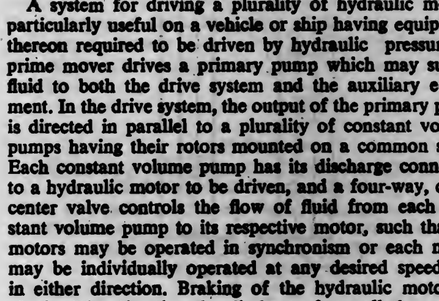
Two separate heating units are utilized so that quick starting is provided by the first with the second unit providing economical operation for normal running.

An air and liquid cooling means are arranged for the cold section of the engine.

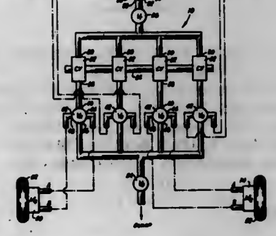
A power boosted air pressure pump unit is provided for engine pressurization and pressure level control.

3,509,720
FUEL SYSTEMS FOR GAS TURBINE ENGINES
Eugene Harold Warne, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Dec. 19, 1967, Ser. No. 691,848
Int. Cl. F02c 9/10
U.S. Cl. 60—39.28 4 Claims

A gas turbine engine fuel system comprising a first positive displacement type pump, a centrifugal pump in series with the first pump, an outlet passage from the pumps, a throttle in the outlet passage downstream of the pumps, a spill passage for excess fuel and connected between the first and second pumps, a device response to the pressure drop created by the throttle and arranged to control the spill of fuel through the spill passage, and means responsive to compressor pressures within the engine, for controlling the device which controls the spill flow.

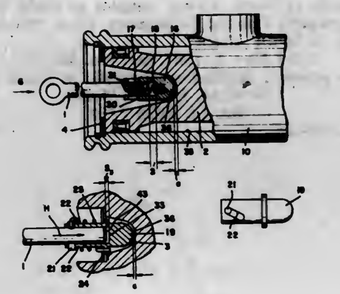


3,509,721
MULTIPLE MOTOR HYDRAULIC DRIVE SYSTEM
John M. Crawford, 121 Whitworth, Ponca City, Okla. 74601
Continuation-in-part of application Ser. No. 748,139, May 27, 1968, which is a continuation-in-part of application Ser. No. 540,766, Apr. 6, 1966. This application Mar. 28, 1969, Ser. No. 819,509
Int. Cl. F16d 31/06
U.S. Cl. 60—53 10 Claims



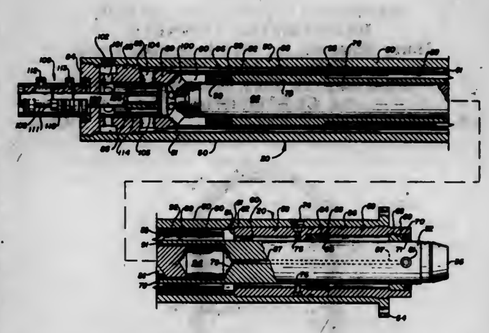
A system for driving a plurality of hydraulic motors particularly useful on a vehicle or ship having equipment thereon required to be driven by hydraulic pressure. A prime mover drives a primary pump which may supply fluid to both the drive system and the auxiliary equipment. In the drive system, the output of the primary pump is directed in parallel to a plurality of constant volume pumps having their rotors mounted on a common shaft. Each constant volume pump has its discharge connected to a hydraulic motor to be driven, and a four-way, open-center valve controls the flow of fluid from each constant volume pump to its respective motor, such that all motors may be operated in synchronism or each motor may be individually operated at any desired speed and in either direction. Braking of the hydraulic motors is obtained by directing the discharge from all the motors through a single control valve which may be used to maintain a back pressure on the motors.

3,509,722
MASTER CYLINDER
Gert Schrader, Walldorf, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed May 22, 1968, Ser. No. 731,055
Claims priority, application Germany, May 23, 1967, T 33,954
Int. Cl. F15b 7/08
U.S. Cl. 60—54.6 6 Claims



The piston of an automotive master brake cylinder is progressively rotated about its longitudinal axis. The intermittent rotation, occurring during each stroke, is designed to eliminate premature furrowing of the primary sealing cup of the piston at that part of its circumference which repeatedly passes over an unsmooth portion of the cylinder wall, e.g., a wall having one or more openings for the intake of brake fluid. Through the rotation the entire periphery of the primary cup is uniformly exposed to the unevenness in the wall.

3,509,723
GAS-POWERED IMPACT HAMMER
Russell John Dorn, Aurora, Colo., assignor to Arrow Manufacturing Company, Denver, Colo., a corporation of Colorado
Filed Aug. 5, 1968, Ser. No. 750,303
Int. Cl. F01b 31/00
U.S. Cl. 60—57 9 Claims



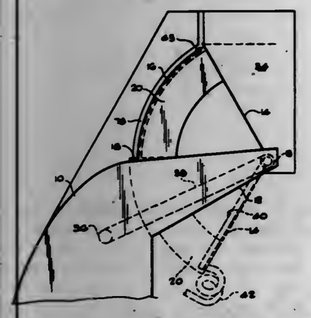
A compressible-fluid-powered impact hammer is mounted on a dirigible automotive vehicle. The hammer includes a cylindrical jacket slidably and telescopingly mounting a tool carrying impact ram. An internal plunger mounted within the jacket is received within an axial cavity in the inserted end of the ram to define an internal gas chamber. Hydraulic pressure fluid is used to retract

the ram into the jacket and thereby compress the contained gas in the chamber. A valve mechanism releases the hydraulic fluid pressure and the compressed gas expands to drive the ram to an impact point.

3,509,724
GATE VALVE MEANS FOR CONTROLLING THE FLOW OF WATER OVER A WEIR, DAM WALL OR THE LIKE

Lawrence Alexander Turner, Middleton, Cape Province, Republic of South Africa, assignor to Fluid Dynamics (Proprietary) Limited, Middleton, Cape Province, Republic of South Africa

Filed Nov. 6, 1967, Ser. No. 680,905
Claims priority, application Republic of South Africa, Nov. 14, 1966, 66/6,870
Int. Cl. E02b 7/50
U.S. Cl. 61—25 2 Claims

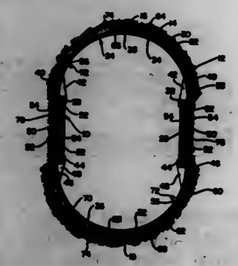


The invention provides means for varying the water storage capacity of dams, reservoirs, weirs and the like. To achieve this end, gate valve means of variable buoyancy are pivotally mounted adjacent to the crest of the impounding wall of such bodies of impounded water and are arranged to be floatably supported in the impounded body of water. Control apparatus is provided to vary the buoyancy of the gate valve means by admitting water to or withdrawing it from one or more buoyancy chambers provided in the gate valve means, whereby the effective height of the impounding wall can be varied.

3,509,725
METHOD AND STRUCTURE FOR REINFORCING TUNNELS

Harry Schnabel, Jr., 7010 Longwood Drive, Bethesda, Md. 20034

Filed Aug. 12, 1968, Ser. No. 751,770
Int. Cl. E21d; E01g 5/16
U.S. Cl. 61—45 5 Claims

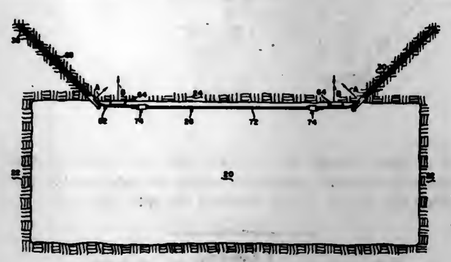


A tunnel is reinforced by a primary liner having the same general configuration as the curved roof of the tunnel with a flexible bladder inserted between and conforming to the configuration of the liner and the roof, said bladder being filled with grout which extends the bladder into mating pressure engagement with both the liner and the roof.

3,509,726
ROOF SUPPORT FOR UNDERGROUND MINES AND OPENINGS

Claude C. White, 3912 Cahaba Road, Birmingham, Ala. 35243

Continuation-in-part of application Ser. No. 796,775, Feb. 5, 1969. This application June 25, 1969, Ser. No. 836,440
Int. Cl. E21d 11/00; E04c 5/12
U.S. Cl. 61—45 16 Claims

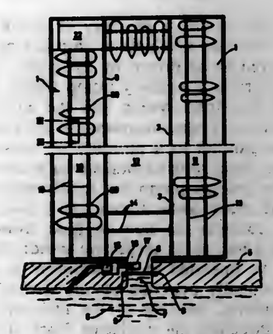


A roof support for underground mines and openings embodying anchor members embedded in holes drilled in spaced, opposed relationship in the roof of a mine passage or opening. A roof bolt is inserted in each hole, the upper terminal of each bolt being engaged with an anchor member. The bolts extend downwardly through the holes to a point adjacent the mine roof, at which point they extend through a collar member. A horizontal reinforcing member extends between the holes, and the terminals are provided with straps adapted for fixed engagement with each collar. Upon tightening of the anchor members, substantially equal tension is applied to the anchor members and horizontal reinforcing member to create a resultant upward and inward force on the mine roof.

3,509,727
INSTALLATION FOR DRY-STORING OF WATERCRAFT

Johan H. Zorab, Boornzwaag, and Jan J. Keulen, Langweer, Netherlands, assignors to Recreatiecentrum de Woudfennen N.V., Langweer, Netherlands

Filed Oct. 1, 1968, Ser. No. 764,204
Claims priority, application Netherlands, Oct. 6, 1967, 6713598
Int. Cl. B63c 1/00
U.S. Cl. 61—64 3 Claims



Installation for dry-storing of a large number of watercraft during the period that the atmospheric conditions

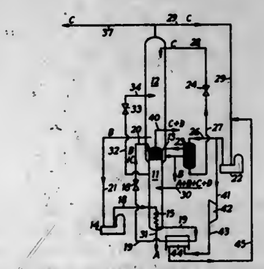
or other reasons such as the climate renders it unpleasant to use the craft. To this end the installation comprises:

a basin with one or more narrow passages to an adjacent fairway or lake;
a movable closure means for each passage;
a pump for lowering the water level in the basin and for maintaining this low level;
supporting beams for the craft, near the bottom of the basin;
a covering of the basin when climatic conditions renders this desirable.

3,509,728
LOW TEMPERATURE SEPARATION OF GASES UTILIZING TWO DISTILLATION COLUMNS HAVING A COMMON CONDENSER-EVAPORATOR

Stanley Mercer, Chorlton-cum-Hardy, Manchester, Alan Alfred Haslam, Hazel Grove, Stockport, and Paul L. Charlesworth, Birchencliffe, Huddersfield, England, assignors to Petrocarbon Developments Limited, London, England

Filed Feb. 20, 1967, Ser. No. 617,367
Claims priority, application Great Britain, Feb. 22, 1966, 7,708/66
Int. Cl. F25j 1/02, 3/02
U.S. Cl. 62—28 5 Claims



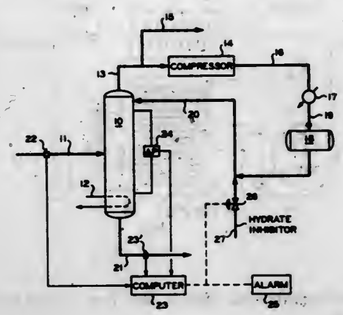
A system for the fractionation at low temperatures of a mixture of three or more gases to produce three or more product streams, which system essentially comprises two distillation columns, each having its own heat pump cycle providing reboil and reflux therefor and the distillation columns having a common condenser/evaporator providing reflux for the first column into which the feed mixture is introduced and reboil for the second column. The heat pump cycles may be closed cycles using external refrigerants or open cycles using as refrigerants components separated in the system. Refrigeration for the operation of the process may be produced by expansion of a gas stream of the system at an elevated pressure through an expansion turbine with performance of external work.

3,509,729
HYDRATE DETECTION AND CONTROL IN FRACTIONATION COLUMNS

Dale E. Lupfer, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 29, 1967, Ser. No. 694,598
Int. Cl. F25j 3/02
U.S. Cl. 62—37 6 Claims

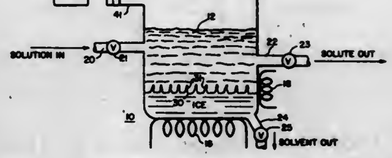
Hydrate formation in fractionation columns is detected by measuring feed and kettle product flow rates and the pressure differential across the column. In response to these measurements, hydrate formation is calculated by comparing changes in differential pressure and kettle product flow. A hydrate inhibitor is then added to the column to eliminate hydrates.



3,509,730
PRESSURE MODULATED BUBBLE STIRRING APPARATUS FOR FREEZING SOLUTE OUT OF SOLUTION

John D. Harrison, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 24, 1966, Ser. No. 588,883
Int. Cl. B01d 9/04
U.S. Cl. 62—58 1 Claim



The invention comprises apparatus, and a method for stirring a body of liquid in the critical area of a stagnant, boundary layer associated therewith, the apparatus comprising means for alternately decreasing and increasing the pressure within a container holding the liquid, the decreasing and increasing pressure being effective to expand and contract gas bubbles within the boundary layer, the expanding and contracting bubbles being effective to energize and move the liquid in the area of the boundary layer.

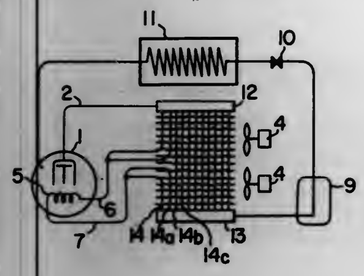
3,509,731
OIL COOLING ARRANGEMENT IN REFRIGERATION SYSTEM

Chikara Shimazawa, Shizuoka-ken, Japan, assignor to Toshiba Kikai Kabushiki Kaisha, Tokyo-to, Japan

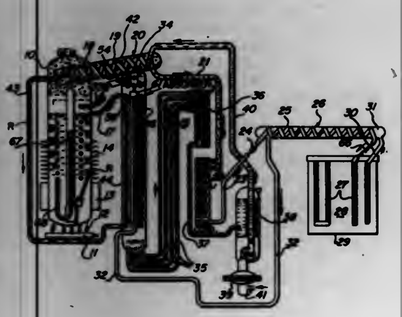
Filed Oct. 24, 1968, Ser. No. 770,342
Int. Cl. F25b 43/02
U.S. Cl. 62—469 1 Claim

Some of the cooling tubes of an air-cooled refrigerant condenser of the multiple, parallel flow path type in a refrigerating system having a refrigerant compressor are

connected of their intermediate parts in series with a heat exchanger for cooling the lubricating oil of the compressor. This organization affords low flow resistance in the condenser.



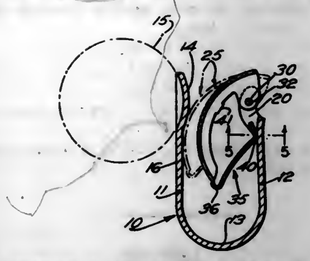
3,509,732
ABSORPTION REFRIGERATION SYSTEM
John Roeder, Jr., Benton Harbor, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,235
Int. Cl. F25b *15/00*
U.S. Cl. 62—476 7 Claims



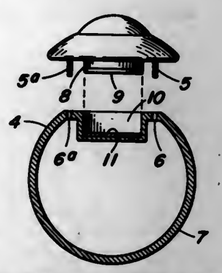
1. Absorber-heat exchanger apparatus for a liquid-gas refrigeration system, comprising: means providing a chamber; enclosed liquid conduit means having an outer surface within said chamber, said conduit means being in the form of a substantially vertical helix within said chamber; means for flowing a weak absorbent solution over the outer surface of said coil in heat exchange relationship therewith comprising a liquid distributing cup member above the topmost individual coil in said helix having a plurality of outlets above the topmost coil for flowing said solution over said topmost coil and then succeeding coils; and means for supplying to said chamber a gaseous refrigerant in contact with said solution to enrich the solution.

3,509,733
EAR ORNAMENT CLASP WITH SPRING ACTUATED JAW
William G. Crowley, Riverside, R.I., assignor to Wells, Inc., a corporation of Rhode Island
Filed Feb. 15, 1968, Ser. No. 705,770
Int. Cl. A44c *7/00*
U.S. Cl. 63—14 5 Claims

A clasp for an ear ornament which may be pushed upwardly onto the ear lobe from beneath with the ear lobe forcing a spring pressed member away from a jaw which engages the outer surface of the ear lobe so as to apply sufficient pressure on the opposite surfaces of the ear lobe to hold the ear ornament in place.

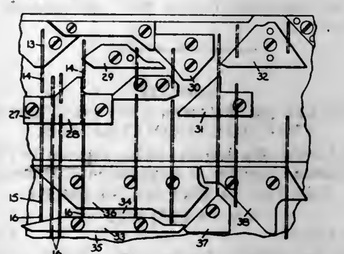


3,509,734
ORNAMENTAL DEVICE WITH INTERCHANGEABLE MAGNETICALLY BIASED MEMBER
Henry B. Lederer, 1781 Bay Blvd., Atlantic Beach, N.Y. 11509
Filed June 14, 1967, Ser. No. 645,985
Int. Cl. A44c *9/00*
U.S. Cl. 63—15 4 Claims



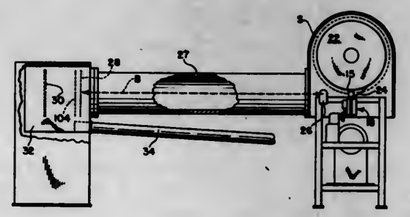
An ornamental device comprising a base element and ornament element detachably mounted thereto said elements being mutually magnetically attractive, said ornament element having a raised portion adapted to snugly fit a corresponding cavity portion provided in the base element, the ornament element being further provided with at least one pin-like projection adapted to be engaged by a corresponding hole present in the base element whereby to promote structural stability.

3,509,735
SELECTIVE TRANSFER DEVICE FOR A CIRCULAR KNITTING MACHINE
Frederick C. Wiesinger, Feasterville, Pa., assignor, by mesne assignments, to North American Rockwell Corporation, a corporation of Delaware
Filed Dec. 21, 1967, Ser. No. 692,345
Int. Cl. D04b *9/22*
U.S. Cl. 66—24 2 Claims



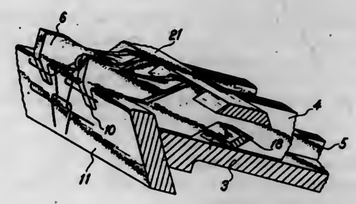
A cylinder cam section having in combination for alternate option a set of cams for effecting a knitting function and a further set of cams for transferring the stitches of individually selected cylinder needles to cooperating dial needles.

3,509,736
APPARATUS FOR TESTING IMPACT REACTION OF RESILIENT BODIES
Oliver E. Saari, Deerfield, Ill., assignor to United States Golf Association, New York, N.Y., a voluntary association of New York
Filed May 2, 1968, Ser. No. 726,173
Int. Cl. G01n *3/30, 3/40*
U.S. Cl. 73—13 12 Claims



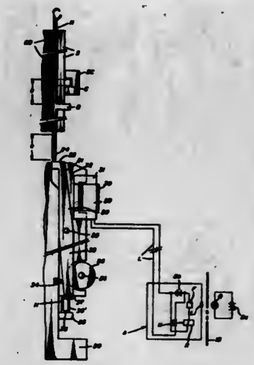
Apparatus for testing reaction of a resilient body such as a golf ball to impacts applied thereto at a predetermined speed by a rotating striker member. The device measures ball and striker travel times and with the aid of a computer can immediately after testing indicate on a display either the coefficient of restitution of the ball or the speed of either the ball or the striker member. The rotating striker member and the ball are not moved into a path of contact relative to each other until just prior to impact in order to permit the ball to be held on a tee in a normal unrestrained manner.

3,509,737
NEEDLE BED FOR A FLAT KNITTING MACHINE
Masahiro Shima, 20, 8-chome, Higashinaga-machi, Wakayama, Wakayamashi, Japan
Filed July 10, 1967, Ser. No. 652,348
Claims priority, application Japan, July 9, 1966, 41/44,997
Int. Cl. D04b *7/04*
U.S. Cl. 66—115 2 Claims



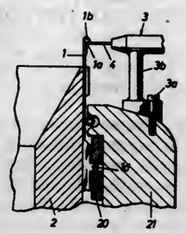
A needle bed for a flat knitting machine is disclosed including a main body having grooves therein at predetermined intervals and needle plates positioned within the grooves having a thin top end part. The needle plates are removably secured to the body part of the needle bed and include a middle plate and side plates whereby the thin top and end parts may be easily formed of the middle plate and the side plates provide additional width for the rest of the needle plates.

3,509,738
KNITTING MACHINES
Karl Flad, 7411 Undingen Hauptstrasse 29, Undingen, Germany
Filed Nov. 14, 1967, Ser. No. 682,856
Claims priority, application Germany, Nov. 15, 1966, F 50,681; July 19, 1967, F 53,005
Int. Cl. D04b *15/66*
U.S. Cl. 66—154 24 Claims



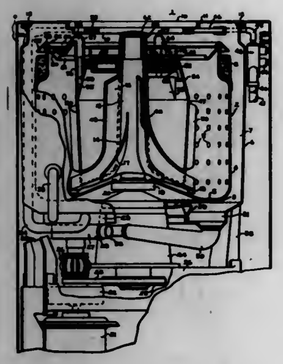
A knitting machine having a needle selecting device which is simultaneously guided against the rear ends of jacks which displace the needles, wherein there is provided electro-magnetically held strikers, each of which can be moved to a position in which the striker engages the rear end of a jack or into another position where it misses the rear end of a jack. The position of the individual jacks are stored in an information carrier which can be read electrically or optically by a read-out unit. The information carrier, unlike known Jacquard machines which employ metal cards, has a width which is small in comparison to the operating width of the knitting machine.

3,509,739
STOP MOTION FOR A KNITTING MACHINE
Gernot Gottschall, Boblingen, Germany, assignor to Franz Morat G.m.b.H., Stuttgart-Vaihingen, Germany
Filed July 12, 1967, Ser. No. 652,856
Claims priority, application Germany, Mar. 25, 1967, M 73,343
Int. Cl. D04b *35/18*
U.S. Cl. 66—157 15 Claims



A feeler contact touches latches of the needles of a knitting machine when the same are in an undesired partly opened or closed position. In this manner the gate circuit of a thyristor is closed, and its main circuit energizes a relay winding so that a relay switch disconnects the motor driving the knitting machine.

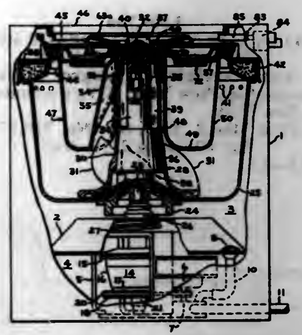
3,509,740
COVER FOR WASHING MACHINE TUB
John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 29, 1968, Ser. No. 756,110
Int. Cl. D06f 39/08
U.S. Cl. 68—27 8 Claims



A vertical axis washing machine, adapted to wash two loads of fabrics simultaneously in separate solutions without liquid interchange therebetween, includes an outer tub to receive liquid and fabrics to be washed in that liquid, an inner, substantially imperforate open top tub to receive liquid and fabrics to be washed in that liquid and liquid inlet means positioned to direct a stream of liquid into registry wth the top of the inner tub. A cover is provided for substantially closing the top of the inner tub and the cover defines a passageway positioned within the inner tube having an entrance exposed to the liquid emitted from the inlet and an exit communicating with the inner tub for flow of liquid into the inner tub. A float is mounted in the passageway and includes a top wall normally closing the entrance to the passageway. The float further defines an air chamber open toward the interior of the inner tub so that the stream of liquid will move the top wall from the entrance for flow of the liquid into the inner tub until it is filled to a level sufficient to close off the air channel and cause the top wall to reclose so that the stream of liquid thereafter is directed into the outer tub.

3,509,741
LABYRINTH SEAL TUB COVER
Everett D. Morey, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Aug. 29, 1968, Ser. No. 756,111
Int. Cl. D06f 39/08
U.S. Cl. 68—27 7 Claims

A washing machine, adapted to wash two loads of fabrics simultaneously in separate solutions without liquid interchange therebetween, includes a first tub to receive liquid and fabrics to be washed in that liquid, a generally vertically disposed agitator in the first tub for causing a washing action and a second tub mounted on the agitator for movement therewith. A liquid inlet is positioned to direct a stream of liquid into the machine in registry with the top of the second tub and a cover is provided for substantially closing the open top of the second tub. The cover includes an upper wall and a lower wall defining a passageway positioned within the upper portion of the second tub and communicating with the interior of the second tub. A number of radially spaced, circumferentially extending walls project from the upper wall toward the lower wall within the passageway and an annular float is provided in the passageway to rise and close off the openings in the upper wall



communicating with the passageway as the level of liquid in the second tub rises to the level of the passageway. Thus, liquid interchange between the second and first tubs is prevented.

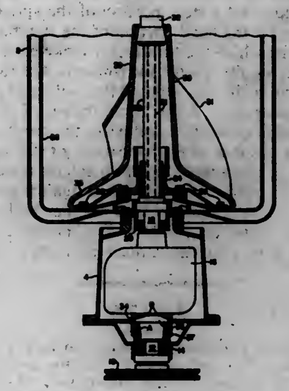
3,509,742
SUPPORTING STRUCTURE FOR A WASHING MACHINE
Fritz Bauer, Schulzstrasse 14, Altdorf, near Nuremberg, Germany
Filed Sept. 29, 1967, Ser. No. 671,785
Claims priority, application Germany, Oct. 5, 1966, S 106,369; Apr. 29, 1967, S 109,678
Int. Cl. D06f 23/02; F16f 15/00
U.S. Cl. 68—23.1 14 Claims



A resilient supporting structure for a free-oscillating washing machine unit having a normally horizontal axis of rotation and comprising only two telescopic spring legs connected to opposite sides of the machine housing and to the machine base and extending substantially within a vertical plane passing through the center of gravity of the unit, and inclined to each other so that their axes intersect substantially within said plane, and resilient resetting means tending to return the oscillating machine unit to its normal position.

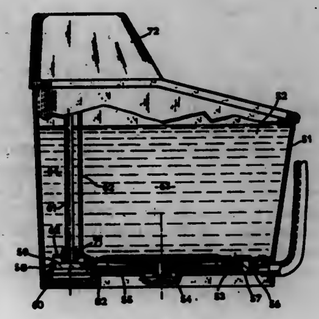
3,509,743
WASHING MACHINE CLUTCH MECHANISM
Leslie A. Johnson, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 13, 1967, Ser. No. 675,153
Int. Cl. D06f 37/40; F16d 11/06, 13/04
U.S. Cl. 68—23.7 6 Claims

Clutch mechanism suitable for operation in an oil lubrication bath. The clutch comprises a spring member carried by coaxial hubs one of which is rigidly supported by a stationary member while the other one is integral with a movable member. To ensure relative rotation of the coaxial hubs in only one direction, the hub carried



by the stationary member is provided with a plurality of equally spaced longitudinal or axial flats on the outside diameter thereof thereby increasing the area of escape for the oil from between the spring and the hub.

3,509,744
WASHING MACHINES, AND ESPECIALLY LAUNDRY MACHINES
Maurice Marie Achille Trouilhet, Lyon, France, assignor to Calor Appareils Electro-Domestiques, Lyon, France, a company of France
Filed Sept. 4, 1968, Ser. No. 757,322
Claims priority, application France, Dec. 13, 1967, 132,089
Int. Cl. D06f 13/00; 17/08
U.S. Cl. 68—132 7 Claims



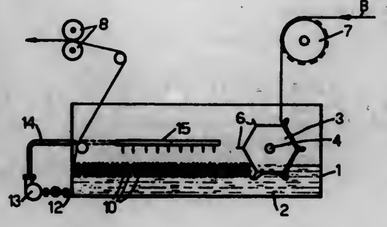
Washing laundry machine, including a vat for the linen and having disposed in the vicinity of its bottom a large-diameter wheel driven by means of a vertical driving shaft the top end of which projects in the upper portion of said vat to cooperate with an electric driving motor and the lower end of which comprises a driving gear for the wheel. A hydraulic coupling device is mounted between the motor driving shaft and the stirring wheel is immersed in the washing solution near the vat bottom and uses said washing solution as hydraulic coupling fluid.

3,509,745
CLOTH TREATING APPARATUS
Lawton L. Johnston, Graniteville, S.C., assignor to Graniteville Company, Graniteville, S.C., a corporation of South Carolina
Filed May 22, 1968, Ser. No. 731,032
Int. Cl. D06f 21/00, 23/00, 25/00
U.S. Cl. 68—175 8 Claims



This invention is directed to an apparatus for subjecting lengths of cloth to a liquid treatment in a vat, and more specifically to a device in which lengths of cloth may be unwound from one roll and wound again upon another roll within the vat as they are subjected to a suitable liquid solution, the process being accomplished without reversing the position or rotational direction of the rolls and thus without interrupting the continuous processing of the cloth.

3,509,746
METHOD OF AND APPARATUS FOR TREATING TEXTILE MATERIAL
Hermann G. Müller and Werner Kracher, Herisau, Switzerland, assignors to Aktiengesellschaft Cilander, Herisau, Switzerland, a corporation of Switzerland
Filed Dec. 21, 1967, Ser. No. 692,405
Claims priority, application Germany, Jan. 2, 1967, A 54,523
Int. Cl. D06f 17/02
U.S. Cl. 68—177 9 Claims



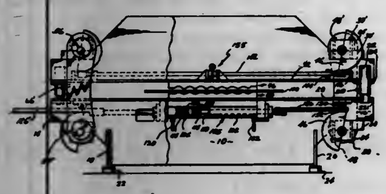
A method of and apparatus for the low-tension fluid treatment of textile material involves feeding the material to be treated downwardly onto the upper surface of a perforated drum or reel mounted for rotation about an axis extending horizontally and transversely of a generally horizontally oriented treatment tank containing the treatment fluid. This drum or reel is immersed at least partially beneath the surface of the treatment fluid in the tank, and is formed with a series of salient edges on its outer surface parallel to its axis of rotation and spaced uniformly of the periphery of the reel or drum. The downwardly fed material drapes itself over the salient edges of the drum or reel and over the surface areas thereof between the salient edges.

The drum rotates in a direction such that the material draped thereon is carried downwardly and beneath the surface of the treatment fluid, and is released from the drum beneath the surface of the treatment fluid and at a

point where the drum would begin to elevate the material being treated toward the surface of the treatment fluid. As a result, the material is formed into a horizontally oriented and plaited or folded pile extending longitudinally of the tank with the major portion of the material being beneath the surface of the treatment fluid.

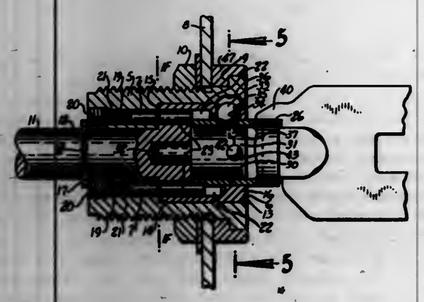
The drum or reel is located adjacent one end of the treatment tank and means are provided adjacent the opposite end of this tank for withdrawing the treated textile material from the tank. Treatment fluid circulating means are provided to withdraw fluid from the tank and deliver the fluid to a spray device for spraying treatment fluid on the upper surface of the pile of material moving longitudinally of the tank. Lateral guiding means are provided for the pile of textile material moving through the treatment fluid.

3,509,747
PRECISION FORMING PRESS
Frank R. Ogilvie, 645 Claraday, Glendora, Calif. 91740
Filed Oct. 24, 1965, Ser. No. 504,599
Int. Cl. B21d *13/02*
U.S. Cl. 72—429 5 Claims



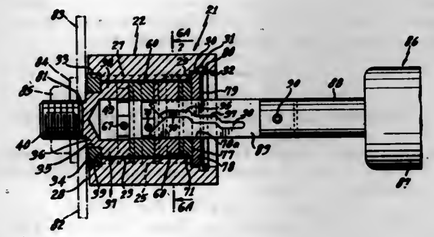
A precision forming press which provides precision movement by an arrangement of eccentric cams cooperating with frame members to move one die relative to another die with precise motion; fluid piston means assist in providing accurate guidance and cushion relative movement between die members; adjustment means are provided for precision vertical positioning of die members relative to each other.

3,509,748
AXIAL PIN TUMBLER LOCK
Patrick M. Trainor, Chicago, Ill., assignor to Fort Lock Corp., Chicago, Ill., a corporation of West Virginia
Filed Apr. 24, 1968, Ser. No. 723,821
Int. Cl. E05b *27/10, 19/02*
U.S. Cl. 70—363 6 Claims



A pin tumbler lock in which a rotatable spindle received in the bore of a casing is locked against rotation by a number of tumbler pins circumferentially spaced around a circle concentric to the axis of the lock, and spring biased to positions extending across an interface between transversely disposed contiguous surfaces on the spindle and the casing. These contiguous surfaces are the bottom of a counterbore opening to the front end of the casing and the shoulder formed at the junction between a head portion and a stem portion of the spindle. An annular keyway in the head portion of the spindle receives a tubular key by which the tumblers are moved to unlocking positions freeing the spindle for rotation. The tumblers are removable from the rear end of the lock casing to enable authorized changing of the combination of the lock. A freely rotatable protective collar on the front end of the lock guards against the application of torsion on the spindle except by a proper key. Ball detents releasably hold the key in its fully inserted position against the thrust of the tumbler springs thereon, and another ball detent prevents insertion and/or withdrawal of the key except when the spindle is in a predetermined position of rotation.

3,509,749
LOCK
John F. Regan, Plantsville, Conn., and Edward C. Arzig, Mundelein, Ill., assignors, by mesne assignments, to Duncan Industries, Inc., a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,258
Int. Cl. E05b *29/10, 19/12*
U.S. Cl. 70—364 21 Claims

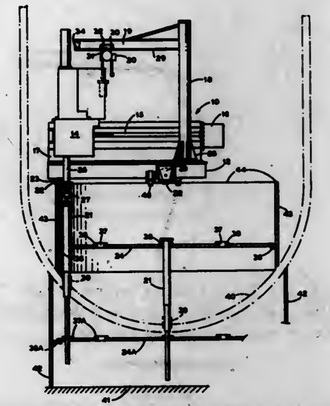


1. A lock comprising a casing having a cylindrical bore formed with recesses therein, a plurality of plugs each independently rotatably mounted within said casing bore for angular displacement to any one of a plurality of angular orientations, a tumbler slidably mounted to each of said plugs for movement into and out of locking engagement with a respective one of said recesses at each of said angular orientations, and a lug on each of said tumblers and actuable by a key to move the tumbler out of locking engagement with said recess to permit rotation of the respective plug, each of said lugs being eccentrically located to assume a different position in each of said angular orientations of the respective plug to change the angular orientation of one or more of said plugs with respect to others of said plugs to require different keys for the operation of the lock.

3,509,750
PORTABLE MACHINE
Clarence E. Anderson and Gary H. Rickenbrode, Wadsworth, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 21, 1967, Ser. No. 632,803
Int. Cl. B23b *39/14*
U.S. Cl. 77—2 12 Claims

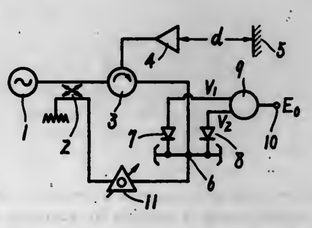
A portable drilling and boring machine including a rotatable platform which slidably and positionably carries a machine head for forming vertical penetrations in the head of a nuclear reactor vessel upon which the platform is mounted. The platform also carries a mast and boom

arrangement with a hoist to facilitate placement and movement of machine tools. A universal coupling is connected to the head of the machine for transmitting motive force



to the tools. The machine may further include a template for guiding machine tools toward and away from the reactor head.

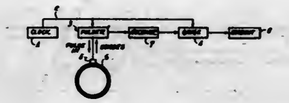
3,509,751
METHOD AND APPARATUS FOR DETECTING LOCAL IRREGULARITIES ON STRIPS AND CONTROLLING THE EVENNESS OF STRIPS
Toshio Shiraiwa, Nara Prefecture, and Sumio Kobayashi, Mino, Japan, assignors to Sumitomo Metal Industries Ltd., Osaka, Japan
Filed Mar. 21, 1968, Ser. No. 714,903
Claims priority, application Japan, Mar. 30, 1967, 42/20,135
Int. Cl. B21b *37/00*
U.S. Cl. 72—16 8 Claims



This invention is for detecting such local irregularities on strips as frilly edges and slack bands and momentarily on line during rolling process by a non-contact system accurately with a microwave technique, and provides a method of controlling the evenness of strips while they are rolled by giving an instruction to an existing roll crown adjusting apparatus on the basis of the signal detected by the local irregularity detecting apparatus.

3,509,752
ULTRASONIC THICKNESS MEASURING APPARATUS
Charles C. Moore, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 30, 1966, Ser. No. 606,091
Int. Cl. G01b *17/02*; G01n *29/04*
U.S. Cl. 73—67.9 2 Claims

An ultrasonic transducer is energized by a pulser which is triggered by a pulse from a clock pulse source. Wave energy from the transducer enters a test piece. Reflected front and back surface pulses and others are coupled to a receiver which converts the received energy bursts into spaced rectangular pulses which are coupled to a gauge

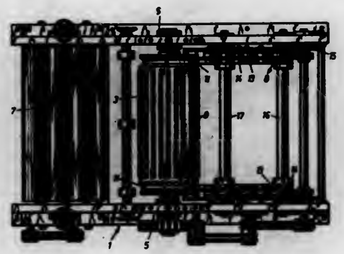


unit. The gauge unit is gated by a clock pulse suitably delayed and allows only the front and back surface pulses to pass. A DC voltage proportional to the spacing between the front and back surface pulses and, hence, the thickness, is generated as the apparatus output.

ERRATUM

For Class 72—60 see:
Patent No. 3,509,785

3,509,753
METHOD OF AND APPARATUS FOR MANUFACTURING THE PLATES OF PLATE-TYPE HEATERS AND THE LIKE
Peter Orth, 7 Montanastrasse, Opladen, Germany
Filed Feb. 3, 1967, Ser. No. 613,923
Int. Cl. B21d *13/04*
U.S. Cl. 72—177 9 Claims

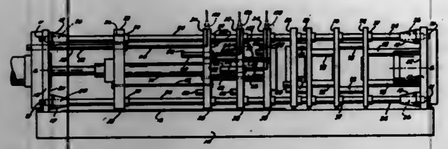


There is provided a method and apparatus for making plates of plate-type heaters and radiators, the plates characterized by having transversely extending ribs and longitudinally extending ribs or channels and in which the transverse ribs are rolled out of the plane of the metal in one direction and the longitudinal channels are rolled out of the plane of the metal in the other direction.

3,509,754
METHOD AND APPARATUS FOR DEEP DRAWING METAL
Jess L. Massingill, Cape Coral, Fla., and Donald C. Grigorenko, Columbus, Ohio, assignors to Metal Flo Corporation, Columbus, Ohio, a corporation of Michigan
Continuation of application Ser. No. 362,004, Apr. 23, 1964. This application May 28, 1969, Ser. No. 843,882
Int. Cl. B21d *22/28*
U.S. Cl. 72—349 32 Claims

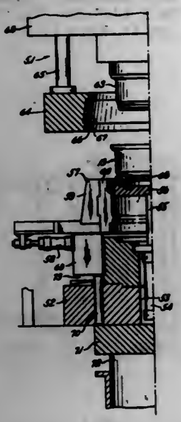
The disclosure relates to a multiple drawing press with pressure actuated telescoping punches and axially aligned dies in which a first punch, after performing a first draw, functions as a hold down during a second draw, the first

punch being stop-arrested in its hold down position with a resulting control of gap and pressure with respect to the work blank, there being means for holding the punches



in their rested position during the sequential operation thereof, with means moving with said punches for initiating their sequential operation.

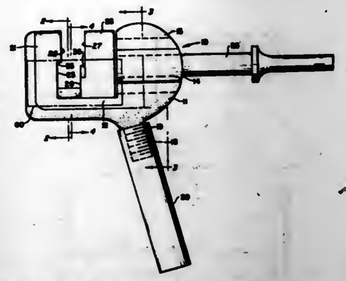
3,509,755
METHOD AND APPARATUS FOR PRODUCING VEHICLE RIMS
Walter William Bulgrin, Wadsworth, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Sept. 13, 1967, Ser. No. 667,485
Int. Cl. B21d *22/06*
U.S. Cl. 72—355 7 Claims



Forming a vehicle rim to precise tolerances by first forming a contoured strip into a closed hoop; then radially expanding the hoop in a press having radially outwardly moving die sections; finally precision-finishing by applying pressure to all parts of the rim in a press having radially inwardly moving die sections which lock against the outer rim surface while an axially moving punch exerts radial outward, as well as axial, pressure.

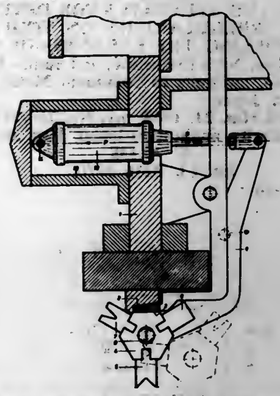
3,509,756
PORTABLE FLANGING TOOL
Ervin G. Taylor, P.O. Box 324, 240 Whitney, Lake Zurich, Ill. 60047
Filed Jan. 5, 1966, Ser. No. 518,914
Int. Cl. B21d *9/14*
U.S. Cl. 72—386 14 Claims

A flanging tool for forming a flange along the peripheral of a sheet of metal including a body, an anvil on the body, and a hammer movable along a guide surface relative to the anvil, the guide surface and the hammer being bevelled downwardly along their lateral edges



to facilitate the flanging of an inverse corner. The hammer and the shaft may be formed as a single integral piece mountable through the side of the body.

3,509,757
DEVICE FOR BENDING A WORKPIECE
Eduard Hämmi, Zofingen, Switzerland, assignor to Hammerle AG., Maschinenfabrik, Zofingen, Switzerland
Filed Oct. 12, 1964, Ser. No. 403,141
Claims priority, application Austria, Oct. 11, 1963, A 8,189/63
Int. Cl. B21d *17/02*
U.S. Cl. 72—414 2 Claims



The present invention concerns a device for bending a workpiece which device is suitable for carrying out bending work according to a pre-determined programme.

ERRATA

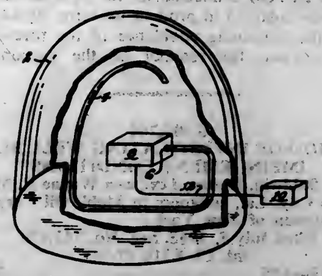
For Class 72—429 see:
Patent No. 3,509,747

For Class 73—12 see:
Patent No. 3,509,736

3,509,758
GAS LEAK RATE MONITOR
James B. Newman, Idaho Falls, Idaho, assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 16, 1968, Ser. No. 760,050
Int. Cl. G01 *3/26*
U.S. Cl. 73—49.2 5 Claims

A system for measuring the gas leak rate of a containment vessel includes a reference vessel positioned within the containment vessel and having an opening allowing

the gas pressure in the containment vessel and the reference vessel to equalize, and a flow rate meter for measuring the amount of gas flowing between the containment



vessel and the reference vessel through the reference vessel opening. By the Ideal Gas Law the amount of gas measured by the flow rate meter is representative of the leak rate of the containment vessel.

3,509,759
DETECTION OF LEAKS
Vivian Milby Sinclair, Thurso, Scotland, and John Leslie Phillips, Dorchester, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Feb. 23, 1968, Ser. No. 707,503
Claims priority, application Great Britain, Mar. 15, 1967, 12,255/67
Int. Cl. G01m *3/02*; G21c *17/08*
U.S. Cl. 73—52 4 Claims



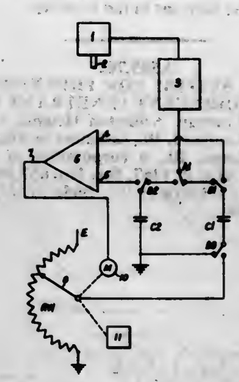
To detect leaks in sealed containers which are subject to irradiation by neutrons in an environment of molten alkali metal, gold is included in the container adjacent the inner surfaces of the container walls. Leaks are detected by periodically removing a sample of the molten metal, concentrating the sample in respect to gold, and subjecting the concentrated sample to radiation measurement to determine if gold is present in said concentrated sample in an amount sufficient to indicate that a leak from said sealed container has occurred.

ERRATUM

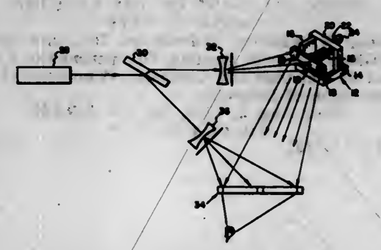
For Class 73—67.9 see:
Patent No. 3,509,752

3,509,760
APPARATUS FOR THE MEASUREMENT OF LOADS
Bernard Stuart Baker, Coventry, England, assignor to Courtaulds Limited, London, England, a British company
Filed July 21, 1967, Ser. No. 655,012
Claims priority, application Great Britain, Aug. 5, 1966, 35,109/66
Int. Cl. G01l *1/08*
U.S. Cl. 73—88 7 Claims

Apparatus for measuring a change in load comprises an electrical circuit embodying a comparison device for indicating the voltage difference between a first voltage produced by an electrical device sensitive to the first load and a second voltage produced by an electrical device sensitive to the changed load. Preferably capacitors are employed to store charges representing the first and second voltages and a variable voltage is added to the smaller until the comparison device indicates balance has been reached. The value of the variable voltage at balance indicates the desired difference between the first and second voltages.
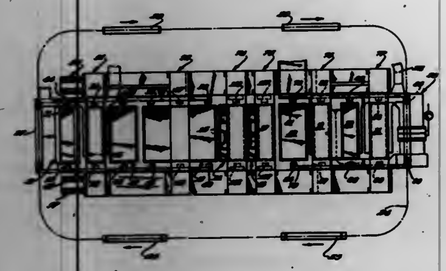


3,509,761
HOLOGRAPHIC METHOD OF DEFORMATION ANALYSIS
Karl A. Stetson, Stockholm, Sweden, assignor, by mesne assignments, to GCOptronics, Inc., Ann Arbor, Mich., a corporation of Delaware
Filed June 6, 1968, Ser. No. 735,089
Int. Cl. G01b *5/30*
U.S. Cl. 73—88 7 Claims



To nondestructively measure the deformation which occurs in a member at successive increments of a variable such as load, temperature, pressure or time, a hologram is made employing two exposures on the same plate of the member at two separated conditions of the variable. When the second exposure is made of the first plate, a simultaneous initial exposure is made of a second photographic plate. Simultaneously with the second exposure of the second plate, an initial exposure is made of a third plate. This process is continued through all of the increments of the variable. The visual reconstructions of the object as seen through the developed holograms will reveal fringe lines arrayed in accordance with a function of the displacement of the member between the two exposures of

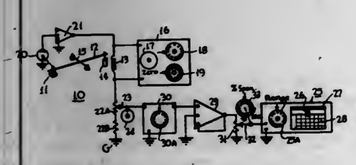
that hologram. In a second embodiment a plurality of exposures at different loadings are made on the same plate with the angle of the plate with respect to the object being modified between successive increments of the variable. The optical reconstructions containing the fringe lines may then be successively viewed through the same developed hologram to disclose the successive deformations in the member under changes in the variable.

3,509,762
AUTOMATED SYSTEM FOR PROCESSING PARTS BY THE FLUORESCENT PENETRANT METHOD
Edward Frank Conway, Arlington Heights, and Kenneth Fry Conner, Lombard, Ill., assignors to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 2, 1967, Ser. No. 657,890
Int. Cl. G01n *19/02*; B05c *11/12*
U.S. Cl. 73—104 5 Claims



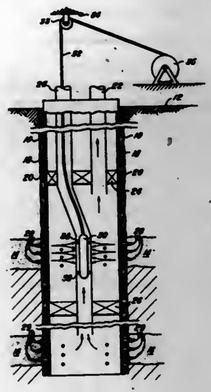
Apparatus for continuous processing of parts to be inspected by the technique of penetrant inspection wherein the parts to be inspected are delivered automatically to the various stages of the process, and means are provided to adjust the residence time of the parts in one or more of the stages without disrupting the overall operation.

3,509,763
FORCE BALANCES OF THE ELECTRO-MAGNETIC TYPE
Raymond W. Tabeling, Wilmington, Del., and John D. McGlone, Plymouth Meeting, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 2, 1966, Ser. No. 569,643
Int. Cl. G01l *1/08*
U.S. Cl. 73—141 7 Claims



A force balance preferably comprising an electromagnetic coil; an element which is displaced from a reference position during the existence of an unbalance between an unknown force and an opposing force produced by the electromagnetic coil; an amplifier having input and output circuits, the output circuit including the electromagnetic coil; a calibrating current source connected to the electromagnetic coil for producing currents for suppressing to a known extent nearly all of the total unbalance of the forces; a sensor, such as, a photoelectric cell, responsive to the displacement of the aforementioned element connected to the input circuit of the amplifier and adapted to produce an error signal proportional to the remaining unbalance of the forces; and a calibrated device for readout of the remaining unbalance.

3,509,764
METHOD OF INVESTIGATING WELL BLAST IMPINGEMENT CONDITIONS
Willett F. Baldwin, Dallas, Tex., and Wayne E. McNeely, Morgan City, La., assignors to Mobil Oil Corporation, a corporation of New York
Filed July 5, 1968, Ser. No. 742,670
Int. Cl. E21b *47/10*
U.S. Cl. 73—155 7 Claims

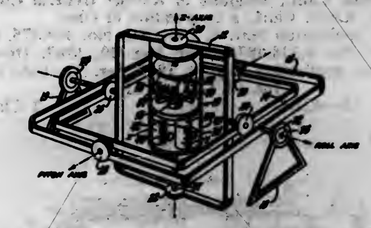


The specification discloses a method of investigating blast-impingement conditions of a multiply completed well. A sound detector is lowered into the tubing string extending through a producing zone. As the sound detector is moved longitudinally adjacent the producing zone, the ambient sound intensity profile is monitored. Impingement of well stream on the exterior of the tubing string creates sound waves which result in fluctuations of the sound intensity profile.

3,509,765
INERTIAL NAVIGATION SYSTEM
Kenneth M. Stevenson, Jr., Palos Verdes Estates, Calif., and Robert L. Berg, Milwaukee, and Arnold A. Weiss, Fox Point, Wis., James L. Stockard, Lexington, Mass., and Robert F. Shipp, Milwaukee, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 17, 1965, Ser. No. 514,467
Int. Cl. G01c *21/18*
U.S. Cl. 73—178 13 Claims

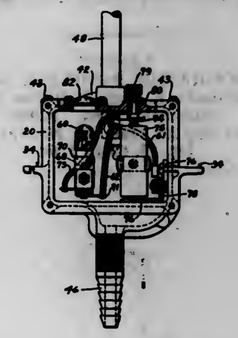
A first platform portion disposed in a three-axis gimbal system carries gyros and accelerometers whose input axes are maintained in a locally horizontal plane. A second portion rotatable about a vertical axis of the first carries a single gyro and a single accelerometer having vertical input axes for detecting azimuth changes. The second portion is azimuthally stabilized relative to inertial space. A synchronous motor located on the second portion continuously rotates the first portion about the vertical at a

rate above earth rate and constant relative to inertial space to suppress the effects of low frequency errors in the hori-



zontal plane instruments. Such rotation takes place during the normal navigating mode of the system.

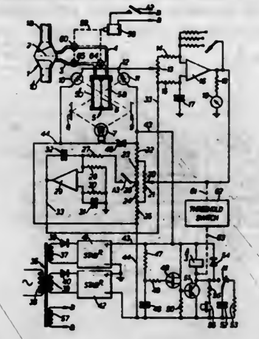
3,509,766
CASING UNIT FOR AN INSTRUMENT FOR MEASURING AN ELEVATION ABOVE WATER LEVEL
Bertell W. King, deceased, late of Brooklyn, N.Y., by Bertell W. King, Jr., executor, Coral Sands, Harbour Island, Bahamas, and Marguerite N. Sherower, executrix, Brooklyn, N.Y. (both % B. W. King Inc., 7 Battery Place, New York, N.Y. 10004)
Filed Sept. 6, 1968, Ser. No. 758,161
Int. Cl. G01f *23/06*
U.S. Cl. 73—290 6 Claims



A casing unit for an instrument for accurately determining the elevation of a position, such as the deck of a barge, with respect to the true or mean surface of the water. The casing unit has flat means for operating a switch connected with a light, which when lighted indicates that the instrument is at, or near, the surface of the water whereupon the elevation of the deck above the water line is measured. The casing unit herein is used in conjunction with a suspending means such as that described particularly in my Pat. 3,066,531 and includes a measuring line or tape. The invention herein is an improvement on the construction of my Pat. 3,210,999.

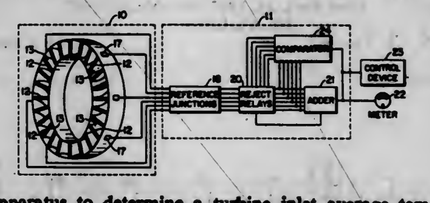
3,509,767
MANOMETRIC APPARATUS
James Robertson Bouvard Greer, Glasgow, Scotland, assignor to Mercury Electronics (Scotland) Limited
Filed July 1, 1968, Ser. No. 741,444
Claims priority, application Great Britain, July 4, 1967, 30,756/67
Int. Cl. G01l *13/02*
U.S. Cl. 73—398 11 Claims

Pressure measuring apparatus having a transducer which develops an electric signal in response to the fluid pressure. This signal is applied to a measuring circuit which develops an output signal representative of the measured pressure and which includes a switch error-reducing feedback circuit. A valve establishes a datum condition in the transducer simultaneously with the clos-



ing of the feedback path to minimise zero error in the apparatus.

3,509,768
TURBINE INLET AVERAGE TEMPERATURE SYSTEM
William R. Reynolds, Manhattan Beach, Calif., and John R. Tucker, Cambridge, Mass., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 12, 1967, Ser. No. 674,872
Int. Cl. G01k *7/14*
U.S. Cl. 73—341 5 Claims

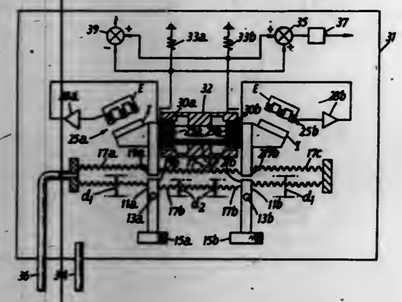


Apparatus to determine a turbine inlet average temperature. It has a plurality of thermocouples embedded in stator vanes spaced around the inlet to the turbine wheel. Leads from the thermocouples extend to temperature compensated cold reference junctions connected in an electronic system having a relay for each thermocouple which relay is activated to disconnect the thermocouple from the system in the event of failure of the thermocouple. The system includes an adder to which signals from the thermocouples are fed to be averaged and amplified, the resulting amplified signal then being supplied to a meter to indicate the average inlet temperature. The relay means is such as to prevent the reconnection of rejected thermocouples to the system. As an alternative or addition to the system, a fuel control element could be substituted for the meter or added to the system and made responsive to the average signal supplied by the adder to control engine operation.

3,509,769
DIFFERENTIAL PRESSURE TRANSDUCER
Stafford M. Ellis and Richard P. G. Collinson, London, England, assignors to Elliott Brothers (London) Limited, London, England
Filed Feb. 26, 1968, Ser. No. 708,285
Claims priority, application Great Britain, Mar. 16, 1967, 12,362/67
Int. Cl. G01l *7/06, 9/10, 9/14*
U.S. Cl. 73—398 5 Claims

A fluid pressure transducer which has two substantially rigid members which are rotatable in opposite senses

through substantially equal angles around axes of rotation which are parallel. The rotation is in response to pressure differentials which are to be measured. The

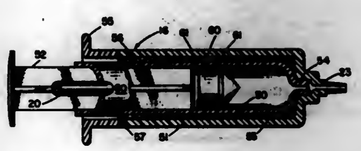


rigid members are also rotatable in the same sense as each other through substantially equal angles around said axes of rotation in response to acceleration in a direction perpendicular to said axes.

3,509,770
SAMPLING PROCESS AND APPARATUS FOR PAVING MATERIAL PLANTS
James L. Morton, New Palestine, Ind., assignor to American Hoist & Derrick Co., St. Paul, Minn., a corporation of Delaware
Filed Sept. 21, 1967, Ser. No. 669,557
Int. Cl. G01n *1/20*
U.S. Cl. 73—421 11 Claims

An asphalt plant having a batch weighing box for aggregate, provided with a sampling plurality of chutes mounted thereto, each different chute having an inlet under a different one of the discharge gates of aggregate storage bins above the box, and each chute having an outlet conveniently located outside the box to facilitate disposition of a sample receiving bucket under the outlet. A shiftable frame in the weighing box with deflector shields normally covering the chute inlets. A pneumatic cylinder connected to the frame and controllable by a manually operable switch for shifting the frame, and thereby the shield members, when desired during discharge of aggregate from one of the bins to the box to permit some of the aggregate to enter a chute inlet for passage therethrough to the exterior of the box and reception in the sample receiver. A plurality of lights associated with the cylinder controller switch to aid an inspector in timing the operation of the shiftable frame for taking a sample from the desired bin.

3,509,771
BREATH SAMPLING APPARATUS
Milton L. Moberg, Monrovia, and Elmer Milton Wilson, Altadena, Calif., assignors to Aerojet General Corporation, Azusa, Calif., a corporation of Ohio
Original application Mar. 4, 1964, Ser. No. 349,375, now Patent No. 3,338,067, dated Aug. 29, 1967. Divided and this application July 14, 1967, Ser. No. 668,726
Int. Cl. G01n *1/22*
U.S. Cl. 73—421.5 3 Claims



Breath sampling apparatus including a housing for a sampler including means to maintain the sampler at approximately human body temperature. The sampler itself contains a body of material having a fusion temperature near body temperature. When the sampler is removed from the housing, the temperature maintaining material slowly changes from liquid to solid maintaining the sampler at body temperature for a significant period of time.

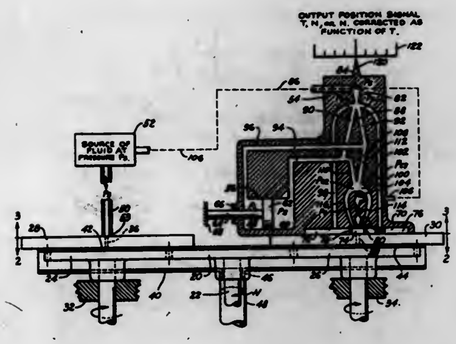
3,509,772
HYDROGRAPHIC SAMPLING DEVICE
Alexander E. Blair, 75 Willow St., Marshfield, Mass. 02050
Filed May 22, 1968, Ser. No. 731,034
Int. Cl. G01n *1/04*
U.S. Cl. 73—425.2 8 Claims



A hydrographic bottom sampling device which operates free of connection to any surface craft to sense the bottom to be sampled, operate a sample taking mechanism and return itself to the surface where it may be recovered. Bottom sensing is accomplished by a probe which extends downward below the device. On contact, the probe is pushed into the device and releases a spring loaded trigger mechanism. The trigger mechanism releases clam-shell scoops which rotate to take in a sample and close to contain it within a recess. The trigger mechanism also releases the return mechanism which consists of a deflated

bag open to a source of compressed gas and stored in a sealed container. The trigger mechanism releases a sharpened pin into the compressed gas container releasing the gas into the bag. As the bag inflates it pushes a cover off the container and pops out to become fully inflated so that it carries the entire apparatus to the surface.

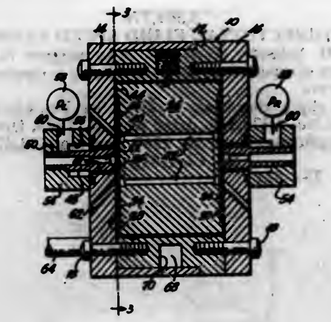
3,509,773
CONTROL APPARATUS RESPONSIVE TO SPEED, TEMPERATURE OR SPEED CORRECTED FOR TEMPERATURE
Samuel E. Arnett, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 8, 1967, Ser. No. 666,325
Int. Cl. G01p *3/44*; F01b *25/06*
U.S. Cl. 73—509 12 Claims



Control apparatus provided with a gas transmitting conduit having axially spaced apart first control and second control ports. First and second rotatable driven means having associated first and second gas transmitting ports therein are driven simultaneously by a rotating member. The first gas transmitting port periodically registers with the first control port depending upon the speed of rotation of the first rotatably driven member to generate a gas pressure pulse in the conduit which pulse travels at a speed dependent upon gas temperature. The second gas transmitting port periodically registers with the second control port. The pressure pulse coincides with the second gas transmitting port at a position along the second port which, in turn receives the pulse. Movable pulse sensing means communicating with the second elongated port which is elongated in the direction of movement of the movable pulse sensing means responds to the pulse and moves relative to the second elongated port to the pulse location where the movable pulse sensing means is stabilized to provide an output position signal.

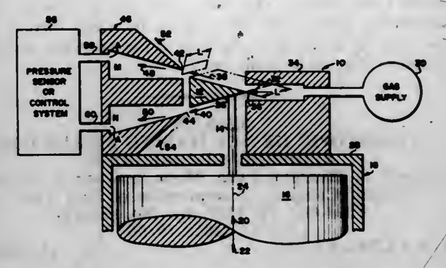
3,509,774
PNEUMATIC ACCELEROMETER
John L. Evans, Oakland, N.J., assignor to Singer-General Precision, Inc., a corporation of Delaware
Filed Jan. 10, 1967, Ser. No. 608,442
Int. Cl. G01p *15/02*
U.S. Cl. 73—515 9 Claims

The invention is a pneumatic accelerometer in which a cylindrical inertial member or mass is supported radially in a cylindrical chamber by a gas bearing. The gas bearing is developed by introducing air circumferentially at the axial center of the chamber and exhausting the same through vents opening to circumferential grooves in the chamber walls, the grooves being spaced equally on each side of the axial center so that a flow path of uniform length for the bearing gas is established. Two embodiments are disclosed. One embodiment is designed for a differential pressure output signal whereas the other is adapted for a differential flow output signal. In both embodiments, pressurized



working gas is introduced into a shallow cylindrical void formed at the center of each radial end face on the inertial element. The void is circumscribed by a lip which controls the passage of working gas from the void to venting apertures.

3,509,775
PNEUMATIC LINEAR DISPLACEMENT PICKOFF
John L. Evans, Oakland, N.J., assignor to Singer-General Precision, Inc., a corporation of Delaware
Filed June 1, 1967, Ser. No. 642,742
Int. Cl. F15c *3/00*, *4/00*
U.S. Cl. 73—515 6 Claims



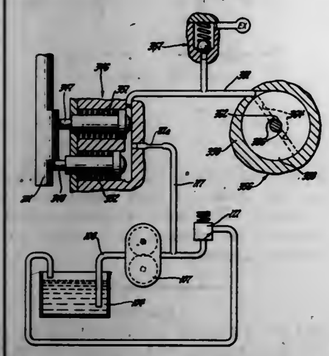
A pneumatic linear displacement pickoff apparatus having an obstructing movably controlled element connected to the moving body of an instrument whose position is to be sensed such as the proof mass of an accelerometer. The obstructing movably controlled element interposed between a gas jet stream and a receiver which is connected to a pressure sensor or control system.

The obstructing movably controlled element having a cross-sectional configuration such as of a wedge-shaped knife edge or of a circular shape or of a rectangular shape. All cross-sectional configurations having a transverse length extending substantially perpendicularly to the path of the gas jet stream. The obstruction may also be in the form of a plate having an orifice. The plane of the plate being also extending perpendicular to the path of the gas jet stream and connected to the moving element of an instrument to be sensed.

In addition, the gas jet stream being directed transversely to the sensitive axis of the proof mass so as not to interfere with the forces, such as the acceleration

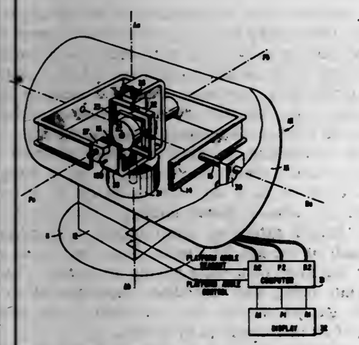
forces, being sensed. The pressure sensor operably detecting a differential pressure output which is proportional to the linear displacement of the obstructing controlled movable element which is dependent to the linear displacement of the proof mass of the accelerometer.

3,509,776
BIDIRECTIONAL FLUID SPEED SENSOR
Robert H. Schaefer, Westfield, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Mar. 10, 1965, Ser. No. 438,634, now Patent No. 3,378,119, dated Apr. 16, 1968. Divided and this application Sept. 20, 1967, Ser. No. 678,471
Int. Cl. G01p 3/26
U.S. Cl. 73—521 1 Claim



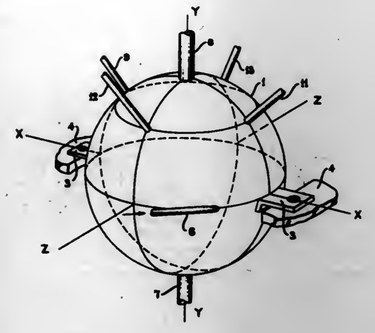
A speed signal device for use with a vehicle transmission in both the forward and reverse direction. The device includes a rotatable drum having a pair of radial passages to a central exhaust port. Fluid at the periphery of the drum flows through the radial passages to exhaust at a decreasing rate as the drum speed increases thereby increasing the pressure of the fluid at the periphery proportional to increase in drum speed.

3,509,777
GYROSCOPIC DEVICE HAVING MEANS FOR AVOIDING GIMBAL LOCK
Richard A. Pfuntner, Lynn, Mass., assignor to General Electric Company, a corporation of New York
Filed Oct. 18, 1967, Ser. No. 676,340
Int. Cl. G01c 19/00
U.S. Cl. 74—5.2 16 Claims



Gimbal lock avoidance means for a gyroscopic device. A gyroscopic device housing is rotatably mounted to a maneuverable support, such as an aircraft frame, to be selectively rotated to different fixed positions by a position controller in response to attitude signals from the gyroscopic device. The gyroscopic attitude signals may be modified in accordance with the housing position to indicate true attitude of the support on readout devices.

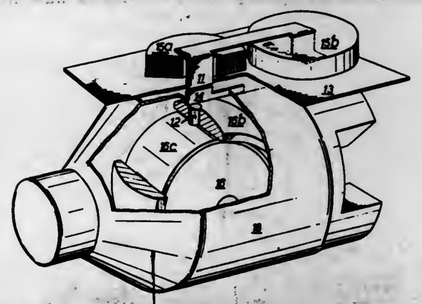
3,509,778
GYROSCOPIC FLUID CONTROL DEVICE
Ronald E. Bowles, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 12, 1962, Ser. No. 166,478
Int. Cl. G01c 19/28
U.S. Cl. 74—5.6 10 Claims



1. A gyroscopic device comprising a vortex amplifier including a hollow, approximately spheroidal body, having an interior surface, means for introducing a fluid into the interior of said body generally tangential to its interior surface and in the plane of a great circle thereof and diametrically opposed fluid outlet means coaxial with a first axis perpendicular to and passing through the center of the plane of the great circle, means adapted to turn said spherical body about a second axis having a component perpendicular to said first axis and means for sensing orientation of the spin axis of the fluid approximately in a plane of a second great circle including said first axis and lying at an angle other than zero degrees to said second axis, said last-named means comprising first means for sensing pressure at two locations approximately on said second great circle and lying along a first line generally perpendicular to said first axis.

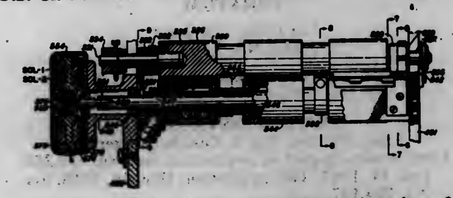
3,509,779
MAGNETIC TRANSDUCER FOR GYRO ASSEMBLY
Peter Lee Chappell, Glenolden, Pa., assignor to Elliott Brothers (London) Limited, London, England, a British company
Filed June 6, 1966, Ser. No. 555,634
Claims priority, application Great Britain, June 9, 1965, 24,322/65
Int. Cl. G01c 19/28
U.S. Cl. 74—5.6 6 Claims

A magnetic transducer, particularly for use in a gyroscope assembly, comprises a fixed sheet of magnetic material having an aperture therein, a longitudinal magnetic member surrounded by a coil and fixed on one side of the sheet so as to extend towards the aperture therein, and a movable longitudinal member mounted on the other side of the sheet so as to be movable between a first position in which it is aligned with the aperture whereby a flux path is created between the two longitudinal members and a signal is produced in the coil and a second position in which it is not aligned with the aperture so that



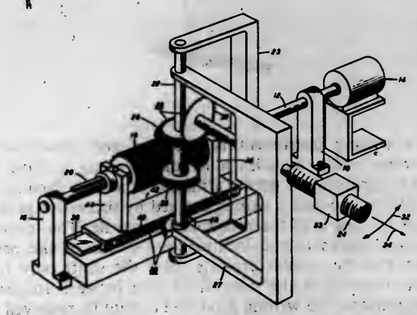
the flux path exists between the movable member and the fixed sheet.

3,509,780
DOUBLE-ACTION ROTARY SOLENOID DRIVE MECHANISM
Hugh L. Jones, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed May 24, 1968, Ser. No. 731,995
Int. Cl. F16h 21/44; H02k 7/10; H03j 1/00
U.S. Cl. 74—107 4 Claims



A drive mechanism for imparting limited rotation of a shaft in either direction without axial movement of the shaft using two flat solenoid assemblys, each to impart the rotation in one direction upon energization thereof. Axial movement of the shaft is prevented by a sliding connection between each of the armatures for the solenoids and the shaft.

3,509,781
LONGITUDINAL ERROR COMPENSATION APPARATUS
Joseph Marcovecchio, Berkeley Heights, N.J., assignor to Spex Industries, Incorporated, Metuchen, N.J., a corporation of New Jersey
Filed Oct. 8, 1968, Ser. No. 765,794
Int. Cl. F16h 35/06, 1/18
U.S. Cl. 74—395 5 Claims



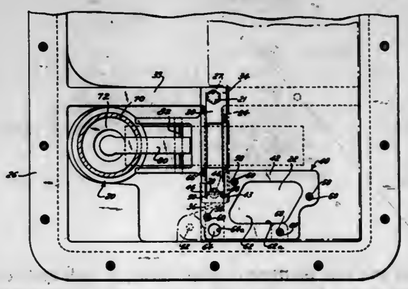
The arcuate and axial rotational motions of a lead screw are made independent by longitudinal error compensation apparatus comprising a sliding rack and pinion assembly, or a belt and pulley mechanism, which compensates for spurious incremental rotations of the lead screw about its own axis. The apparatus finds particular application in the sine or cosecant drive system of a spectrometer for linear wavelength or wave number generation.

3,509,782
FLEXIBLE CONTROL CABLE
William S. Molnar, 1506 Southfield Road, Birmingham, Mich. 48009
Filed Dec. 11, 1967, Ser. No. 696,678
Int. Cl. G05g 7/02
U.S. Cl. 74—501 13 Claims



A flexible control cable for transmitting tensile or compressive forces by means of a band member which is supported between a plurality of ball members which ball members are held in place by a retainer and supported between a pair of race or guide members.

3,509,783
REPAIR BRACKET FOR A TRANSMISSION HOUSING
Konrad J. Kuhn, Rocky Point, N.Y., assignor to All-O-Matic Manufacturing Corporation, New Hyde Park, N.Y., a corporation of New York
Filed Oct. 8, 1968, Ser. No. 765,953
Int. Cl. F16h 57/02; B23p 7/04
U.S. Cl. 74—606 16 Claims

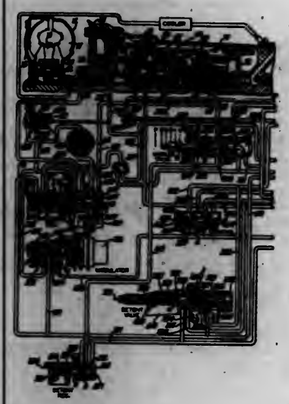


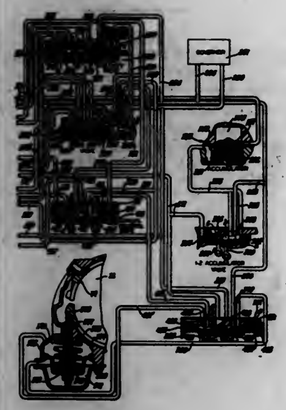
In some automatic transmissions where a servo asembly is mounted on a casing wall, the wall tends to crack as a result of forces exerted thereon by the servo assembly. In that event a repair bracket is secured to the casing independently of the cracked wall, the bracket being so formed as to engage the servo assembly and securely hold it in position.

3,509,784
TRANSMISSION CONTROL
John E. Mahoney, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 10, 1968, Ser. No. 758,915
Int. Cl. B60k 17/10; F16h 5/74, 57/10
U.S. Cl. 74—869 4 Claims

A transmission and control are shown in which the control directs fluid through the shift valve and a shift

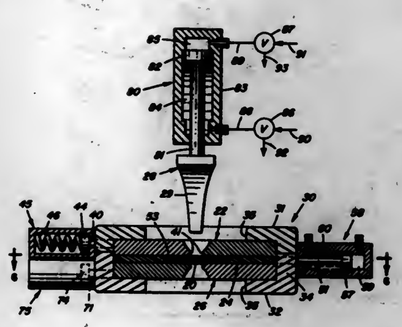
control valve to engage and disengage friction torque establishing devices. The shift control valve directs fluid to enforce engagement of two devices during a low speed ratio and one of these devices during a high and reverse speed ratio. Also, the shift control valve directs fluid to enforce disengagement of the other device during the high speed ratio.





3,509,785
METHODS OF DEEP DRAWING SOLID PLASTIC MATERIAL
Francis Joseph Fuchs, Jr., Princeton Junction, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 4, 1966, Ser. No. 592,143
Int. Cl. B21d *22/00*
U.S. Cl. 72—60 15 Claims

Method of deep drawing solid plastic material by exerting pressure against the circumferential surface of a blank to be drawn, the pressure being sufficiently large in magnitude to increase the ductility of the blank material, and thereafter drawing the increasingly ductile blank material through a die. Disclosed methods of deep drawing include, in various combinations, the steps of exerting pressure against the circumferential surface of the blank, both by mechanical and by fluid means, varying the size of the die opening during drawing to draw articles of varying cross-sectional configuration as well as articles having stepped walls, and controlling the wall thickness of the article being drawn.

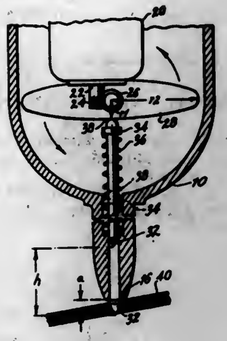


ERRATUM

For Class 77—2 see:
Patent No. 3,509,750

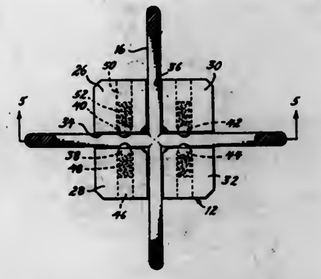
3,509,786
WRITING INSTRUMENT
Franz Büttner, Egg b. Zurich, Switzerland
Continuation-in-part of application Ser. No. 610,352, Jan. 19, 1967. This application Dec. 16, 1968, Ser. No. 784,157
Int. Cl. B43k *5/00*
U.S. Cl. 81—9.22 2 Claims

A writing instrument is disclosed and shown in the drawing which includes a handle, housing a drive unit for reciprocating a needle arranged in a shaft fixed to said handle to produce a writing formed by successive perforations by means of the reciprocating needle. The inventive feature relates to the location and stroke of the needle such that the needle projects from the shaft only for a short fraction of the interval of time between successive perforations; the writing produced cannot be removed and thus enables an effective security to be achieved against forgery.



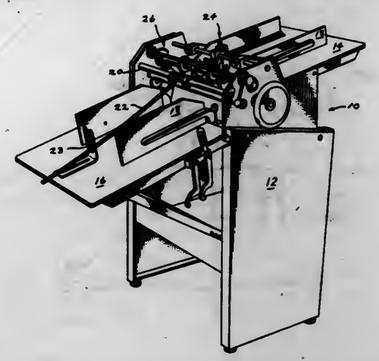
3,509,787
TOOL
Lawrence D. Baron, 2219 Naple St., Philadelphia, Pa. 19152
Filed May 27, 1968, Ser. No. 732,397
Int. Cl. B25b *13/02*
U.S. Cl. 81—119 4 Claims

A bifurcated tool for twisting devices supported at an elevated position is disclosed. The tool is provided with a latch means so that the tool may be automatically latched to the device to prevent undesired separation.



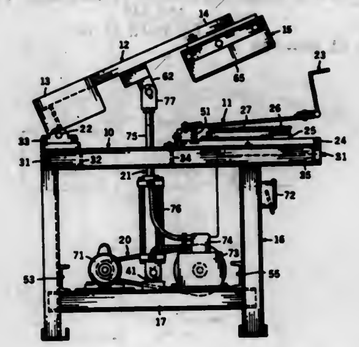
3,509,788
FLAT STOCK PERFORATOR
Major D. Glendening, Benton Harbor, Mich., assignor to F. P. Rosback Co., Benton Harbor, Mich.
Filed Nov. 17, 1967, Ser. No. 683,935
Int. Cl. B26d *7/06*
U.S. Cl. 83—114 6 Claims

A flat stock perforator having upper and lower heads in which one of the heads is spatially adjustable relative to the other. The head containing the perforating disks, has mounted thereto stock stripper plates which serve to retain the perforated stock at table level while the perforating teeth are removed from the stock. A stock chip collector is provided in the head containing the perforating dies.



3,509,789
SOD-CUTTING APPARATUS
Robert P. Dye, 12076 Bellefontaine Road, St. Louis, Mo. 63138
Filed Dec. 4, 1967, Ser. No. 687,837
Int. Cl. B26d *1/30, 7/02, 5/12*
U.S. Cl. 83—145 13 Claims

The apparatus includes a table provided with a cutter board which supports a block of sod, and provided with guides which position the cutter board. A support arm, hingedly attached to the table at one end, includes a plurality of spaced cutting blades at the other end and disposed above the block of sod. The support arm is moved toward or away from the table by means of a hydraulic reciprocating arm. A stripper assembly, overlying the sod and including a plurality of slots in register with the blades, is disposed in the path of the blades. The blades pass through the slots to cut the sod when the blades are moved toward the table. The stripper assembly cooperates with the blades to strip sod from the blades as they move away from the table. The stripper assembly is hingedly attached at one end to the table, and is provided at the other end with a latch interconnecting it to the table to clamp the sod in position. Interchangeable spacer blocks between the cutting blades permit a variation in the size of the plug cut from the sod.

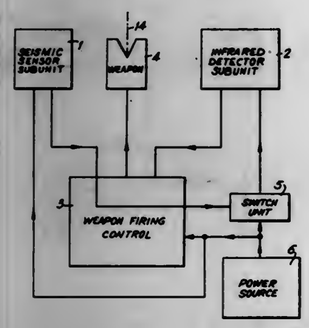


3,509,790
DECKLE EDGE CUTTING KNIFE
Horst Hoppe, 25 Ulmenstr., 3012 Langenhagen-Friedenau, Germany
Filed Oct. 16, 1968, Ser. No. 768,882
Claims priority, application Germany, Oct. 19, 1967, 1,536,462
Int. Cl. B26d *1/06, 3/14*
U.S. Cl. 83—697 7 Claims

The deckle edge cutting knife is usable in a double shear or swing cut type paper cutting machine and has profile and complementary sharpening or serrated grooves on opposite sides of the knife. The serrated edge forms an angle with the cutting edge of the knife up to 30 degrees greater than the angle that the grooved profile side forms with the cutting edge of the knife. The backside of the knife is tapered such that when the knife is fastened in the knife holding bar, the profile edge inclines away from the paper stack.



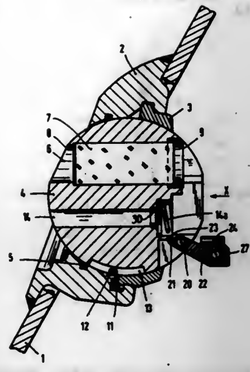
3,509,791
WEAPON FIRING SYSTEM INCLUDING A SEISMIC AND RADIATION RESPONSIVE CONTROL
Jacques Pechmont and Henri Plazza, Toulouse, and Pierre Gouhier, Blagnac, France, assignors to the French State represented by the Minister of Armed Forces, Ministerial Delegation of Weapons, Technical Delegation of Land Weapons, Manufacturing Workshops of Toulouse, Paris, France
Filed May 16, 1969, Ser. No. 825,378
Claims priority, application France, May 17, 1968, 152,247
Int. Cl. F41d *11/00*
U.S. Cl. 89—135 8 Claims



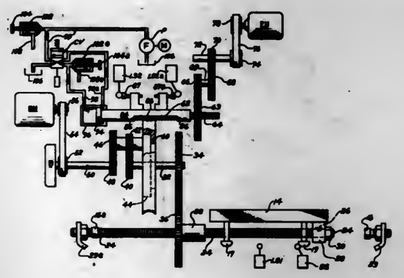
A weapon firing system is provided with a control including a seismic sensor and an infrared radiation sensor. A source of power is provided which is connected to the seismic sensor and which is connected via a switch with the infrared radiation sensor. The switch is actuated by the seismic sensor so that the infrared radiation sensor does not constitute a constant drain on the power source. The seismic sensor is capable of distinguishing between different types of vehicles characterized by different seismic frequency patterns. The system is provided with a weapon firing control having a jamming circuit which avoids the consequences of transients when signals are initially received from the sensors. The weapon firing control circuit includes a thyristor.

3,509,792
BALL MOUNT, PARTICULARLY FOR ARMORED VEHICLES
Walter Ruf, Landhaus am See, Bottighofen, Thurgau, Switzerland
Filed July 3, 1968, Ser. No. 742,409
Claims priority, application Austria, Apr. 18, 1968, A 3,805/68
Int. Cl. F41h *5/26;* F41f *23/00*
U.S. Cl. 89—37 11 Claims

An improved ball mount, particularly for armored vehicles, with a spherical member with openings adapted to receive a gun and a sight block, and arranged rotatably in the wall of the armored vehicle, such that a target can be directly sighted by means of a sight of the gun through the sight block from the interior of the armored vehicle, and protected against enemy fire, wherein the improvement comprises that, with withdrawn gun, the spherical member is arranged to be pivotable through such an angle that the holes receiving the sight block and the gun are fully screened and protected against enemy fire; that the spherical member is mounted in a split ring equipped with a spherical recess, wherein one part of the ring is mounted on the wall of the armored vehicle and connected to the other by a bayonet lock; that the spherical member is connected with a bayonet lock type gun safety, securing the gun against accidental withdrawal and connected undisplaceably and positively, and more particularly non-rotatably with the said spherical member.

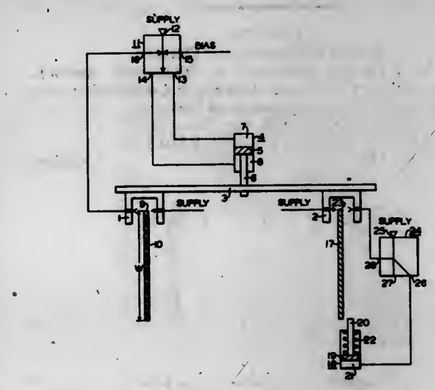


3,509,793
SCREW FEED MACHINE UNIT
Robert C. Muhl, Richmond, Ind., assignor to National Automatic Tool Company, Inc., Richmond, Ind., a corporation of Indiana
Filed Sept. 20, 1968, Ser. No. 761,239
Int. Cl. B23c *9/00;* B23b *47/18*
U.S. Cl. 90—21 22 Claims



Means for driving a machine slide or the like in one direction at a rapid rate and then at a slower rate with a positive constant yet adjustable force up to and against a positive stop, and for effecting dwell against the stop with the same constant force for an adjustable length of time. The machine slide is then driven in the opposite direction at a rapid rate against a second positive stop and caused to dwell there in like manner, whereupon a machine cycle is completed. Fluid under pressure from a hydraulic pump which is driven throughout the cycle maintains a constant pressure and constant supply of fluid for a double acting cylinder. This pressure operates in opposition to the thrust of a worm, after the machine slide has been positively stopped, thereby causing thrust load to build up in the worm until the force exceeds that in the hydraulic cylinder and allows the piston in the cylinder to travel while the machine slide remains against its positive stop with its original constant force. After the worm has travelled for a predetermined distance in one direction, certain circuitry comes into operation to reverse the machine slide, and after the worm has travelled for a predetermined distance in the opposite direction, circuitry comes into operation to terminate the machine cycle. The dwell time for the tool to clean up at the bottom or end of its work stroke and to accomplish a full stroke of the worm in one direction, and to accomplish a full stroke of the worm in the opposite direction are the times the machine slide is against the opposite positive stops.

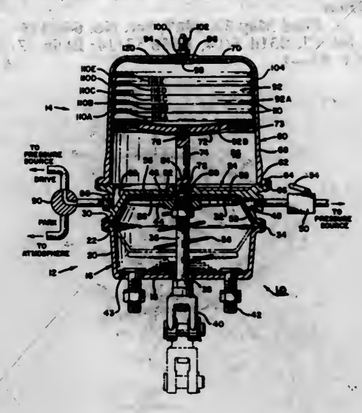
3,509,794
APPARATUS FOR SENSING THE POSITION OF A MASTER OBJECT AND CONTROLLING THE POSITION OF ANOTHER OBJECT RELATIVE THERETO
Clifford W. Allen, Richard F. Wilson, and Michael D. Lyons, Lexington, Ky., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Feb. 21, 1968, Ser. No. 707,038
Int. Cl. F15b *9/06;* B65h *25/08*
U.S. Cl. 91—3 7 Claims



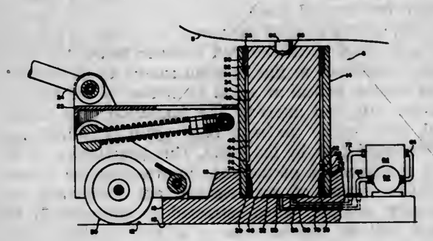
Apparatus for sensing the position of a master object and controlling the position of another object relative thereto, in which, a proportional fluid amplifier controlled by a first interruptible jet sensor controls a cylinder to position the sensing gap of the first jet sensor at an edge of a master object, and an OR-NOR fluidic amplifier controlled by a second interruptible jet sensor movable with the first interruptible jet sensor controls a second cylinder for maintaining the position of an edge of a second object in the sensing gap of the second interruptible jet sensor whereby the edge of the second object is maintained in a predetermined relationship relative to the edge of the master object.

3,509,795
VEHICLE BRAKE OPERATOR
Elmer Ralph Woodward, Cloverdale, Calif., assignor to Wiz Corporation, San Francisco, Calif., a corporation of California
Filed Mar. 28, 1967, Ser. No. 626,536
Int. Cl. F01b *19/04;* F16j *3/00*
U.S. Cl. 92—92 4 Claims

A brake operator having a gas filled bladder at one side of a movable member operating in a housing and resiliently urging the operator into brake-applied position. The bladder is formed with one or more fold control ribs comprising a generally annular stiffening portion which remains in contact with the housing wall, and adjacent bladder portions which fold inwardly when the movable member is moved into brake-released position when fluid under pressure is supplied to the other side of the movable member.

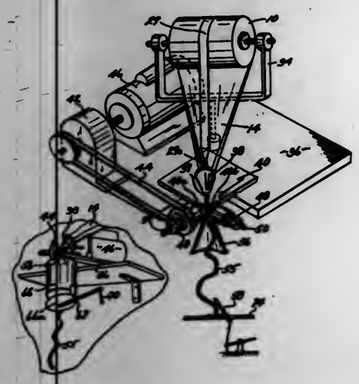


3,509,796
AIRCRAFT GROUND SUPPORT EQUIPMENT ACTUATOR
Bruce Osborne, Hayward, Calif., assignor to Malabar Manufacturing Company
Filed Oct. 21, 1968, Ser. No. 769,039
Int. Cl. F16j *9/00, 15/50, 15/32*
U.S. Cl. 92—251 9 Claims



A hydraulic actuator for use in aircraft ground support equipment having a support structure resting on the ground, a hydraulic cylinder mounted to the support structure and a piston ram axially movably disposed in the cylinder. One end of the cylinder is open to enable the piston ram to be extended therethrough. A closed end of the cylinder includes ports for connection to a source of pressurized hydraulic actuator fluid, and a first packing ring, disposed in the annular space between the piston ram and the cylinder, seals the closed end of the cylinder from the open end. The first packing ring is constructed of a material which is chemically inert to the actuator fluid. A second packing ring, also disposed in the annular space between the piston ram and the cylinder walls, is positioned between the first packing ring and the open end of the cylinder and is constructed of a material chemically inert to non-petroleum based, fire resistant aircraft fluids that can enter the annular space between the piston ram and the cylinder walls. The second ring prevents the aircraft fluids from damaging the first packing ring.

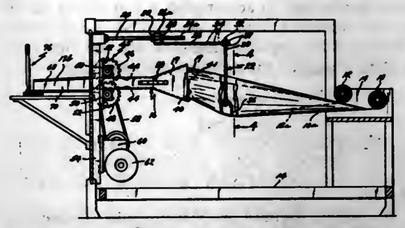
3,509,797
MECHANISM FOR PRODUCING CUSHIONING DUNNAGE
George R. Johnson, Chagrin Falls, Ohio, assignor to The Arpax Company, Chagrin Falls, Ohio, a corporation of Ohio
Filed May 22, 1967, Ser. No. 640,145
Int. Cl. B31d 5/04; B65b 57/14; B65h 37/04
U.S. Cl. 93—1 16 Claims



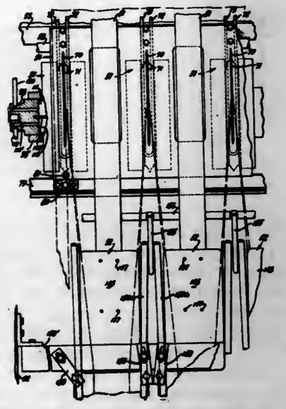
The cushioning dunnage or packing producing mechanism in the preferred embodiment, comprises coacting bevel gears which draws a continuous web of sheet-like material, such as paper, through a crumpler mechanism, which in the preferred embodiment is a funnel-like arrangement through which the web of sheet-like material is drawn and formed into a relatively narrow strip or rope. The passage of the formed strip or rope of material through the beveled gears causes coiling or spiraling of the strip, and rotation of the coiled strip about its lengthwise axis. At a predetermined distance below the bevel gears, a resistance to this rotation causes an interruption of the regular helical or spiral formation of the strip, to kink the strip and interrupt the formation of a regular spiral, after which the strip once again is formed into regular spiral coils by the gears. This interruption in the spiral configuration of the strip insures that the formed spiral-like section of packing will not completely and uniformly collapse, when retracted or compressed, but instead will be formed into a tangled resilient mass, thereby materially increasing the resiliency of the packing for adequately cushioning articles in shipping containers and the like. Other embodiments of the invention are also illustrated, including one which utilizes a plurality of webs of the sheet-like material and which combines and forms such plurality of webs into an integral, resilient, tubular-like construction of dunnage.

3,509,798
MECHANISM AND METHOD FOR PRODUCING CUSHIONING DUNNAGE
George R. Johnson, Chagrin Falls, Ohio, assignor to The Arpax Company, Chagrin Falls, Ohio, a corporation of Ohio
Filed Feb. 7, 1968, Ser. No. 703,588
Int. Cl. B31d 5/04; B31f 1/10, 5/00
U.S. Cl. 93—1 12 Claims

A cushioning dunnage-producing mechanism comprising a support for a plurality of rolls of sheet-like stock material, with the sheets of such stock material disposed in superimposed relation and fed into a crumpler section of rectangular-shaped tubular construction, to compress the sheet-like material into a pad-like configuration of dunnage product. The lateral edges of the sheet-like material are rolled inwardly into spiral-like form prior to passage of the stock material into the crumpler section, and meshed spur gears coin or stitch the confronting portions of the rolled edge sections of the stock material together, to hold the dunnage product in a pad-like configuration possessing high resiliency. A cutter mechanism is provided for cutting the pad into the desired lengths. The finalized pad comprises highly resilient pillow-like lateral portions, and a compressed or coined central section of lesser resiliency as compared to the lateral portions.



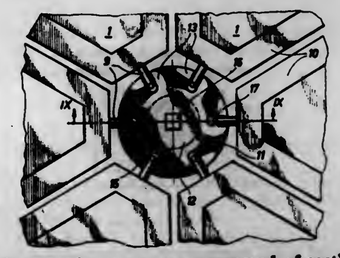
3,509,799
BAG-FORMING METHOD
Rudolf R. Weis and Ellsworth A. Hartbauer, Antioch, Calif., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Aug. 4, 1967, Ser. No. 658,517
Int. Cl. B31b 1/14, 49/04; B31d 5/04
U.S. Cl. 93—35 4 Claims



Machine for and method of making gusseted bags from heat-sealable materials such as polyethylene. In practicing such method, a pair of wide webs are withdrawn from parent rolls thereof and advanced in contiguous juxtaposition through a succession of stations in which the webs first are continuously severed longitudinally at a plurality of transversely-spaced locations therealong and at the same time the two webs are joined along such severed edges to form a plurality of bag tubes. Next, each of the tubes along its joined longitudinal edge portions is deformed inwardly to provide pleats or folds which define gussets in the completed bags. Thereafter, the tubes are sealed transversely at longitudinally-spaced locations to form bottom closures for the bags; and finally, the tubes are perforated transversely adjacent such bottom closures to provide lines of separation enabling each of the tubes to be separated into a plurality of successive bags.

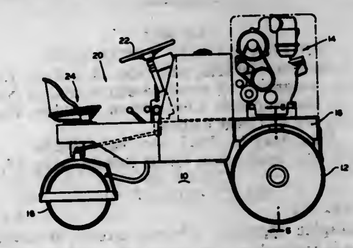
The machine provides web-slitting and sealing mechanism, gusset-forming mechanism, bottom-sealing mechanism, and bag-separating mechanism respectively operative to perform the functions of slit-sealing the contiguous webs longitudinally by application of heat thereto, forming gusset-defining folds along the sealed longitudinal-edge portions of the tubes by air impingement thereagainst, sealing the tubes transversely by application of heat thereto, and finally of providing lines of severance across the tubes to enable the same to be separated into a succession of bags.

3,509,800
PORTABLE GROUND COVER FOR STARTING AND LANDING SURFACES FOR VERTICALLY AND SHORT-STARTING AND LANDING VEHICLES
Rolf Kirkamp, Dreyer, Hartmut Klein, Bremen-Lesum, and Hans Peter Rommer, Speyer, Germany, assignors to Vereinigte Flugtechnische Werke G.m.b.H. Fruhr "Weser" Flugzeugbau Focke-Wulf Heinkel-Flugzeugbau, Bremen, Germany
Filed Dec. 4, 1967, Ser. No. 687,821
Claims priority, application Germany, Dec. 5, 1966, V 32,490; Aug. 17, 1967, V 34,264
Int. Cl. E01c 5/00
U.S. Cl. 94—13 11 Claims



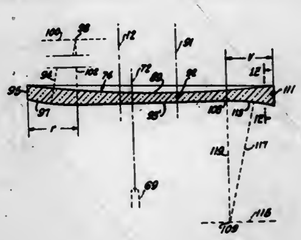
Portable ground cover means composed of sections for starting and landing strips for short take-off and landing, in which the said sections have elevations and depressions so as to form a corrugated surface while passage means are provided which establish communication between the top and bottom surfaces of said sections to equalize the pressure on said top and bottom surfaces, said surfaces being of polygonal shape and so arranged with regard to each other as to form junctions at which said sections are interconnected.

3,509,801
SUPPORT STRUCTURE FOR ROLLER VEHICLE
Heinz Schäfer and Gerhard Hauske, Limburg, Lahn, and Ernst Niebel, Runkel, Lahn, Germany, assignors to Clark Equipment Company, a corporation of Michigan
Filed June 14, 1968, Ser. No. 737,045
Int. Cl. E01c 19/24
U.S. Cl. 94—50 5 Claims



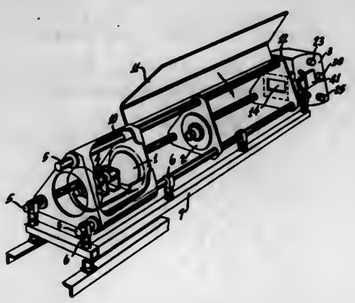
A cantilever type support structure for supporting the frame of a roller vehicle on a roller wheel, including a vertical guide located at one side of the frame, a vertical column member movable with limited reciprocal movement within the guide, a horizontal shaft for carrying the roller rigidly connected to the vertical column member, and resilient support means connected between the column and shaft structure and the vertical guide.

3,509,802
CATHODE RAY TUBE EXPOSURE OPTICS
Glen A. Burdick, Waterloo, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,783
Int. Cl. G03b 41/00
U.S. Cl. 95—1 14 Claims



An optical system utilized for providing a tri-dot patterned color cathode ray tube screen having phosphor patterns of improved symmetry. The optical system is predeterminately positioned to expose a sensitized screen panel through an associated apertured mask. A portion of the exposure light radiation is refracted by a modified plano-concave lens having at least one modified plano chordal portion whereby improved exposure is provided for one or more specific peripheral quadrantal portions of the screen to effect substantially improved equilateral phosphor dot pattern formation thereon.

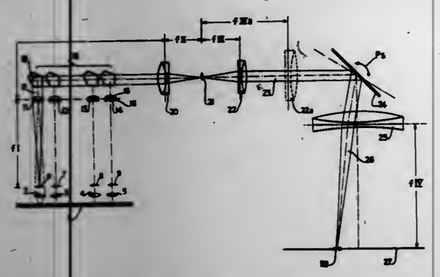
3,509,803
PHOTOCOMPOSING APPARATUS
James F. Delany, Cinnaminson, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Oct. 11, 1966, Ser. No. 585,911
Int. Cl. B41b 21/32
U.S. Cl. 95—4.5 1 Claim



Photocomposing apparatus for recording on film graphic images that are created on an imaging device. The apparatus includes a perforated belt that is driven over a vacuum plate to draw the film into intimate contact

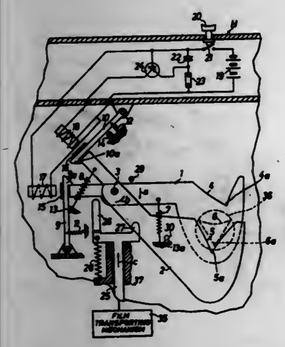
with the belt so as to drive the film between the supply reel and the take-up reel. There is also provided first and second rolls of protective tape that are arranged to be driven in intimate contact with the film so as to provide protective layers for the film.

3,509,804
PHOTOCOMPOSING MACHINES
Wolfgang Köhler, Alzenau, Christa Roth, Niederhochstadt, and Karl-Jurgen Debus, Bad Homburg, Germany, assignors to Linotype G.m.b.H., Frankfurt am Main, Germany
Filed Nov. 14, 1966, Ser. No. 594,190
Int. Cl. B41b 21/26
U.S. Cl. 95—4.5 3 Claims



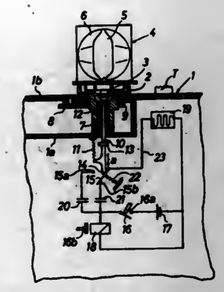
A photocomposing machine in which the font plate characters are arranged in a row and are illuminated simultaneously. The light from each of the characters is collimated, and that from a selected character is deflected to the optical system of the machine and imaged onto a sensitized surface.

3,509,805
SHUTTER FOR PHOTOGRAPHIC CAMERAS
Dieter Engelsmann, Unterhaching, near Munich, and Hubert Hackenberg, Munich-Solln, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Aug. 30, 1967, Ser. No. 664,410
Claims priority, application Germany, Sept. 3, 1966, A 53,420
Int. Cl. G01j 1/00; G03b 9/14
U.S. Cl. 95—10 9 Claims



In order to admit light to the exposure aperture, the leading and trailing blades of a diaphragm type shutter turn in opposite directions about a common pivot axis which is laterally adjacent to the aperture. The leading blade uncovers the aperture in response to movement to uncocked position on operation of the shutter release. The trailing blade covers the aperture by moving to uncocked position with a delay which is a function of the intensity of scene light. The shutter release comprises a first electromagnet which releases the leading blade in immediate response to depression of a trigger, and the retard unit which releases the trailing blade with a delay following depression of the trigger also comprises an electromagnet which is energized with a delay determined by a light-sensitive element as a function of the intensity of scene light.

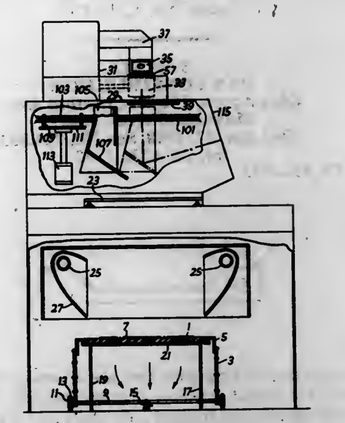
3,509,806
SHUTTER-FLASH SYSTEM FOR PHOTOGRAPHIC CAMERAS
Gerd Kiper, Ludersen, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Sept. 25, 1967, Ser. No. 670,123
Claims priority, application Germany, Sept. 30, 1966, A 53,631
Int. Cl. G01j 1/04
U.S. Cl. 95—10 16 Claims



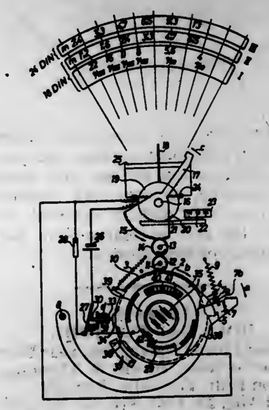
A photographic camera for operation in daylight and with flash comprises a shutter which moves to open position in response to actuation of a trigger and returns to closed position with a delay which is a function of the intensity of scene light and a function of the position or condition of the flash unit, i.e., whether the flash unit is ready to produce a flash in response to opening of the shutter or whether the flash unit is idle or is detached from the camera body. When the flash unit is inoperative, an actuating member automatically connects in the electric circuit one of two resistors or capacitors or uncovers that portion of a light-sensitive receiver which is covered when the flash unit is in use. The camera can be set for operation in daylight with or without flash or with flash alone.

3,509,807
PHOTOGRAPHIC APPARATUS
Dennis A. Sutton, Hatfield, and John H. Jeffree, London, England, assignors, by mesne assignments, to National Research Development Corporation, London, England, a corporation of Great Britain
Filed May 15, 1967, Ser. No. 638,239
Claims priority, application Great Britain, May 17, 1966, 21,964/66
Int. Cl. G03b 17/50
U.S. Cl. 95—13 10 Claims

Photographic apparatus wherein a reduced image of a document is formed on one frame of a Kalvar, fiche-type film by an optical system including a source of ultraviolet light. The film then remains stationary in the apparatus whilst the exposed frame is developed, by movement of a heater block into engagement with the frame, and fixed, by further exposure to ultra-violet light. Throughout these operations the film is visible to an operator. The film can then be removed and stored or further images can be formed on adjacent frames.

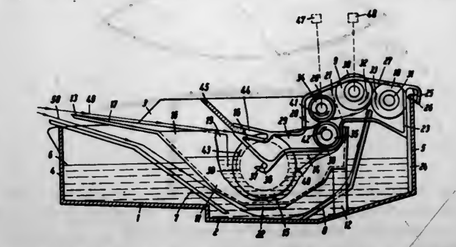


3,509,808
CAMERA FOR DAYLIGHT AND FLASH PHOTOGRAPHY
Richard Wick, Grunwald, near Munich, and Karl Wagner, Ottobrunn, Germany, assignors to Agfa-Gevaert AG, Munich, Germany
Filed Mar. 7, 1967, Ser. No. 621,319
Claims priority, application Germany, Mar. 18, 1966, A 51,883
Int. Cl. G03b 9/02
U.S. Cl. 95—64 10 Claims



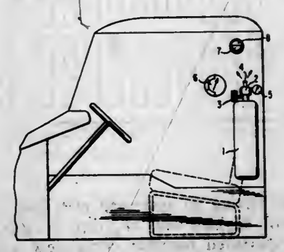
An exposure regulating device for still cameras which selects the exposure time and the size of the aperture as a function of scene brightness when the camera is set for operation in daylight. The exposure time is selected in advance and the size of the aperture is selected by the focus adjusting member when the camera is set for operation with flash. The aperture sizes which are selected by the focus adjusting member are not the optimum sizes for the particular distances from the subject, but the divergence is relatively small. However, and because of such divergence, the camera can be used with films having different speeds or with flash units having different guide numbers.

3,509,809
DEVELOPING DEVICE FOR PROCESSING COPYING MATERIALS
Walter Limberger, Alte Landstrasse 248, Hamburg-Poppenbuttel, Germany, and Rudolf Wendt, Waldschneise 39, Harksheide, Bezirk, Hamburg, Germany
Filed May 12, 1967, Ser. No. 638,028
Claims priority, application Germany, May 18, 1966, L 53,630
Int. Cl. G03d 3/12, 9/00
U.S. Cl. 95—94 14 Claims



An apparatus for developing copying materials using the silver salt diffusion method, wherein the exposed negative is treated with a developer and the positive or receiving material is treated with another liquid. The negative and positive materials are guided through separate treating tanks and thereafter brought into engagement with each other by a pair of squeeze and transport rollers at the exit ends of the tanks. The treating tank for the positive or receiving material has a surface wetting device for applying the liquid to the material, and a pair of squeeze rollers for removing any excess treating liquid from the positive material before it is brought into engagement with the negative material by the squeeze and transport rollers.

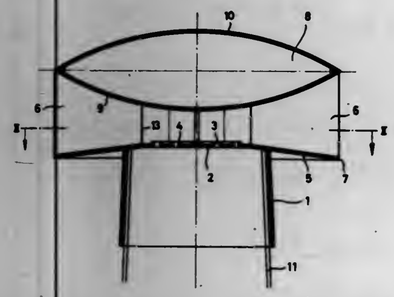
3,509,810
MOTOR VEHICLE WITH PROTECTION INSTALLATION AGAINST CONTAMINATION OF INTERIOR SPACE BY MEANS OF ABC-WAR MATERIALS
Albert Riester, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Nov. 3, 1966, Ser. No. 591,871
Claims priority, application Germany, Nov. 4, 1965, D 48,576
Int. Cl. B60j 9/00
U.S. Cl. 98—1.5 4 Claims



Apparatus for preventing contamination of the interior space of a passenger motor vehicle by substances such

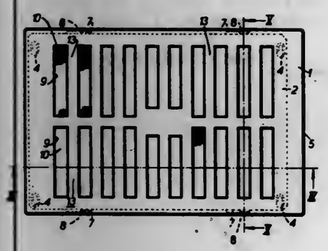
as radioactive dust, poisonous gases and other foreign substances suspended in air, including a compressed air installation supplying respirable air at a positive pressure within the passenger compartment of the vehicle.

3,509,811
COWLS FOR AIR VENT PIPES
Wilhelm Topp, deceased, late of Enspelde, Germany, by Rudi Kaufmann, executor, Eschwege, Germany, assignor to Bernd Kretschmer, Hinter den Höfen, Germany
Filed July 15, 1968, Ser. No. 746,765
Int. Cl. F23l 17/02
U.S. Cl. 98—78 14 Claims



The invention relates to a cowl for air vent pipes or ventilators such as are used, for example, for drying-out, keeping dry or ventilating roofs, walls, rooms, tanks and the like. The cowl comprises a lenticular flow control body disposed above and spaced from a plate intended to close the vent pipe and formed with a plurality of apertures therethrough. The plate has a downwardly curved skirt portion and a number of radially extending flow passages are provided between the skirt portion and the lenticular body.

3,509,812
VENTILATORS
Michael Joseph James, Charlton Kings, England, assignor to Micro & Precision Mouldings (Cheltenham) Limited, Cheltenham, England
Filed Jan. 5, 1968, Ser. No. 696,079
Claims priority, application Great Britain, Jan. 20, 1967, 3,123/67
Int. Cl. F24f 7/00
U.S. Cl. 98—121 2 Claims



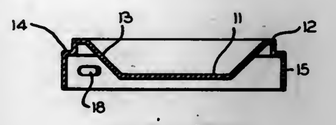
A ventilator having an apertured plate-like back member formed with keyhole slots of fixing to support surface and a front apertured member completely overlaps the back member throughout the range of sliding movements and conceals the keyhole slots in the back member.

ERRATA

For Class 99—235 see:
Patent No. 3,510,319

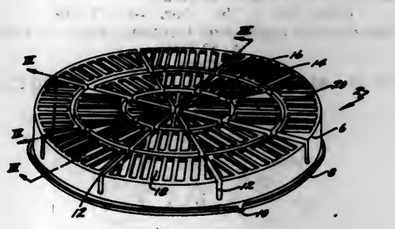
For Class 99—365 see:
Patent No. 3,510,320

3,509,813
PAN CONSTRUCTION
Edna Appelt, 151 W. Crawford Ave., Milwaukee, Wis. 53207
Filed Apr. 17, 1968, Ser. No. 722,003
Int. Cl. A23p 1/00
U.S. Cl. 99—432 2 Claims



Sectionalized baking pans that are amenable for stacking with the baked contents disposed therein. The pans have side aprons and integral bake units and are provided with a peripheral indented section for receiving the aprons of a pan stacked thereupon to form stable cylindrical nesting arrangements.

3,509,814
DISPOSABLE BARBEQUE GRILL
Carl Karapetian, 1735 W. Lane Drive NE., Grand Rapids, Mich. 49505
Filed Mar. 20, 1968, Ser. No. 714,735
Int. Cl. A47j 37/07
U.S. Cl. 99—445 9 Claims

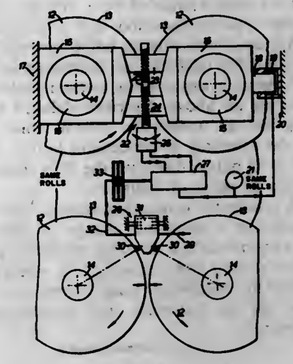


This disclosure relates to a disposable, crushable, self-supporting grill for outdoor cooking and the like. The grill has side walls, a top surface, and interconnected, downwardly extending, strengthening indentations. The grill is made from thin metallic material such as aluminum, so that the grill is inexpensively manufactured and can be crushed for easy disposal.

3,509,815
ROLL GAP CONTROL
Anthony Michael Lloyd, Walkington, near Beverley, England, assignor to Rose, Downs & Thompson Limited, Kingston-upon-Hull, Yorkshire, England
Filed Aug. 28, 1967, Ser. No. 663,631
Claims priority, application Great Britain, Aug. 31, 1966, 38,873/66
Int. Cl. B30b 15/14
U.S. Cl. 100—47 6 Claims

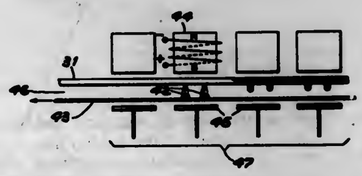
A control mechanism for maintaining a constant roll gap between rolls for treating vegetable materials. The mechanism provides non-contact sensing means located adjacent the roll gap and responsive to changes in the distances between the sensing means and the barrels of the

two adjacent rolls. The sensing means controls a mechanism for adjusting the roll gap, so as to maintain that gap at a constant value. The sensing means are preferably



pneumatic, air jets being directed towards the two roll barrels and the back pressure being dependent on the proximity of the barrels from the sensing means.

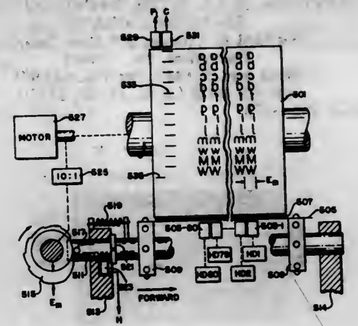
3,509,816
PRINTING ARRANGEMENT UTILIZING A CONTINUOUSLY MOVING TRANSFER BAND
David B. Spaulding, Carlisle, Mass., assignor, by mesne assignments, to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Dec. 22, 1967, Ser. No. 692,816
Int. Cl. B41f 17/10
U.S. Cl. 101—1 2 Claims



A printing arrangement is provided which forms, across a gap, a transferable magnetic ink pattern on a continuously moving transfer band, and transfers said pattern across another air gap to a transversely movable record surface.

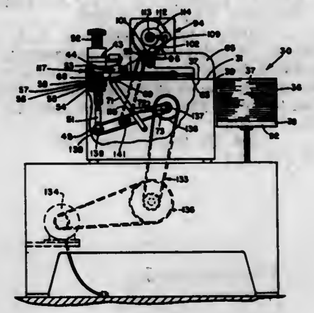
3,509,817
LINE PRINTING WITH PROPORTIONAL SPACING AND JUSTIFICATION
John C. Sims, Jr., Sudbury, Mass., assignor to Mohawk Data Sciences Corporation, Herkimer, N.Y., a corporation of New York
Filed Nov. 21, 1968, Ser. No. 777,763
Int. Cl. B41j 9/14, 19/58
U.S. Cl. 101—93 8 Claims

An on-the-fly line printer prints justified, proportionally spaced lines by stepping the paper laterally during the print cycle. A print line is subdivided into N character position increments and the widest printable character occupies X increments. There are N/X print hammers and the paper is laterally stepped $X-1$ increments during the print cycle. Prior to printing, the characters are stored in a buffer memory having N character locations and each character is assigned to a location dependent on the cumulative widths of the previously loaded characters. Justification is effected by shifting the characters in memory so that the last character in the line is moved to a location corresponding to the right margin and the remaining characters are shifted in behind the last character one at a time, one position increment being added to the inter-character spaces at the time of shifting until the



line is filled in. After justification the memory is read out for printing in X basic scan sequences, each sequence covering 1/X of the memory locations in multiples of X. After each scan-print sequence the paper is laterally shifted one increment until the full line is printed after X scan-print sequences.

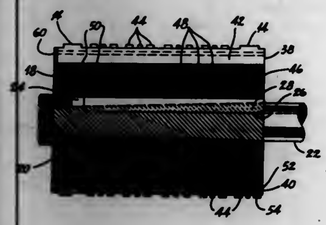
3,509,818
PRINTING AND INKING APPARATUS AND METHOD WITH SHEET OR WEB FEEDING MEANS
Raymond Dexter Brown, Hollis, and Lester Gidge, Nashua, N.H., assignors, by mesne assignments, to R. Dexter Brown, Nashua, N.H.
Filed Feb. 19, 1968, Ser. No. 706,456
Int. Cl. B41f 1/06, 1/08, 1/50
U.S. Cl. 101—295 10 Claims



A job lot printer automatically feeds each sheet of a plurality of sheets successively up to a vertically reciprocating printing bed by means of a horizontally reciprocating carriage. The carriage includes feed fingers which enter register apertures in each form, may include a unidirectional rotating sheet feed roll, and includes a resiliently mounted ink applicator roll which re-inks the head while in motion. The ink applicator roll is re-inked at the retraction end of the stroke of the carriage, from a stationary

nip reservoir ink supply, while in motion, and ink distributor means assures a thin coating of ink on the roll. The printing bed plate is resilient and yieldable and the ink applicator roll is positively rotated as it travels over the type and while it engages the distributor means.

3,509,819
PRINTING ROLL WITH PRINTING PLATE SECURING MEANS
Richard C. Conole, 109 Rose Lane, Haverford, Pa. 19041
Filed Apr. 3, 1967, Ser. No. 627,876
Int. Cl. B41f 13/10, 27/02, 27/10
U.S. Cl. 101—378 3 Claims



Equipment for printing data processing cards to provide a bleed line adjacent each end of each card severed from a web of printed card forming material. The equipment includes a printing roll having a bleed line printing element carried thereby and located in a predetermined and fixed position with respect to a shaft that is synchronized with respect to a web cutting device. The bleed line printing element serves to print a line transversely of the web of card forming material at the point thereon where said web will be severed by the web cutting device to produce the cards. The printing roll further is provided with means for removably securing a printing plate in a fixed position, thereon so that both the printed data and the bleed lines will be accurately positioned with respect to each card produced.

3,509,820
SEISMIC CHARGE ASSEMBLY, SEISMIC CHARGE PRIMER, AND METHOD AND SYSTEM EXPLORATION
Homer L. Fitch, Mount Arlington, N.J., and John F. Hamilton, Wilmington, Del., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 673,594, Oct. 9, 1967. This application Apr. 21, 1969, Ser. No. 818,476
Int. Cl. F42b 3/10; F42c 1/00
U.S. Cl. 102—24 28 Claims



The invention provides:

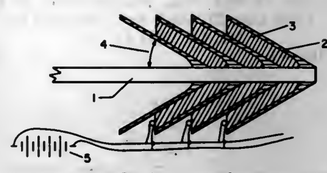
(1) A complete explosive charge assembly for offshore seismic exploration comprising a closed cartridge shell, and a small seismic explosive charge therein; and a percussion initiatable primer device for said charge extending into the detonating relationship therewith. The assembly is provided optionally with means for delay of the priming action for delayed detonation outside the firing system. The embodiment, with delay means, is now preferred.

(2) A percussion initiatable primer device for the preferred embodiment of charge assembly comprising a combination of high explosive base charge, primer charge, delay fuse type composition and a percussion sensitive initiator means, generally an empty primed rifle cartridge casing, often for 0.22 caliber short ammunition.

(3) A seismic exploration method including the steps of delivering an above described delayed seismic charge assembly into an underwater seismic zone, and then impacting the assembly to percussion initiate it; and during the period of delay, directing the thus initiated assembly away from its point of initiation.

(4) A system for generating seismic disturbances under water utilizing a complete charge assembly above described, and including a movable platform, and associated means for loading and delivering the assemblies from the platform to an underwater seismic zone and there impacting same for the initiation, and detonation, to provide seismic energy.

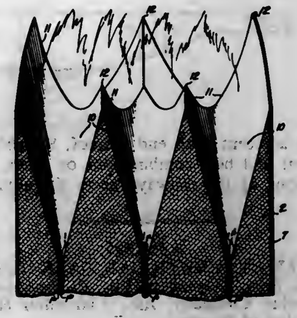
3,509,821
APPARATUS FOR ACCELERATING ROD-LIKE OBJECTS
Stirling A. Colgate, 1201 Olive Lane, Socorro, N. Mex. 87801
Continuation-in-part of application Ser. No. 620,827, Mar. 6, 1967. This application Jan. 6, 1969, Ser. No. 795,394
Int. Cl. F02k 9/06; F42b 15/26
U.S. Cl. 102—49.3 15 Claims



Very rapid acceleration of rods and rod-like objects, such as to drive them into dense media, like soil rock or metal, is attained by disposing a multiplicity of annular, external rockets continuously along the object, the rockets using special very fast-burning propellants. The propellants are ignited by shock wave decomposition of an oxidizer, Taylor unstable mixing of fluidized solid propellants, or metal bonding of oxidizer gas-filled tubing or spheres.

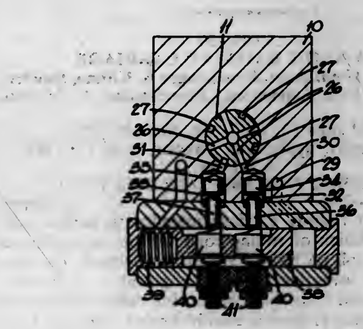
3,509,822
PROPELLENT GRAINS
Millard Lee Rice, Annandale, Joe M. Burton, Alexandria, and Robert G. Shaver, Burke, Va., assignors to The Susquehanna Corporation, a corporation of Delaware
Filed June 9, 1960, Ser. No. 35,088
Int. Cl. F42b 1/00
U.S. Cl. 102—102 25 Claims

1. A propellent grain, said grain comprising a self-oxidant propellent matrix, the combustion of which generates propellent gases, and having at least one initial ignition surface, said matrix containing embedded therein an integral elongated, exothermically-reactive metal member, said metal member comprising at least two metals in intimate contact, which, upon heating, react together exothermically, said exothermic metal member being positioned substantially normal to the plane of said initial ignition surface of said grain and being continuously and longitudinally disposed in the direction of flame propagation of the grain, said exothermic metal member having a length within the body of the grain of at least about 0.2 inch and a maximum metal thickness of about 0.1 inch in at least one transverse direction, the entire surface of said length of said exothermic metal member being in intimate gas-sealing contact with the propellent matrix, the exothermic metal member, after ignition of said grain, reacting exothermically along its length, and the burning surface of said grain regenerating progressively along



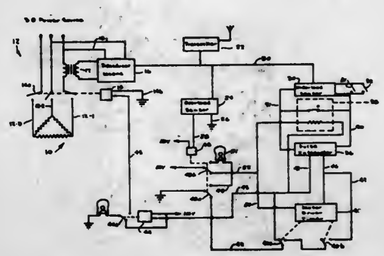
said exothermically reacting metal member and, in so doing, forming a recess which is substantially V-shaped in at least one plane with said exothermic metal member at the apex of said recess, thereby forming a recessed surface of substantially larger surface area than that of a plane burning surface, the exothermic metal member thereby serving to increase the mass burning rate and, thereby, the mass rate of gas generation of said propellant grain.

3,509,823
LIQUID FUEL PUMPING APPARATUS
Kenneth Albert Walters Kemp, Ealing, and Paul Edgar Glikin, Hendon Way, England, assignors to C.A.V. Limited, London, England
Filed June 26, 1968, Ser. No. 740,247
Claims priority, application Great Britain, July 4, 1967, 30,753/67
Int. Cl. F04b 13/02; F04d 15/00; F02m 39/00
U.S. Cl. 417—206 6 Claims



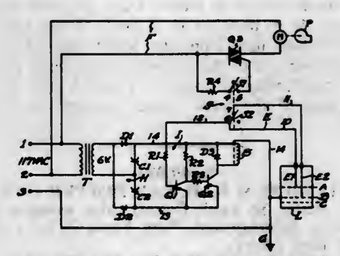
A liquid fuel pumping apparatus for supplying fuel to an internal combustion engine and comprising an injection pump to which fuel is supplied by way of an inlet passage, the inlet passage registering in turn with the ends of a pair of cylinders, containing movable shuttles, respectively one of said cylinders delivering fuel to the injection pump whilst the other cylinder is receiving fuel from a feed pump under the control of a throttle for subsequent delivery to the injection pump.

3,509,824
WELL PUMPING CONTROL SYSTEM
James Schmidly, Jr., Midland, Tex., assignor to G–C Electronics, Inc., Houston, Tex., a corporation of Texas
Filed July 6, 1967, Ser. No. 651,511
Int. Cl. F04b 49/02, 49/06
U.S. Cl. 417—12 3 Claims



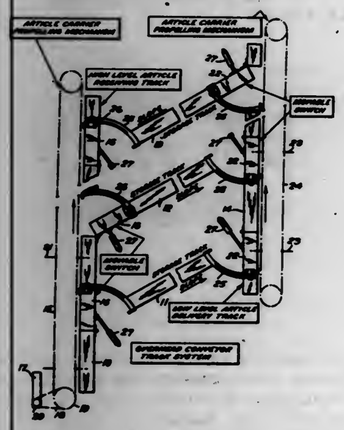
In well pumping apparatus including multi-phase electric motors, power consumption apparatus sensing instantaneous power consumption including means for sensing overload as an indication of equipment failure or single phasing of the motor; means also sensing minimum power consumption at selected intervals in the pumping cycle as an indication of inadequate fluid in the down-hole pumping apparatus; said means interrupting current to the motor on achieving alarm conditions.

3,509,825
TANK-REFILLING LIQUID LEVEL CONTROL FOR HIGH RESISTIVITY LIQUIDS
Kenneth G. Sorensen, 12118 Ohio St., Los Angeles, Calif. 90025
Continuation-in-part of applications Ser. No. 630,735 and Ser. No. 630,736, both Apr. 13, 1967. This application Mar. 22, 1968, Ser. No. 715,365
The portion of the term of the patent subsequent to Nov. 5, 1985, has been disclaimed and dedicated to the Public
Int. Cl. F04b 49/02
U.S. Cl. 417—36 7 Claims



A liquid-holding tank refilling pump driven by an electric motor controlled by a triac under pilot-control by a pair of transistors acting as a snap switch in response to a low voltage current in a control circuit having electrodes for completing the circuit through the liquid in the tank.

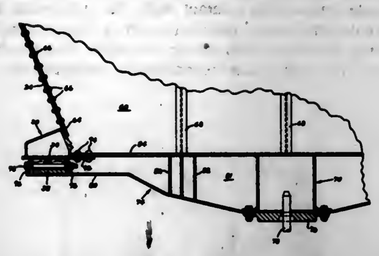
3,509,826
CONVEYOR SYSTEM
Gunnar Thure Eliasson, Saltsjö, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Original application Feb. 28, 1964, Ser. No. 348,213, now Patent No. 3,361,079, dated Jan. 2, 1968. Divided and this application Oct. 26, 1967, Ser. No. 678,228
Claims priority, application Sweden, Feb. 28, 1963, 2,226/63
Int. Cl. B61b 3/00; B65g 1/12; E01b 25/00
U.S. Cl. 104—88 8 Claims



This invention relates to an overhead conveyor system having tracks from which wheeled article carrying units are suspended. The system includes an article receiving track at one level, an article delivery track at a lower level, and a plurality of storage tracks to which the wheeled units are selectively transferred from the receiving track and from which the wheeled units are selectively transferred to the delivery track. The article receiving and delivery tracks have spaced gaps at which regions angularly movable switches are provided, the switches in one position closing the gaps and forming parts of the receiving and delivery tracks and in another position being at an angle to these tracks and arranged to transfer wheeled units to and from the upper and lower ends of the storage tracks. The wheeled units are moved on the delivery track by propelling members which are spaced apart and movable lengthwise of the track. In order to prevent malfunctioning of the conveyor system a particular switch on the delivery track cannot be moved from its position parallel to the track to its position at an angle to the track to receive a wheeled unit from the lower end of a storage track whenever one of the propelling members, even when it is not functioning to propel a wheeled unit, is moving along a zone of the track which includes the particular switch.

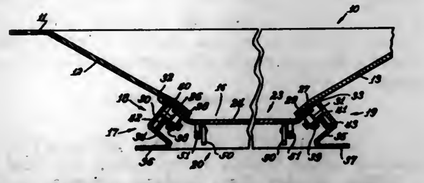
3,509,827
ALUMINUM RAILWAY HOPPER CAR
Robert F. Sutter, St. Louis County, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Dec. 14, 1967, Ser. No. 690,537
Int. Cl. B61d 7/00; B61f 1/00, 1/10
U.S. Cl. 105—248 6 Claims

An aluminum railway freight car having an aluminum side sill structure fabricated from three sections; a generally horizontal intermediate section, an upper generally channel-shaped section secured to the upper surface of the intermediate section, and a lower generally channel-shaped section secured to the lower surface of the intermediate section. The aluminum side sill construction is particularly adapted for railway freight cars having a stub



center sill adjacent each end thereof. Suitable fasteners, such as nut and bolt combinations or rivets, secure the steel portions of the railway car to the aluminum portions.

3,509,828
RAILWAY HOPPER CAR GATE OUTLET
William E. Fritz, Clarendon Hills, Ill., assignor to Fabko Engineering Company, Inc., Clarendon Hills, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 700,392, Jan. 25, 1968. This application Mar. 13, 1968, Ser. No. 712,824
Int. Cl. B61d 7/06, 7/20, 7/24
U.S. Cl. 105—282 10 Claims

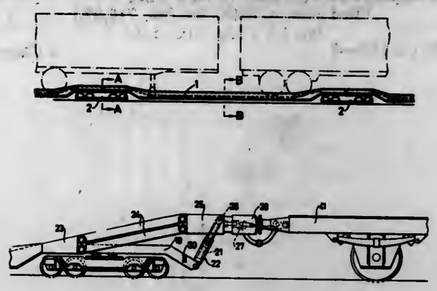


A sliding gate for closing the discharge opening of a hopper is mounted for movement on rollers mounted for rotation about inclined axes on the discharge chute for engaging the undersurfaces of upturned sides of the gate and mounted on the gate for engaging inclined upturned surfaces on the discharge chute.

3,509,829
LOW-BUILT RAILWAY CARRIAGE
Sune Torsten Henriksson, Kvartsvagen 6, Kiruna, Sweden, and Lars Erik Landeborg, Exercisgatan 2, Malmo, Sweden
Filed June 13, 1967, Ser. No. 645,795
Claims priority, application Sweden, June 15, 1966, 8,222/66
Int. Cl. B61f 1/00; B65j 1/22; B61d 17/10
U.S. Cl. 105—368 10 Claims

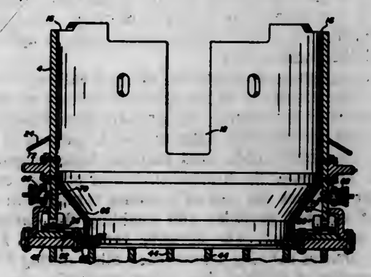
A low-built railway carriage intended to permit railway transportation of rolling road vehicles according to the so-called roll on roll off system is disclosed. The carriage of the invention includes a plurality of flexibly coupled carriage body elements having raised portions at the coupled ends pivoted to multi-wheeled bogies and depressed intermediate portions having a loading plane below the top of the wheels of the bogies. The body elements are constructed with longitudinal grooves in the tops thereof having inclined sides whereby road vehicles may be readily driven from docks and the like onto the railway carriage. A flexible spherical pivoted joint is provided for connecting the ends of adjacent carriage body

elements and the respective bogie together. The end body elements of the railway carriage are provided with raised end portions extending over the whole length of the supporting multi-wheel bogie and include a coupling device supported by link parallelograms which can be raised and



lowered through a hydraulic connection to permit coupling of the low-built railway carriage disclosed to conventional railway carriages and to facilitate loading thereof. Buffers are carried on the end portions of the end carriage body elements which are built plain on top to facilitate their use as a vehicle runway between carriages.

3,509,830
LADLE CAR WITH ROTATABLE WELL
Harold E. Hobe, Johnstown, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Dec. 16, 1966, Ser. No. 602,321
Int. Cl. B61b 3/04
U.S. Cl. 105—455 6 Claims



A molten-metal ladle transfer car having a ladle-receiving turret or well which is rotatable about its vertical axis for the purpose of rotating a ladle contained therein to orient its trunnions in a position suited to the directional orientation of a particular hoisting apparatus. The ladle-receiving turret is provided with roller elements spaced circumferentially at its lower edge resting on and adapted to travel along a ring plate in the car. A ring gear is attached to and extends around the outer circumference of the turret and meshes with a pinion of a powered drive mechanism.

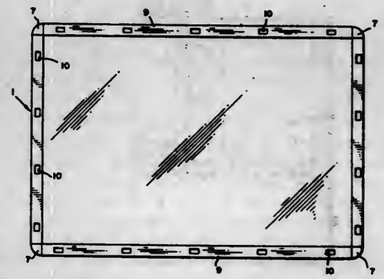
3,509,831
DRESSING TABLE WITH PIVOTABLE RECEPTACLES
Edgar Schmetzer, 68 Ostentallee, Hamm 47, Germany
Filed Aug. 5, 1968, Ser. No. 750,065
Int. Cl. A47b 67/00, 83/02
U.S. Cl. 108—26 15 Claims

A dressing table comprises a box constituting a base and having a lid. An upwardly open second receptacle is arranged in spaced relationship above the box. A cover for the receptacle is arranged about the latter and is adapted for use as a table top. An upright tubular support connects the box with the receptacle and the cover with the receptacle, and mounts the receptacle and the



cover with freedom of pivotal movement with reference to the box as well as with reference to one another in respective planes normal to the elongation of the tubular upright support.

3,509,832
AIRCRAFT CARGO PALLETS
Herbert H. Daisley, Jr., West Islip, N.Y., assignor to Ray, Daisley, Company, Inc., Lindenhurst, N.Y., a corporation of New York
Filed Aug. 9, 1968, Ser. No. 751,532
Int. Cl. B65d 19/00
U.S. Cl. 108—51 3 Claims



A flat pallet for aircraft cargo, the main body of which is formed of a balsa "sandwich" faced top and bottom with laminations of woven glass fiber rovings adhered to the balsa by catalyzed synthetic resin, said body being rimmed by an aluminum alloy channel and provided with fittings as required.

3,509,833
HARD FACED CERAMIC AND PLASTIC ARMOR
Richard L. Cook, Phoenix, Ariz., assignor to Goodyear Aerospace Corporation, a corporation of Delaware
Filed Mar. 28, 1963, Ser. No. 268,765
Int. Cl. B32b 3/10, 3/14
U.S. Cl. 109—82 6 Claims

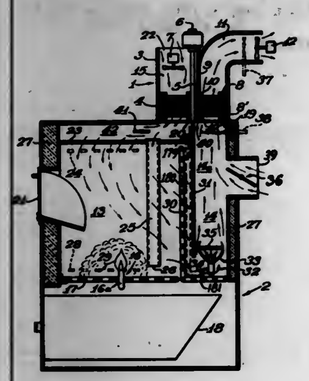
1. Armor plate including a base having a plurality of layers of resin impregnated glass fabric, each layer of glass fabric having straight warp cords of over three times

the strength of undulating weft cords, the weight of the resin in the base being about 25% and the weight of the glass fabric being about 75% so that the layers of glass fabric delaminate with a force absorbing action in stopping a projectile, the warp cords in the several layers of glass fabric extending in alternate directions, a facing layer on the base formed of a plurality of tiles of alumina



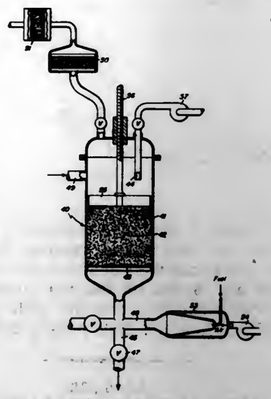
ceramic having more than 85% alumina therein and having the characteristic of shattering and deforming a projectile striking it and of forming a conical plug of increasing diameter in the direction of projectile penetration to distribute the force of the projectile over a greater area of the base, and a layer of flexible adhesive polymerizable at room temperature and having 100% solids therein when liquid securing the facing layer to the base.

3,509,834
INCINERATOR
Robert B. Rosenberg, Evergreen Park, Jack Huebler, Deerfield, and Esker R. Kweller, Evanston, Ill., assignors to Institute of Gas Technology, a not-for-profit corporation of Illinois
Filed Sept. 27, 1967, Ser. No. 670,908
Int. Cl. F23g 5/12; F23l 15/00
U.S. Cl. 110—8 19 Claims



The application discloses both wheel-type and checker-box type regenerators in combination with domestic gas-fired incinerators, having both a primary and a secondary combustion chamber. The input ambient air is preheated as it passes through the constantly rotating regenerator wheel or the checker-box, and is then ducted to the charge and gas burner as primary, secondary, or both primary and secondary air. The burning of the materials to be incinerated produces hot gases which are then passed countercurrent through another section of the same wheel and are thereby cooled. The flue products are cooled to below about 250° F., and may be vented into the room wherein the incinerator is situated without technical or safety problems arising, codes permitting. Masonry chimneys are obviated. The use of the regenerator is in accordance with a process in which the rate of combustion in the primary combustion chamber is controlled.

3,509,835
COMBINED FILTER-INCINERATOR DEVICE FOR WASTE DISPOSAL SYSTEM
Norman R. Dibelius, Ballston Spa, and Edward Philip Kezel, Altamont, N.Y., assignors to General Electric Company, a corporation of New York
Filed Mar. 4, 1968, Ser. No. 710,074
Int. Cl. F23g 3/06, 5/02
U.S. Cl. 110—8 4 Claims

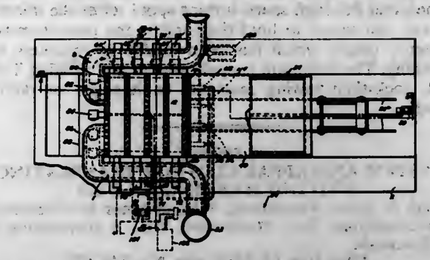


A combined filter-incinerator is described in which liquid containing combustible suspended solids is flowed over the top of a bed of non-combustible granular material and the suspended solids are filtered from the liquid as it moves downwardly through the bed of granules. Means act in combination to selectively heat the granular bed and to simultaneously supply a primary combustion air stream, this air stream being caused to move upwardly through the granular bed.

When the granular bed becomes clogged with separated solids and the efficiency of the filter diminishes to some undesirable level the heating and primary combustion air supply means are actuated. After the bed is reduced to the dry state, the combustible solid particles become ignited and burn. The upwardly-directed stream of primary combustion air fluidizes the bed of granules resulting in the release of trapped particles and enabling the carrying away of any fine ash. The abrasive action of the hard granular particles rubbing against each other during fluidization provides a self-cleaning action powdering the ash whereby the ash may be more readily removed by the upwardly directed air stream. Means are provided for introducing secondary combustion air at some point above the top of the granular filter bed. Smoke and odor combine with the secondary combustion air and pass to a heated catalyst bed completing combustion of the unburned gases. Ash is removed from the outgoing gas stream in a dry disposable filter.

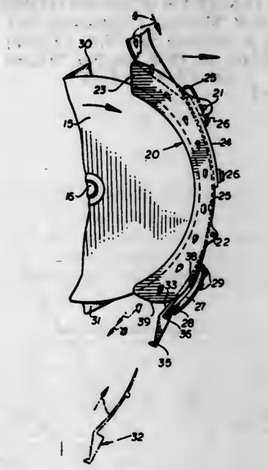
In addition to the above-mentioned structural components a particularly advantageous added feature is a rotating skimmer, or scraper, disposed so as to simultaneously scrape over the upper surface of the granular bed and advance a small distance downwardly into the bed as it rotates. As the scraper rotates, it displaces and segregates, but does not separate, filter cake buildup from the upper surface of the granular bed exposing new filtration surface area with each revolution of the scraper, thereby increasing the effective surface area of the filter bed. This added construction is of particular utility in devices for the filtration-incineration of sewage or gelatinous suspensions, because the clogged filter material remains available for fluidizing and incineration during restoration thereby retaining the full depth of the filter bed after restoration.

3,509,836
METHOD AND APPARATUS FOR BURNING WASTE MATERIALS
Robert E. Perry, 32 Abbott St., South Weymouth, Mass. 02190
Filed May 14, 1968, Ser. No. 729,007
Int. Cl. F23g 5/04
U.S. Cl. 110—8 13 Claims



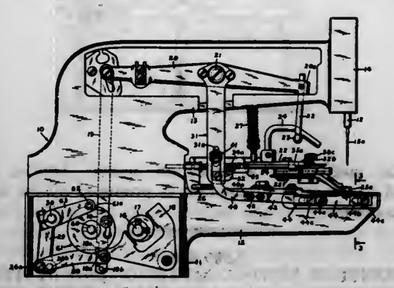
Rubbish and other waste materials of both combustible and non-combustible nature is loaded onto a charging apparatus and periodically advanced along an inclined loading platform into a preheating chamber. After being preheated, the charge is advanced into the burning chamber of an incinerator structure. Successively advanced loads of rubbish are forced one against another and travelled through the combustion chamber in a predetermined time interval. Combustion air is pumped through the base of the incinerator and auxiliary flame means maintain the temperature in the burning chamber at desired temperature levels.

3,509,837
PLANTER LOCKOUT DEVICE
Vedick A. Erickson, Naperville, and A. Lowell Norris, Downers Grove, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 11, 1967, Ser. No. 659,914
Int. Cl. A01c 7/18
U.S. Cl. 111—77 2 Claims



A lugged seed wheel is rotatably mounted in a hill drop planter boot between the hopper and the ground and is engaged by one end of a yieldable valve mounted in the boot to accumulate seed between the periphery of the wheel and the valve, the accumulated seed being ejected by engagement and deflection of the valve by one of the wheel lugs. To convert the planter to drilling the valve is disabled by a lockout member insertable through the bottom seed discharge outlet and engageable with the valve to hold it away from the wheel and allow the seed to fall freely.

3,509,838
SEWING MACHINE FOR ATTACHING ARTICLES TO WORKPIECES
Richard E. Bowin, Chicago, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 7, 1969, Ser. No. 789,446
Int. Cl. D05b 3/14
U.S. Cl. 112—110 26 Claims

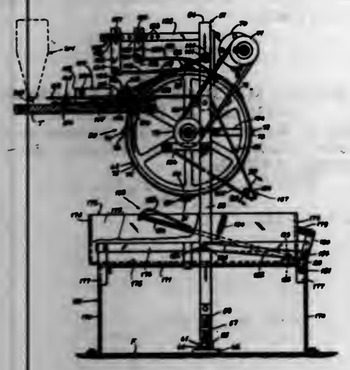


Machine for attaching articles, such as buttons, to workpieces in a simple and automatically controlled manner, at high speed and with uniform results. The machine operates automatically through a predetermined cycle for applying a certain number of stitches to attach a button or the like to a workpiece, after which the stitching is stopped. Means are then provided for opening the button holding or clamping means and for severing the thread at a point close to the last stitch provided. Also means are provided for then lifting the holding or clamping means away from the work to permit the ready removal of the latter from the machine or the shifting of the work to a position in which another button or the like may be applied thereto. Various features enter into the control over the operation of the machine to insure its uniform performance in attaching buttons or the like to a succession of workpieces with a minimum effort on the part of the operator and at a high speed. In attaining the foregoing results a lever is rocked, either automatically or by means manually operated upon the completion of a predetermined number of stitches for the attachment of the article to the work, and this lever first opens the clamp to release the button and substantially simulaneously severs the thread adjacent the stitching region, at a sufficient distance from the eye of the thread carrying needle to leave the latter ready for another operation, and then the clamp is lifted away from the work to facilitate preparation for another article attaching operation.

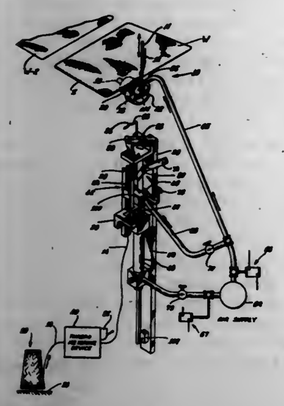
3,509,839
STACKING DEVICE
George A. Meier, Mountain View, Mo., assignor to Angelica Corporation, St. Louis, Mo., a corporation of Missouri
Filed Oct. 9, 1968, Ser. No. 766,183
Int. Cl. D05b 23/00
U.S. Cl. 112—121.29 12 Claims

A device for automatically cutting the connecting threads and stacking sewn articles as they are produced by a sewing machine, without regard to synchronization of the operation of the stacking device with the

sewing operation. The device is adjustable for different sizes of sewn articles, with automatic coupling to adjust the position of a collection basket. Articles are stacked in the same orientation as produced by the sewing operation.

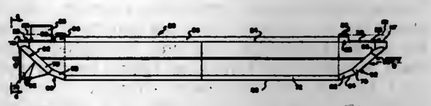


3,509,840
LOCKSTITCH SEWING METHOD AND SYSTEM PROVIDING BOBBINLESS FEED OF THE BOTTOM THREAD FROM A BULK SOURCE
Herman Hovis, Norwalk, Conn., assignor to Ivanhoe Research Corporation, New York, N.Y., a corporation of Delaware
Filed June 12, 1967, Ser. No. 645,183
Int. Cl. D05b 9/00
U.S. Cl. 112—181 34 Claims



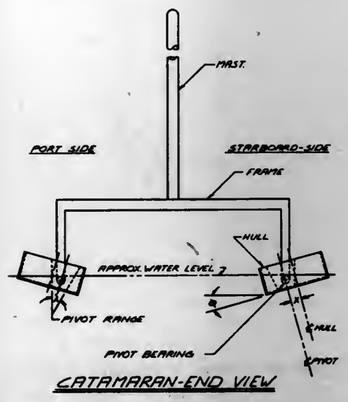
The bottom thread is supplied directly from a bulk source, such as a large cone shaped winding, being metered out from the source, and it is then injected into the basket cavity of a lockstitch sewing machine (where the bobbin would normally be placed) to cooperate with a conventional reciprocating needle carrying a top thread to form lockstitches between the top thread and the bottom thread. The invention makes possible the supplying of the bottom thread by high-speed injection in a fraction of a second from a continuous supply, rather than using a limited bobbin supply. In the method as shown a predetermined length of bottom thread is metered out which is just sufficient in each instance for producing the desired stitching path in the respective workpiece to be stitched, and this length is injected into the basket cavity. Thus, when the stitching path is completed, the predetermined length of bottom thread is spent, and it is not necessary to cut the bottom thread upon completion of the stitching path. Also, the bottom thread never runs out during stitching. A freely rotatable turbine spool in the basket cavity is accelerated to high velocity by an air blast impinging upon turbine vanes, and this high-speed turbine spool seizes the injected thread and serves to hold temporarily the predetermined metered length which has been loaded in readiness for stitching. The invention is applicable to any existing Type 301, lockstitch sewing machine, be it single or double needle.

3,509,841
SYSTEM AND APPARATUS FOR TRANSLATING AND DISCHARGING A LOAD
Reink de Boer, Manitowoc, Wis., assignor to Manitowoc Shipbuilding, Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed July 11, 1968, Ser. No. 744,179
Int. Cl. B63b 35/30
U.S. Cl. 114—29 23 Claims



A barge or scow for transporting and dumping material is comprised of a pair of pivotally connected sections which are so constructed and arranged that the sections assume a material transporting configuration when the barge is empty and a material dumping configuration when the barge is loaded. Means are provided for securing the section into the material transporting configuration. Means are also provided to define a seal between the sections to prevent inadvertant leakage or loss of material.

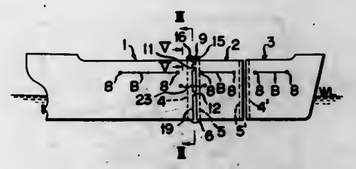
3,509,842
SAILING CATAMARAN WITH PIVOTING HULLS
Charles B. Mitchell, Loudonville, N.Y.
(R.D. 4, Ballston Spa, N.Y. 12020)
Filed May 20, 1968, Ser. No. 731,366
Int. Cl. B23b 1/18
U.S. Cl. 114—61 2 Claims



CATAMARAN-END VIEW

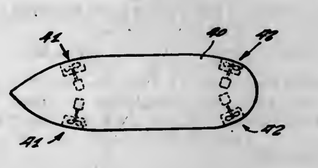
A sailing catamaran having hulls pivoted to frame members wherein the pivots are offset inwardly from each hull's centerline.

3,509,843
METHOD OF JOINING FLOATING HULL STRUCTURES
Kazuyoshi Yamada and Juro Doi, Tokohama-shi, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan
Original application Apr. 4, 1968, Ser. No. 718,661. Divided and this application Dec. 11, 1968, Ser. No. 798,535
Claims priority, application Japan, Apr. 28, 1967, 42/27,262
Int. Cl. B63b 3/02
U.S. Cl. 114—77 1 Claim



A plurality of hull parts of a structure floating on the water such as the hull of a ship are joined together when the parts are floated in the water by initially interconnecting the parts with the use of interfitting elements which permits transverse and vertical movement between the two parts but fixes the longitudinal positions. The hull parts are subjected to ballasting and alignment after the initial fittings have been effected in order to provide accurate final alignment of the two hull parts and thereafter the two hull parts are drawn together and then joined together by welding.

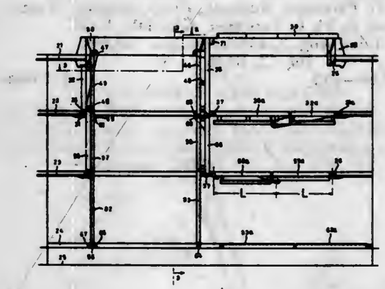
3,509,844
POWER STEERING FOR SHIPS AND BOATS
Thomas P. Doyle, P.O. Box 1894, Clarksburg, W. Va. 26301
Filed Oct. 4, 1967, Ser. No. 672,824
Int. Cl. B63h 25/42
U.S. Cl. 114—147 1 Claim



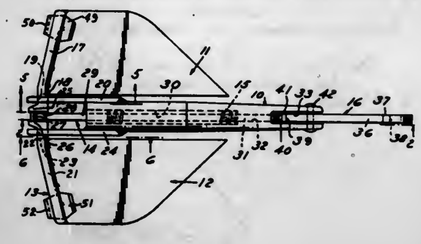
An improved steering for a vessel comprising auxiliary propellers along the starboard and the port sides of the vessel, some of the propellers being located relatively close to the bow while others are located relatively close to the stern, whereby the vessel may turn sharply without the assistance of tugboats.

3,509,845
FREIGHT CONTAINER STORING APPARATUS FOR CARGO SHIP
Yoshihiko Shimada, Ichikawa, Chiba, Japan, assignor to Mitsui Shipbuilding & Engineering Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Feb. 28, 1968, Ser. No. 709,133
Int. Cl. B63b 19/18
U.S. Cl. 114—202 10 Claims

A ship having container guides for storing containers within hatchways which extend through intermediate decks. The upper guide sections are mounted on the undersides of pivoted hatch covers at the intermediate deck levels, so that when the covers are erected, the guide sections are vertical. At least one of the covers is pivotally engaged with the intermediate deck at one end and also is pivotally engaged with a companion hatch cover at the other end. When pivoted upwardly on the one end, the other end is disengaged from the companion cover and the guide sections are in container-receiving positions, when the two covers are erected. When disengaged at the one end, the other end is raised when the companion cover is erected, and the two covers enclose the guide sections which are on their undersides at one end of the hatchway. Lower guide sections are pivoted at the bottom of the hold so that they may be erected into vertical registry with the upper guide sections when they are in vertical container-receiving position.



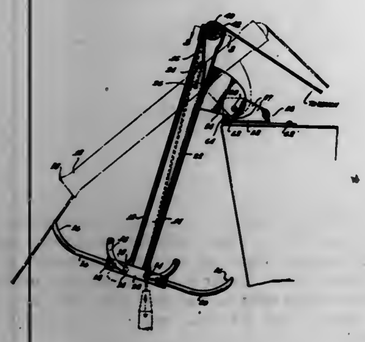
3,509,846
ANCHOR
John Hrivnyak and John B. Hrivnyak, both of 2055 Harvard, Berkley, Mich. 48072
Filed Nov. 1, 1968, Ser. No. 772,575
Int. Cl. B63b 21/34
U.S. Cl. 114—208 6 Claims



An anchor having a supporting body, a crossbar rotatably mounted on the lower end of the body and including a centrally disposed crank having a journal and carrying a pair of anchor flukes, a spring-biased holding pin mounted in the body and having its lower end normally biased against said journal to maintain said flukes in an operative position, a pivotally mounted release tongue mounted in the upper end of said body and having an inner end arcuate cam surface engaging the upper end of the holding pin, whereby when the release tongue is pivoted to a position to disengage the cam surface from the upper end of the holding pin, the flukes may be moved to an inoperative or ground-releasing position, and when the flukes are released from the ground or an underwater obstruction the spring-biased holding pin will exert a resetting pressure on said journal to return the flukes to the

operative position and to permit the release tongue to be pivoted back to the holding position with said release tongue cam surface engaging the upper end of the holding pin, without bringing the anchor to the surface and manually resetting the anchor.

3,509,847
ANCHORING UNIT FOR SMALL BOATS
Laverne O. Persinger, Burbank, Calif., assignor of one-half to M. L. Persinger, Glendale, Calif.
Filed Aug. 7, 1968, Ser. No. 750,892
Int. Cl. B63b 21/22
U.S. Cl. 114—210 5 Claims



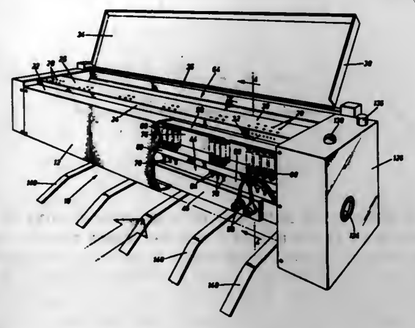
A small boat anchoring unit comprising a winch, a tube pivotally mounted on the boat, preferably on the deck, and an anchor having a shank intended to be pulled up into the tube. A pulley is secured within the upper part of the tube. The anchor has a plurality of flukes.

3,509,848
MARINE TRANSPORT APPARATUS AND METHOD
Robert F. Salmon, C-11 Woodcrest Park, Cardiff, N.J.
Filed Aug. 14, 1968, Ser. No. 752,558
Int. Cl. B63b 21/00, 25/08
U.S. Cl. 114—235 8 Claims



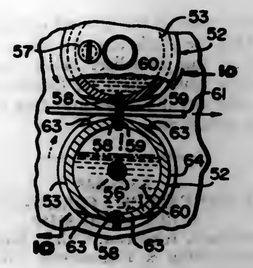
A marine transport system involving a non-rigid container with a surrounding net associated with a tow bar from a tug vehicle. The container is employed by the initial incorporation of a gaseous medium (such as air) therein which is displaced by liquid to a selected buoyancy relationship between the container and its contents and the float media. Thereafter, the remaining gas is evacuated to submerge the container to a towing depth below the level of wave action. The liquid can be the material transported. Or, the containers may serve as suspension means for solid materials carried in ballast bags depending from a container-straddling saddle. In another use, both the liquid within the container and the solids within the bags may constitute the materials to be transported.

3,509,849
MOLTEN ADHESIVE DISPENSING APPARATUS
George S. Blair, 17 Flaremore Crescent, Willowdale, Ontario, Canada, and Harry Shaw, 37 Glass Drive, Aurora, Ontario, Canada
Continuation-in-part of application Ser. No. 491,302, Sept. 29, 1965. This application Feb. 12, 1968, Ser. No. 705,886
Claims priority, application Canada, Aug. 21, 1965, 938,808
Int. Cl. B05c 11/12
U.S. Cl. 118—6 3 Claims



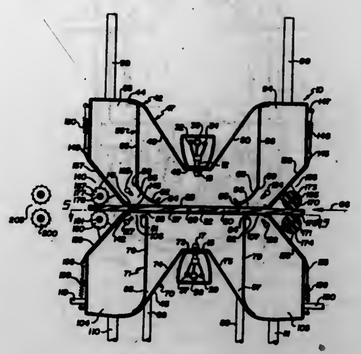
A container holding glue, has a series of holes in the bottom; plungers, aligned with the holes, reciprocate in the container and on their downward movement force glue through the holes on to a wrapping paper travelling beneath the container. The travel of the plungers terminates when their ends reach the bottom surface of the container. Synchronized with the downward movement of the plunger is a mechanism which lifts the wrapping paper into contact with the bottom of the container.

3,509,850
MACHINE FOR CIRCUMFERENTIAL COLOR CODING
Chester J. Geating, 1102 E. Joppa Road, Towson, Md. 21204
Original application Sept. 13, 1966, Ser. No. 579,026, now Patent No. 3,434,456, dated Mar 25, 1969. Divided and this application Dec. 9, 1968, Ser. No. 782,025
Int. Cl. B05c 1/08
U.S. Cl. 118—221 2 Claims



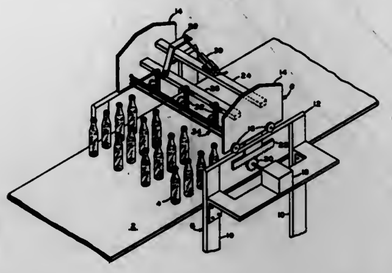
A wire coding machine which is operative in response to pulling the wire through the machine past marking elements, and in which the marking elements are hollow cylinders containing ink, and provided with discrete conduits extending from the interiors to the circumferences of the elements.

3,509,851
PRECISION SPRAYING APPARATUS FOR SHEET-LIKE ARTICLES
Derek Barnes, Vancouver, British Columbia, Canada, assignor to MacMillan Bloedel Limited, Vancouver, British Columbia, Canada
Filed July 24, 1967, Ser. No. 655,568
Int. Cl. B05c 5/00
U.S. Cl. 118—316 24 Claims



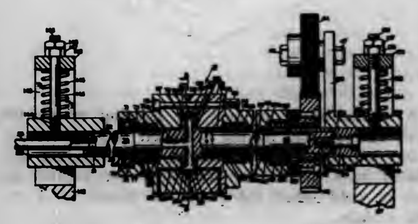
Apparatus for spraying a uniform coating of liquid on either or both of the surfaces of sheet-like articles, and particularly articles that are liable to wrinkle before or during the spraying operation. The apparatus includes spraying means, and means for moving the articles past the spraying means while retaining said articles in the flat state so that the entire surface being sprayed is maintained substantially equidistant from the spraying means as it passes the latter. The apparatus also preferably includes shielding means for the spray guns, and shielding means for confining liquid overspray rebounding from the articles.

3,509,852
GLASS CONTAINER COATING MACHINE
Donald G. Wells, Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Nov. 24, 1967, Ser. No. 685,619
Int. Cl. B05c 5/00
U.S. Cl. 118—323 2 Claims



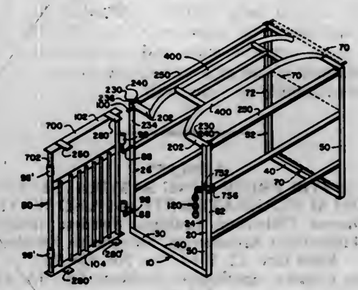
Apparatus for the coating of glass containers. The glass containers are carried by a conveyer system past the glass coating apparatus. A plurality of spray nozzles span the width of the conveyer and move at a speed substantially greater than the speed of the conveyer. The nozzles have a primary movement in a direction along with the conveyer movement during which time the spray heads pass between adjacent bottles. The spray heads may just retrace their path or index laterally one bottle spacing distance and reverse their path of travel placing a coating on the next two adjacent sets of bottles. The spray heads would then index laterally back to their original path and repeat their cycle of operation. Consequently, the plurality of spray heads move between adjacent bottles and the spray heads carry out their coating operations only when moving in the same or reversed direction from the direction of bottle movement.

3,509,853
ADHESIVE APPLICATOR
Ellsworth A. Hartbauer, Concord, and Rudolf R. Weis, Antioch, Calif., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Aug. 7, 1967, Ser. No. 658,762
Int. Cl. B05c 3/20
U.S. Cl. 118—411 13 Claims



An adhesive applicator wherein liquid adhesive is forced under pressure axially through a hollow stator shaft to a pair of outlet openings in the opposite side walls of a collar on the shaft. An inner wall on a rotor surrounds but is spaced from the collar to prevent excessive frictional heat rise at high speed rotation and includes a plurality of entrances, each of which sequentially during rotation is intermittently aligned with the outlet on the stator to receive an adhesive charge, the charges being forced from the entrances through individual ducts to an exterior discharge surface from which surface the adhesive is deposited on a web in a predetermined pattern as the web advances in contact with the rotor.

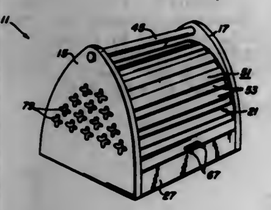
3,509,854
FARROWING CRATE
Marvin L. Osbahr, Woodbine, Iowa 51579
Filed Sept. 15, 1967, Ser. No. 668,059
Int. Cl. A01k 1/02
U.S. Cl. 119—20 3 Claims



A farrowing crate for sows having a hinged front door that interlockingly controls the opening of a rearwardly

hinged operator access top or lid to assist in the tending of the sow and piglets. The lid is contoured to accommodate the sow in a fixed position.

3,509,855
CARRIER FOR SMALL ANIMALS
William S. Priddy, Jr., Rte. 2, Oakland, Miss. 38948
Filed July 31, 1967, Ser. No. 657,303
Int. Cl. A01k 1/02
U.S. Cl. 119—19 1 Claim



A satchel-like container for housing or carrying a small animal, and having a slatted roll-top closure for access into the interior thereof, and including also insulated base means for insulating the animal against heat or cold when the carrier is rested on a hot or cold surface.

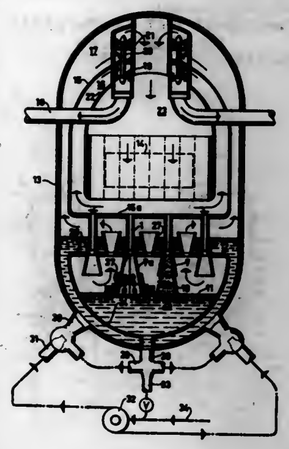
3,509,856
PIPE WALL FOR STEAM PRODUCERS
Werner Müller and Werner Oehler, Gummersbach, Germany, assignors to L. & C. Steinmuller G.m.b.H., Gummersbach, Rhineland, Germany
Filed July 30, 1968, Ser. No. 748,868
Claims priority, application Germany, Aug. 4, 1967, St 27,214
Int. Cl. F22b 37/20
U.S. Cl. 122—6 2 Claims



A pipe wall for steam generators, and method of making the same, according to which, starting from a single pipe with smooth outer surface, alternately fins in form of web members and pipes with smooth outer surface are fed from opposite sides and symmetrically to said first mentioned single pipe and are resistance welded together so as to build up a pipe wall.

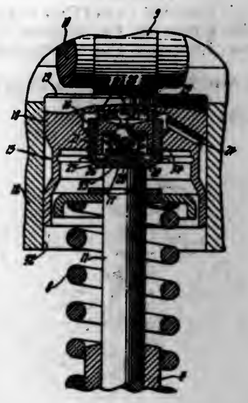
3,509,857
DEVICE FOR PRODUCING SATURATED STEAM FROM SUPERHEATED STEAM AND WATER
Karl Gustaf Dillstrom, Lidingo, Sweden, assignor to Aktiebolaget Atomenergi, Stockholm, Sweden
Filed Dec. 12, 1967, Ser. No. 689,937
Claims priority, application Sweden, Jan. 13, 1967, 556/67
Int. Cl. F22b 1/08
U.S. Cl. 122—31 4 Claims

The invention is concerned with a nozzle in which water is atomized and evaporated by superheated steam. Part of the water is introduced into the nozzle in such a way as to form a curtain of comparatively big drops.



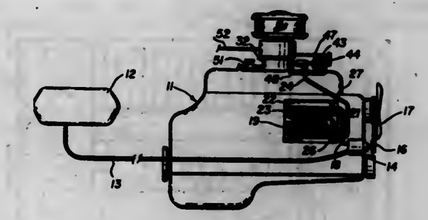
The steam passing through said curtain is filtered, resulting in a pure steam containing no water droplets and no particles originating from salts dissolved in the water.

3,509,858
OVERHEAD CAM VALVE LIFTER
Elias W. Scheibe and Edward Orent, Grand Rapids, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 20, 1968, Ser. No. 730,486
Int. Cl. F01l 1/04
U.S. Cl. 123—90 1 Claim



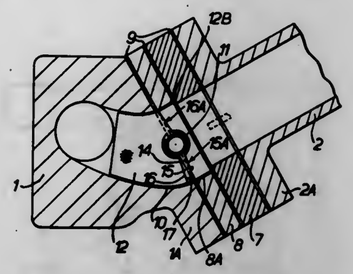
An overhead valve and cam engine having a pressure-fed hydraulic valve lifter interposed directly between the valve and cam, with the lifter pressure chamber being formed between an upright cup resting on the valve stem and a plunger abutting the bottom wall of a larger inverted cup which engages the cam and is slidably guided in a fixed bore surrounding the valve stem.

3,509,859
FUEL ATOMIZATION AND FUEL-AIR MIXTURE CONTROL UNIT
Frank Pantano, 866 Kalamath St., Denver, Colo. 80204
Filed Aug. 24, 1967, Ser. No. 663,000
Int. Cl. F02d 33/007; F02m 7/22, 31/16
U.S. Cl. 123—122 3 Claims



A system and apparatus for atomizing fuels for internal combustion engines and for the regulation of the fuel to air mixture that is to be used inclusive of means for elevating the temperature and pressure of the fuel prior to injected release in an intake manifold at a low pressure zone of flow control with linkage elements interconnecting fuel and air flow regulating components for cooperatively establishing basic fuel to air mixture ratios and with vacuum or engine demand sensitive elements for modification of said basic ratio by changes in the operations of said linkage elements.

3,509,860
INTERNAL COMBUSTION ENGINES
Percival Victor Ferriday, London, England, assignor to Carburetion Units Limited, London, England, a British company
Filed June 24, 1968, Ser. No. 739,258
Claims priority, application Great Britain, June 26, 1967, 29,355/67
Int. Cl. F02m 29/04, 31/08
U.S. Cl. 123—122 6 Claims



In an internal combustion engine, means for improving fuel combustion and reducing air pollutants, comprising screen means pivotally mounted in a passageway between the carburetor and the intake manifold of the engine to thoroughly break up droplets of fuel passing from the carburetor to the intake manifold at idling and low speeds, the means being automatically pivoted at higher engine speeds to present less resistance to the fuel/air mixture passing from the carburetor to the intake manifold.

3,509,861
INTERNAL COMBUSTION ENGINE
Herbert Deutschmann, Stuttgart-Bad Cannstatt, Jürgen Wahnschaffe, Stuttgart-Stammheim, Wolfgang Endert, Grunbach Kreis Waiblingen, and Herbert Meier, Stuttgart, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 14, 1968, Ser. No. 737,167
Claims priority, application Germany, June 15, 1967, 1,576,359
Int. Cl. F01m 1/10; F16n 39/06
U.S. Cl. 123—196 15 Claims



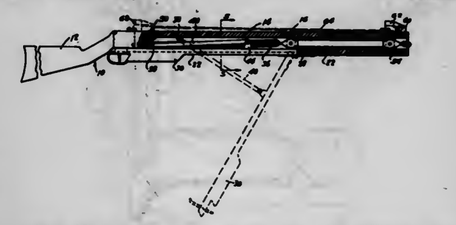
An internal combustion engine in which the lubricant line system between the crankcase and the suction pump for the lubricant has a line portion which determines the level at which a gas-free suction can be obtained; the upper edge of the free lubricant flow croes section is arranged in this line portion lower than the corresponding edge at the sieve for cleaning the lubricant to be sucked off.

3,509,862
SPEAR GUN WITH SPRING TYPE MAGAZINE
Olaf A. Heartness, 2348 SW. 10th St., Miami, Fla. 33135
Filed Mar. 29, 1968, Ser. No. 717,167
Int. Cl. F41b 15/00; F41c 25/02
U.S. Cl. 124—1 7 Claims



A spear gun which includes a barrel having a firing chamber and an open lower portion forwardly of the barrel for lifting a spear from a horizontally arranged magazine which includes means to urge the spears into position beneath the barrel and load means to load the spear into the firing chamber.

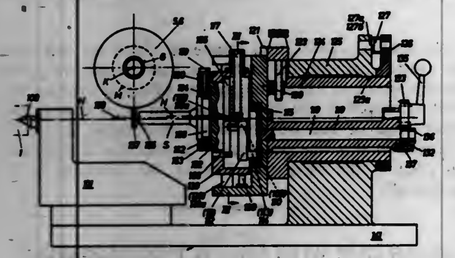
3,509,863
SPRING BIASED PROJECTING DEVICE
Floyd D. Barker, P.O. Box 574, Hobbs, N. Mex. 88240
Filed June 7, 1968, Ser. No. 735,471
Int. Cl. F41b 7/00
U.S. Cl. 124—16 10 Claims



Apparatus comprising a whip shot or slingshot type device in which a shot block is provided with stirrup means for holding it in an inoperative position and a gun stock and whip frame are provided with trigger release means for releasing the stirrup to permit movement of

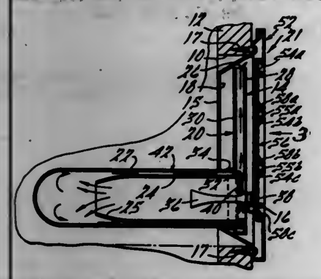
the shot block and with biasing means and block and tackle means operatively connected to the shot block through sling means so as to cause the shot block to be whipped or released with a quick action force to propel the shot block and to discharge the projectile from the shot block at a great speed.

3,509,864
GRINDING WHEEL PROFILING DEVICE
Friedrich Ströpe, Friedrichshafen, Germany, assignor to Zahnradfabrik Friedrichshafen, Aktiengesellschaft, Friedrichshafen, Germany, a corporation of Germany
Filed Aug. 31, 1967, Ser. No. 664,739
Claims priority, application Germany, Sept. 3, 1966, Z 12,410
Int. Cl. B24b 53/06
U.S. Cl. 125—11 4 Claims



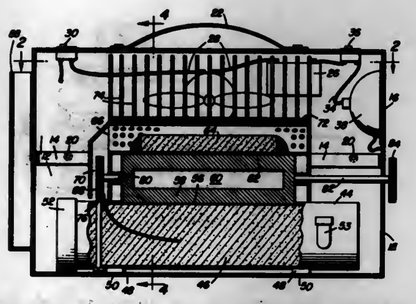
The invention relates to mechanisms for dressing or trueing grinding wheels which are profiled with a predetermined contour for cutting shaft splines. The particular feature of the invention resides in the use of a cylindrical diamond wheel which is power-rotated and guided in a path to follow the peripheral contour of grinding wheels of predetermined shape. Such diamond wheels will considerably outlast diamond points conventionally used for the purpose. The mechanism provides for a motor rotated diamond wheel wherein the axis of rotation is transverse to the axis of the grinding wheel being dressed. By rotating both the grinding wheel and the trueing wheel in the course of dressing, an oblique relative motion of the peripheries is effected wherein the peripheral speed of the dressing wheel can be equal to that of the grinding wheel during dressing.

3,509,865
PANEL FOR HEATER CONSTRUCTION
Donald E. Robinson, Northville, Mich., assignor to Philips Industries, Inc., Dayton, Ohio, a corporation of Ohio
Filed Mar. 28, 1968, Ser. No. 716,860
Int. Cl. F23l 17/04
U.S. Cl. 126—85 18 Claims



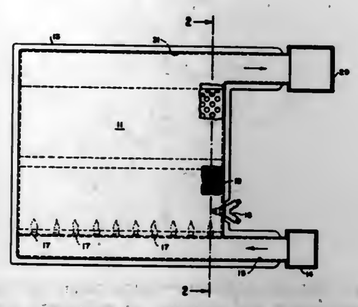
A cover for the inlet and outlet of heaters for domestic use and including deflection plate means for deflecting air in such a manner whereby flame-out tendencies are inhibited.

3,509,866
PORTABLE UTILITIES CABINET
Esther Lee Singleton, R.R. 1, Box 134, St. Anne, Ill. 60964
Filed May 3, 1968, Ser. No. 726,284
Int. Cl. F24c 5/20
U.S. Cl. 126—93 6 Claims



This invention is a portable utilities cabinet, and consists of light weight casing in which is mounted a battery powered fan, an exterior flashlight powered from the same battery, and a catalytic heater which may be turned on or off from the outside of the casing so that, when off, the fan may be used to create a cooling draft, and when on, a warming draft, through appropriately located vents on one side thereof. Also, a pocket is provided on one exterior wall, which may be used to carry a small transistor radio or other suitable object as desired. The casing may be of any suitable material such as high impact plastic or metal, and when of metal, the casing may provide a ground for the battery to the fan motor as well as to the exterior flashlight.

3,509,867
RADIANT AND CONVECTIVE HEATER
Pierre J. Brosens, Belmont, and Dov Z. Gluckman, West Newton, Mass., assignors to Thermo Electron Corporation, Waltham, Mass., a corporation of Massachusetts
Filed Dec. 29, 1967, Ser. No. 694,744
Int. Cl. F24h 3/00; F24c 3/00, 15/28
U.S. Cl. 126—116 14 Claims



A heater including one or more sealed, internal burner, heating modules. The internal burner is of the radiant type integrated with a jet impingement heat transfer mechanism for efficiently and uniformly heating the module walls. External heat exchangers, also of the jet impingement type, provide efficient extraction of heat from the module walls such that the burner may be operated with a fuel-mix of near-stoichiometric proportions.

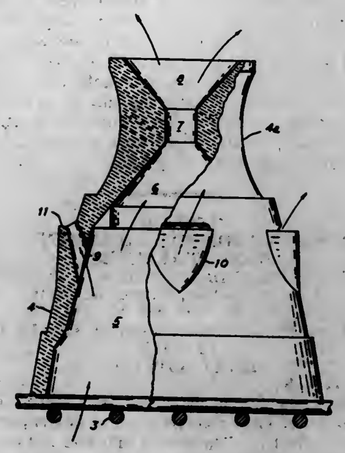
The sealed modules may be used individually, in parallel, or in series and, because only connections for fuel mixture input and flue gas output are needed, immersion of the module or modules in liquid or explosive environments is feasible.

3,509,868
ARRANGEMENT IN OVEN OPENINGS
Rune G. Monö, Taby, Sweden, assignor to Aktiebolaget Skagersviks Industrier, Skagersvik, Sweden, a corporation of Sweden
Filed June 18, 1968, Ser. No. 737,921
Claims priority, application Sweden, June 19, 1967, 8,665/67
Int. Cl. F24c 15/02
U.S. Cl. 126—198 1 Claim



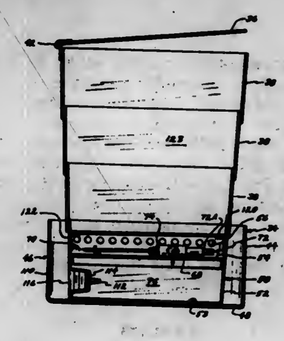
An oven having a closed compartment and a double walled door defining an intermediate space through which air is circulated to cool the door with an air chamber above the door and an air intake channel in close end-to-end relation with the lower end of the door.

3,509,869
CONVECTOR
Ernest L. Woods, P.O. Box 1413, Hialeah, Fla. 33011
Filed Oct. 4, 1968, Ser. No. 765,074
Int. Cl. F24c 1/00
U.S. Cl. 126—248 5 Claims



A ceramic convector for converting a cooking unit into a temporary heater. The convector has a venturi section and circumferentially spaced louvers to accelerate and uniformly distribute heated air or gas flowing upward into the convector, the outside surface also acting as a radiant heater.

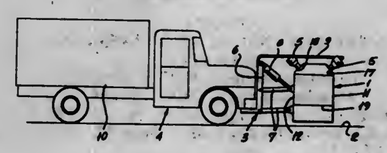
3,509,870
LUNCHBOX AND FOOD-WARMER ASSEMBLIES
Darrel J. Sheppard, Southfield, Mich., assignor of fifty percent to Willard A. Brooks, Royal Oak, Mich.
Filed May 9, 1968, Ser. No. 727,943
Int. Cl. F24c 3/14
U.S. Cl. 126—265 15 Claims



A portable food warmer assembly adapted for storage in a lunchbox comprising a lidded container and an integral base compartment for the food warmer assembly, which comprises a base unit carrying a gas fuel tank spaced from the base unit side walls. An oven structure is carried by the base unit and has side walls selectively telescopically extensible into and out of the space intermediate the base unit side walls and the fuel tank. A burner tube connected with the fuel tank overlies same.

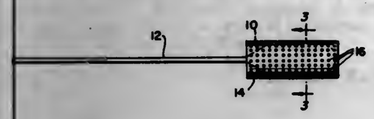
A manually operated valve is adapted to selectively admit fuel from the fuel tank to the burner tube. A lighter device similar to a flint-type cigarette lighter is adapted to be extended from the base unit for selective manual ignition of the fuel in the burner. A filler valve is provided on the tank. The valves and the lighter are accessible through apertures provided in the base unit side walls, which apertures are closed by the side walls of the oven structure when same are telescoped into the space provided.

3,509,871
SNOW MELTING DEVICE
Laurendo Mailloux, 5290 Doherty Ave., Montreal 265, Quebec, Canada
Filed Dec. 9, 1968, Ser. No. 782,338
Int. Cl. E01c 11/24; E01h 5/10
U.S. Cl. 126—271.2 11 Claims



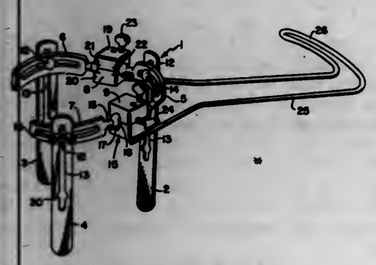
A snow melting device for roadways including a heater box fitted with oil burners and provided with a baffle system situated between the burners and the casing mouth to distribute the hot gases substantially uniformly over the snow and prevent excessive localized heat which might damage the roadway surface.

3,509,872
BODY FLUID TEST STICK
Andrew Truhan, Florence Ave. & Broadway, Somerset, N.J. 07735
Filed Nov. 30, 1967, Ser. No. 686,967
Int. Cl. A61b *10/00*
U.S. Cl. 128—2 5 Claims



A small inert absorbent reagent holder is impregnated with a chemical, for example, a mixture of equal parts of sulfanilic acid-dimethyl-α-naphthylamine to act as an indicator reagent. The absorbent element is mounted on one end of an inert plastic stick and is covered with a perforated plastic shield to prevent contact of the reagent with the skin. The assembly of elements described is encased in an envelope of moisture and light-proof plastic, preferably filled with an inert gas such as nitrogen, the reagent thus being protected from oxidation and damage from light so that the shelf life of the device is prolonged.

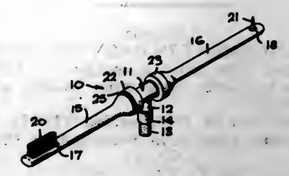
3,509,873
RETRACTOR
Jack B. Karlin, 35520 Vine St. and Gordon W. Droeske, 35574 Stevens Blvd., both of Eastlake, Ohio 44094
Continuation-in-part of application Ser. No. 547,546, May 4, 1966. This application Apr. 24, 1967, Ser. No. 634,424
Int. Cl. A61b *1/32*
U.S. Cl. 128—17 14 Claims



A retractor having a plurality of elongated blades which are carried by a corresponding number of blade support members in such a manner as to permit universal adjustment of the relative spacing, lengths, and angular positions of the blades with respect to each other.

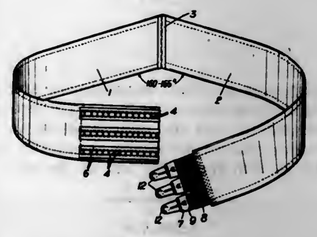
3,509,874
DENTAL CLEANSING AND MASSAGING APPARATUS
Theodore Stillman, 5927 Stafford, Huntington Park, Calif. 90255
Continuation-in-part of application Ser. No. 584,321, Sept. 23, 1966. This application Sept. 27, 1967, Ser. No. 670,932
Int. Cl. A61h *13/00*
U.S. Cl. 128—66 18 Claims

A hydraulically actuated oral hygienic device wherein pressurized fluid is utilized to drive teeth cleaning and/or gingival massaging means. Conduits within the device are selectively placed in fluid communication with a remote source of fluid via a control valve. Fluid passing through the conduit bears against driving means disposed therein which are coupled to a brush or gum massager causing oscillatory or rotational movement thereof. Mechanisms are included for causing oscillation of the water pressure and for placing the picks, massagers, and brushes within



streams of water that have oscillating pressures. The fluid is thereupon expelled through apertures located adjacent the brush or gum massager so as to cause food debris to be effectively flushed away.

3,509,875
THORACIC BRACE
Gerhard Richter, Bleichergasse 4, Vienna IX, Austria
Filed Mar. 21, 1967, Ser. No. 624,816
Claims priority, application Germany, Apr. 5, 1966, R 32,596
Int. Cl. A41c *1/00*
U.S. Cl. 128—78 7 Claims

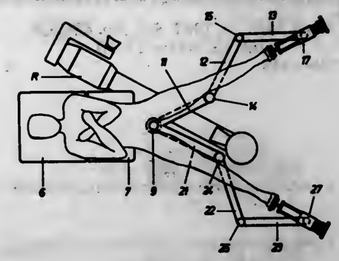


Thoracic brace in the form of a substantially inextensible, flexible and preferably porous belt, extending in width over 3 to 4 ribs of the human chest, whose two halves adjoin each other at an obstuse angle of about 160° to 165° along a transverse parting line which in use comes to rest against the sternum of a patient; the free ends of the belt are provided with preferably adjustable and resiliently connected fastening means to permit the belt to be closed under tension around the patient's rib cage underneath the armpits to form a generally frustoconical, downwardly converging band.

3,509,876
APPARATUS FOR THE TREATMENT OF BONE FRACTURES
Erwin Pilz, Rastatt, Germany, assignor to Stierlen-Werke Aktiengesellschaft, Rastatt, Germany
Filed Feb. 27, 1967, Ser. No. 618,972
Claims priority, application Germany, Oct. 18, 1966, 1,541,172
Int. Cl. A61f *5/04*
U.S. Cl. 128—84 6 Claims

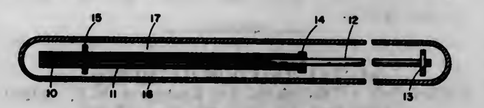
An apparatus for medical purposes, especially for the treatment of bone fractures, which is equipped with arm means which can be moved into and out of superimposed positions while each of said arm means is composed of a plurality of links which can selectively be decreased and increased in number and can be pivoted and

arrested relative to each other. Movement in any direction of one arm means is possible without interfering with or impeding the movement of other arm means par-



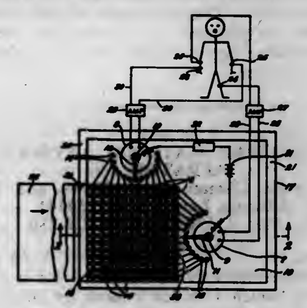
ticularly for extension pulling and X-ray diagnoses use of the apparatus.

3,509,877
INTRA-UTERINE CONTRACEPTIVE DEVICE AND METHOD OF USING SAME
Leonard S. Weiss, 15 Starhaven Ave., Middletown, N.Y. 10940
Filed Aug. 24, 1967, Ser. No. 662,961
Int. Cl. A61f *5/46*
U.S. Cl. 128—130 10 Claims



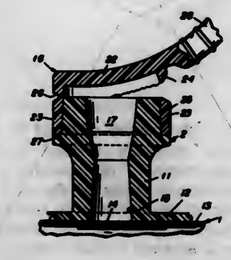
An intra-uterine contraceptive device in the form of a rod of a crystalline thermoplastic material which may be softened by heat decrystallization and inserted at a comfortable temperature into the uterine cavity in the plastic state to assume a random configuration substantially corresponding to the size and shape of the uterine cavity, thus making it particularly effective. Subsequent to insertion the crystalline thermoplastic material recrystallizes to retain its random configuration making it less subject to expulsion than preformed devices.

3,509,878
VECTORCARDIOGRAPH
Joseph D. Shaw, 508 Church St., Brownsville, Pa. 15412
Filed May 23, 1968, Ser. No. 731,511
Int. Cl. A61b *5/04*
U.S. Cl. 128—2.06 1 Claim



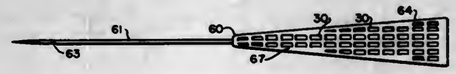
Apparatus for coordinating and recording variations in a plurality of electrical potentials on a single record sheet which has two closely spaced apart grids that receive the record sheet therebetween; each grid having a series of discrete, electrically conductive filaments with the elements of one grid extending in a direction different from the filaments of the other grid to provide a series of potential current conducting paths at the cross over points of opposed grid filaments.

3,509,879
PARENTERAL LIQUID CONTAINER HAVING FRANGIBLE PART STRUCTURE
Louis N. Bathish, La Crescenta, and Byron H. Wickett, North Hollywood, Calif., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Nov. 24, 1967, Ser. No. 685,574
Int. Cl. A61m *5/00*
U.S. Cl. 128—214 5 Claims



A flexible blood bag with an improved outlet port structure including a donor tube and two tubular necks sealed to the wall of the bag. These tubular necks each have a puncturable membrane closing off a neck passage, which passage has an internal construction for sealing with puncturing spikes having various diameters. A tear-off cap seals an outer end of each neck and an external grasping flange at a midpoint of each neck keeps an operator's fingers from contaminating the outer end of each neck.

3,509,880
INTRAVENOUS NEEDLE HUB CONSTRUCTION
Yolan R. Guttman, 675 E. 23rd St., Bronx, N.Y. 10466
Continuation of application Ser. No. 393,658, Sept. 1, 1964, which is a continuation-in-part of application Ser. No. 313,362, Oct. 2, 1963. This application Mar. 13, 1969, Ser. No. 810,969
Int. Cl. A61m *5/32*
U.S. Cl. 128—221 6 Claims

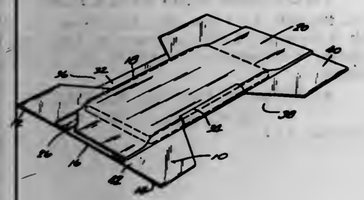


An intravenous needle asembly having a hub with a straight needle affixed therein. The hub has a flat laterally concave bottom surface extending throughout its length and includes means for enhancing adherence to a patient's arm. In addition, the side portions of the hub slope upwardly in a substantially convex arc.

ERRATUM

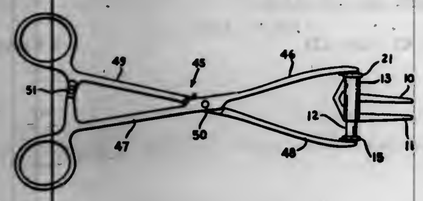
For Class 128—284 see:
Patent No. 3,510,587

3,509,881
ABSORBENT PAD HOLDER AND WEB FOR THE PRODUCTION THEREOF
Reinhardt N. Sabee, 728 S. Summit St., Appleton, Wis. 54911
Filed Mar. 28, 1967, Ser. No. 626,537
Int. Cl. A61f 13/16
U.S. Cl. 128—287 9 Claims



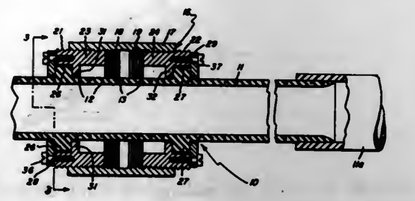
A web of water-impervious material is made by extrusion to provide integrally formed relatively heavy edge portions and relatively thin central portions. The strength of the corner portions of the web is such that pins may be anchored therein without tearing the web. A pad is centrally positioned on the web either by adhesion of the web, or by a separate line of adhesive, or by separately fabricated moisture-pervious means. Desirably, it is preferred that the web have spaced lateral cuts in its side margins leaving anchorage tabs at its corners, regardless of the construction of the web per se. These cuts form tongues which are folded over the pad, first, to anchor the pad, secondly, to confine moisture at the sides thereof, and thirdly, to facilitate fitting the diaper between the legs of the user, the arrangement also being such that the overall length may be modified to fit individuals of differing sizes.

3,509,882
PARALLEL JAW SPRING CLIP AND APPLICATOR
Lawrence W. Blake, Huntington Beach, Calif., assignor, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Sept. 18, 1967, Ser. No. 668,367
Int. Cl. A61b 17/12
U.S. Cl. 128—325 14 Claims



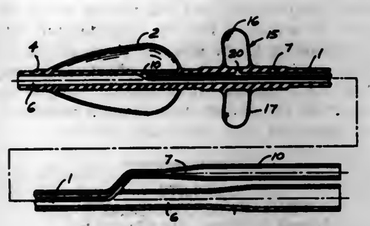
A disposable, parallel jaw, spring closing-pinch opening surgical clip having either toothed hard jaws or soft jaws or one of each. A scissors-type applicator is provided, having means to hold a clip in a plurality of angular positions relative to the applicator.

3,509,883
EXPANDING CANNULA
Norman R. Dibelius, Ballston Spa, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 29, 1967, Ser. No. 686,630
Int. Cl. A61m 25/00
U.S. Cl. 128—348 1 Claim



A cannula construction is described having an outer porous wall constructed of double helixes of fine wire embedded in a flexible wall material. Means mounted on the outer wall of the device enable changes in the pitch of each of the helixes resulting in a shortening or lengthening to produce a relative increase or decrease in the diameter of the cannula as desired. Use of the cannula is described as, for example, to provide a connection between an artificial heart-lung machine and the cardiovascular system.

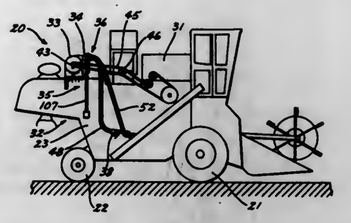
3,509,884
RECTAL BALLOON CATHETER
William Bell, 1176B 9th St., Far Rockaway, N.Y. 11691
Filed Sept. 13, 1967, Ser. No. 667,462
Int. Cl. A61m 27/00
U.S. Cl. 128—350 5 Claims



A catheter, particularly an inflatable rectal catheter, with inflatable stop or limit means limiting the depth of insertion of the catheter into a body cavity to a predetermined maximal depth. The stop means are soft when deflated and may be stiffened to a functionally desirable hardness by inflation simultaneously with the inflating of the bag of the catheter.

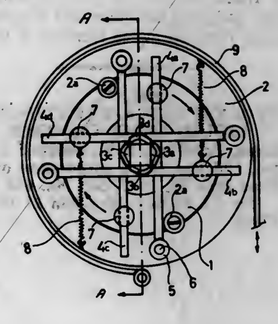
3,509,885
COMBINE CHAFFER MATERIAL LEVELER AND AERATOR
Robert A. Loukx, Gilman, Iowa 50106, and Vernon H. Sietmann, Laurel, Iowa 50141
Filed Mar. 4, 1968, Ser. No. 710,230
Int. Cl. A01f 7/00
U.S. Cl. 130—27 8 Claims

The invention relates to an accessory for a conventional combine which includes a sieve or chaffer area where the grain is delivered for finish cleaning, and comprises a high speed blower that automatically delivers a flow of air under static pressure through a pendulum-operated valve for controller transmission of the air through a plurality of conduits arranged in parallel to manifolds on opposite sides of the chaffer and to a manifold extended transversely across the combine, all manifolds mounted adjacent the front of the chaffer to deliver a majority of air to the downhill side of the chaffer for directing grain to the uphill side, while al-



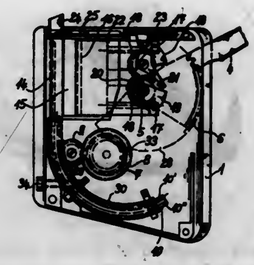
ways maintaining a small amount of air to the uphill side to prevent clogging of the uphill manifold, and to deliver air to the transverse manifold to direct air upwardly and angularly to the substantially horizontal flow of the grain to thereby separate chaff and trash from the heavier grain, effecting an aeration of the material which aids in cleaning.

3,509,886
DEVICE FOR REMOVING BRUSSELS SPROUTS FROM THE PLANT
Wilhelmus H. J. Janssen, Wilhelminastraat 1, Herten, Netherlands
Filed Oct. 9, 1967, Ser. No. 673,562
Claims priority, application Netherlands, Jan. 26, 1967, 6701288
Int. Cl. A01f 11/06
U.S. Cl. 130—30 4 Claims



A device for removing Brussels sprouts from a stalk comprises a first driven rotatable member having an axial aperture therein, a second rotatable member rotatable about the axis of said first member and having an axial aperture aligned with the aperture in said first member, a plurality of elongated support members mounted on said rotatable members with each elongated member having one end pivotally coupled with one of said rotatable members and the other end pivotally and slidably coupled with the other of said members, cutting knives respectively mounted on said supporting members and disposed about the axis of rotation of said members, and means for braking rotation of the second one of said rotatable members.

3,509,887
MECHANISMS FOR FILLING TOBACCO INTO PREFORMED CIGARETTE PAPERS
Otto Kappeler and Rudolf Mesmer, Trossingen, Germany, assignors to Elka-Werke Fritz Kiehn GmbH, Trossingen, Wurttemberg, Germany
Filed Sept. 16, 1968, Ser. No. 762,276
Int. Cl. A24c 5/02, 5/42
U.S. Cl. 131—70 14 Claims



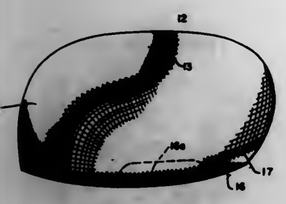
A resilient tobacco ejector mechanism arcuately disposed in a housing and operated by a lever having a toothed sector, for use in cigarette-manufacturing machinery. The ejector is in the form of a rack which cooperates with the toothed sector of the operating lever. The lever also operates a thrust plate within the tobacco magazine of the housing. The rack-operating mechanism produces a two-phase action relative to the thrust plate and the tobacco ejector.

3,509,888
SMOKING PIPE CARTRIDGE
Francis J. Schauf, 111 S. Nevada, Wichita, Kans. 67209
Substituted for abandoned application Ser. No. 375,227, June 15, 1964. This application May 27, 1968, Ser. No. 733,227
Int. Cl. A24f 13/04, 1/02
U.S. Cl. 131—207 4 Claims



A filter cartridge, which fits betwen the stem on the bowl and the mouthpiece of a common pipe, has an elongated body with a flange which abuts the stem on the bowl and mouthpiece. The cartridge has two longitudinally extending apertures therethrough. One communicates with the bore in the pipe bowl stem and that in the mouthpiece. It has two end portion bores connected by a smaller bore. The outer end portion bore has a normally closed check valve therein, which opens upon drawing on the pipe. The inner end portion bore contains a fibrous filtering plug. The other longitudinally extending aperture in the cartridge body is plugged in its inner end and communicates with the bore in the mouthpiece. The latter bore is adapted to trap moisture and prevent same from entering the pipe bowl.

3,509,889
ARTIFICIAL HAIR PIECE
Daniel Friedman and Robert A. Hart, Andover, Mass., assignors to Reid-Meredith, Inc., Lawrence, Mass., a corporation of Massachusetts
Filed June 30, 1966, Ser. No. 563,631
Int. Cl. A41g 3/00
U.S. Cl. 132—53 1 Claim

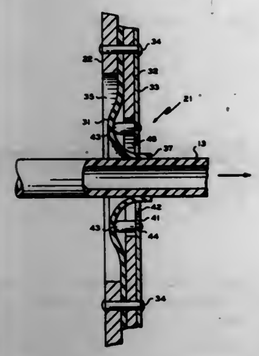


A knit cover composed of stylable filaments interknit with the cover and a knit insert inserted in a forward cut out portion of the main knit cover to form a stylable hair piece for use with the head of a human being.

ERRATUM

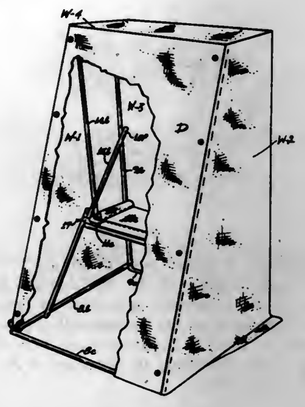
For Class 134—45 see:
Patent No. 3,510,352

3,509,890
SPRING BIASED GASKET FOR BATH HOUSING
Lawrence D. Phillips, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 18, 1968, Ser. No. 713,860
Int. Cl. B05c 3/15
U.S. Cl. 134—122 6 Claims



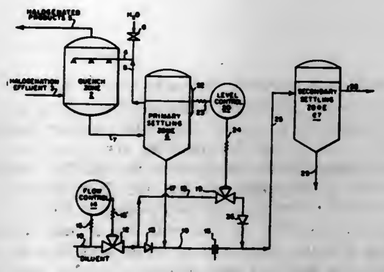
The outlet in a fluid bath enclosure is provided with a gasket member having an opening therethrough which is smaller than the cross section of an elongated cylindrical article being treated, for example extruded tubing. A spring member is positioned on the downstream side of the gasket member and has a plurality of fingers extending radially toward the elongated axis of the article, with a seal retaining pin extending upstream from each finger into biasing contact with the gasket member.

3,509,891
COLLAPSIBLE SHELTER FOR ICE FISHERMEN, GAME HUNTERS AND THE LIKE
Erwin L. De Bolt, 3426 Bryant Ave. N., Minneapolis, Minn. 55408
Filed Dec. 18, 1968, Ser. No. 784,641
Int. Cl. A45f 1/16
U.S. Cl. 135—4 6 Claims



A collapsible shelter for ice fishermen, game hunters and the like, consisting in a number of interfolding frame sections adapted to be readily outswung from a very compact collapsible position to an erect position and including brace sections which may be manually and quickly interlocked with wall sections and a seat section to rigidly retain the entire structure in fully erected, operative position. The said multi-section frame is combined with a highly flexible covering to constitute a full enclosure when erected and the covering is folded with the interhinged frame sections to form a profile-like, very light portable collapsed structure. No coupling or uncoupling parts are required in the erection of the shelter.

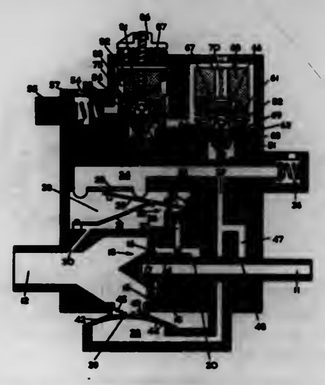
3,509,892
PROCESS AND APPARATUS FOR LIQUID LEVEL CONTROL
John P. Macek, Brooklyn, N.Y., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed June 26, 1967, Ser. No. 648,794
Int. Cl. E03b 7/07; G05d 21/00
U.S. Cl. 137—9 18 Claims



An apparatus arrangement and a process for controlling the level of a corrosive fluid in a holding zone comprising passing a non-corrosive diluent such as water

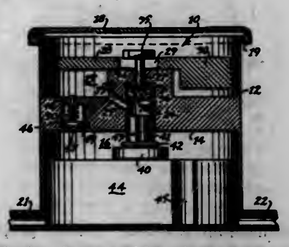
through a valve actuated in response to variation in the fluid level and into a diluent conduit terminating in a fixed restriction orifice, providing a fluid withdrawal line from the holding zone in open communication with the conduit for withdrawing fluid in an amount dependent upon the amount of diluent passed through the valve, forming a mixture of diluent and fluid in the conduit and passing the mixture through a fixed restriction orifice and out of the conduit.

3,509,893
ACCELERATION RESPONSIVE FLUID FLOW REGULATORS
David M. Robertson, Kirkcaldy, Fife, Scotland, assignor to The British Oxygen Company Limited, a British company
Filed Apr. 20, 1967, Ser. No. 632,325
Claims priority, application Great Britain, Apr. 22, 1966, 17,698/66
Int. Cl. G05b; G05d
U.S. Cl. 137—38 4 Claims



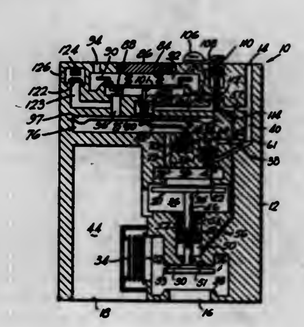
A fluid-flow valve for controlling the flow of pressure fluid to and from anti-gravity apparel for aviators, is controlled in turn by the fluid pressure in a biassing chamber. This is coupled to the fluid supply and is vented through a path which offers to the flow of pressure fluid from the biassing chamber an impedance which varies with variations in the accelerational or gravitational forces applied to the apparatus.

3,509,894
MOTION-ACTUATED SAFETY DEVICE FOR VEHICLE
John F. Brooke, Rte. 4, Canton, Ga. 30114
Filed Feb. 16, 1968, Ser. No. 706,153
Int. Cl. H01h 35/02; G50b 9/00
U.S. Cl. 137—48 7 Claims



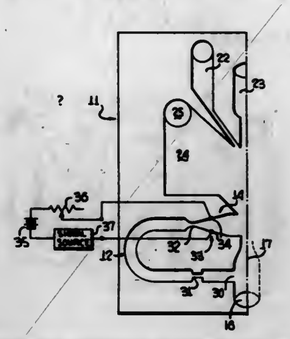
A safety device for a vehicle including an eccentrically weighted, transversely disposed, rotary member having a radial slot therein, a vertically movable plunger extending through the slot and having a radial latch thereon normally out of registry with the slot, and an operator element, such as a valve or electrical switch, controlled by the plunger, so that upon a sudden deceleration of the vehicle the eccentrically weighted rotary member is rotated to register the latch with the slot permitting the plunger and operator element to move to an operative position.

3,509,895
OXYGEN REGULATOR
John W. Henneman, Rock Island, Ill., assignor to The Bendix Corporation, a corporation of Delaware
Filed July 20, 1967, Ser. No. 654,760
Int. Cl. A62b 9/00
U.S. Cl. 137—81 11 Claims



Apparatus for controlling the flow of breathing oxygen and ambient air at changing altitudes having a proportioning member connecting an oxygen regulator valve and an ambient air regulator valve to provide fixed proportioning of ambient air and oxygen below a predetermined altitude. Above that altitude, the ambient air regulator valve is automatically closed to supply one hundred percent oxygen to the breathing apparatus at a given pressure schedule.

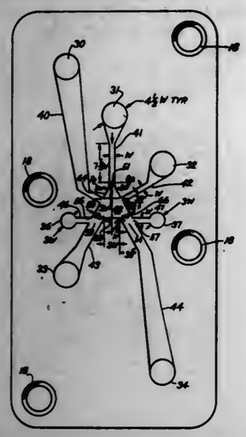
3,509,896
ELECTRO-THERMAL TRANSDUCER
Romald E. Bowles, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed July 7, 1964, Ser. No. 380,816
Int. Cl. F15c 1/08
U.S. Cl. 137—81.5 18 Claims



An analog fluidic amplifier includes a power nozzle for issuing a power stream of fluid, a pair of receivers for receiving the power stream and heat applying means for

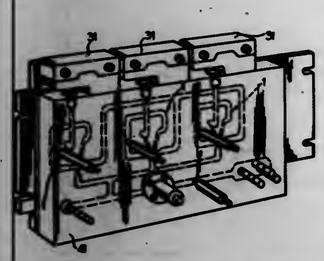
heating and increasing the specific volume of a portion of the fluid in the boundary layer of the power stream to cause the stream to be proportioned to one or another of the receivers as a function of the applied heat.

3,509,897
FLUIDIC LOGIC MEMORY ELEMENT
Joseph Abler, Cleveland, Ohio, assignor to The Aro Corporation, a corporation of Ohio
Filed May 5, 1967, Ser. No. 636,461
Int. Cl. F15c 1/06
U.S. Cl. 137—81.5 6 Claims



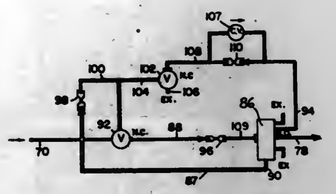
A fluidic memory (R-S) element with a power input and two output channels each diverging at 30° from the direction of the input channel. A vent control channel is associated with each output channel. The chamber formed at the junction of the channels has smooth, continuous walls leading from the input to the output channels. The output flow is dependent upon which input control channel was last pulsed.

3,509,898
FLUID AMPLIFIER
Michele Monge and Angelo Abbate Daga, Turin, Italy, assignors, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa.
Filed July 22, 1966, Ser. No. 567,238
Claims priority, application Italy, Aug. 3, 1965, 17,973/65
Int. Cl. F15c 1/10
U.S. Cl. 137—81.5 14 Claims



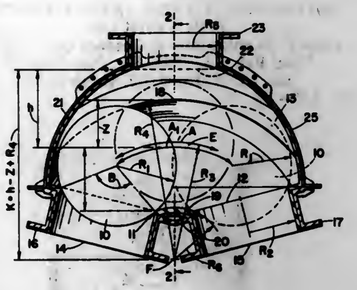
A fluid amplifier that provides a sensitive switching function including basically a planar fluidic amplifier having a supply passage that directs fluid selectively to first and second outlet passages, these passages being arranged so that the supply flow normally exits from the first outlet so that the device has monostable characteristics, there being provided a control passage for conveying control fluid which directs the supply fluid from the first passage to the second passage which is the passage conveying fluid to a load, the first outlet passage being directed back in opposed relation to the control fluid passage so that it in effect assists the monostable characteristics of the device and renders the device sensitive to a predetermined control pressure to switch from the first outlet passage to the second utilization outlet passage.

3,509,899
HEART AND LUNG RESUSCITATOR
Carl E. Hewson, 90 Myrtle St., Marshfield, Mass. 02171
Application Oct. 18, 1965, Ser. No. 497,211, now Patent No. 3,351,052, which is a continuation-in-part of application Ser. No. 277,169, May 1, 1963. Divided and this application Aug. 7, 1967, Ser. No. 668,732
Int. Cl. A61h 31/00
U.S. Cl. 137—87 8 Claims



A pneumatic pulse circuit having an oxygen inlet and outlet connected through a pneumatically operated valve which opens and closes sequentially to cause the outlet to discharge intermittently.

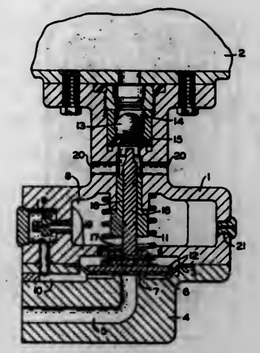
3,509,900
LARGE BALL CHECK VALVES
Norman A. Jull, Toronto, Ontario, Herbert A. McCracken, Brampton, Ontario, and James C. L. Graham, Don Mills, Ontario, Canada, assignors to The Technequip Company Limited, Weston, Ontario, Canada
Filed July 7, 1968, Ser. No. 744,241
Int. Cl. G05d 11/03; F16k 21/08; F16l 7/00
U.S. Cl. 137—112 5 Claims



The specification discloses relative proportions in a large ball check valve in industrial use which renders possible valve structures of effectively unlimited size having regard to circumstances where for a given increase

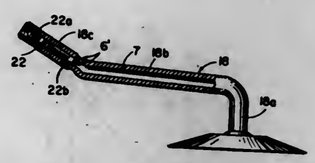
in valve opening diameter the area increases as the square of the diameter and the ball weight increases as the cube of the diameter. The control of the resulting forces is taught.

3,509,901
AUTOMATIC CYCLING DRAIN VALVE
Richard E. Hollibaugh, Murrysville, and William S. Johnston, Pittsburgh, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1967, Ser. No. 691,763
Int. Cl. F16t 1/14
U.S. Cl. 137—204 5 Claims



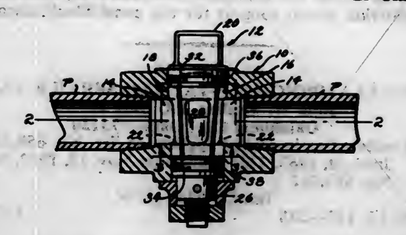
An automatically cycling drain valve device for periodically draining accumulated moisture condensation from a compressed air system, said drain valve device being operable responsively to air pressure in the system in excess of a certain degree for periodically opening and closing to permit moisture condensate to be expelled at preselected time intervals, independently of the governor means controlling compressor operation.

3,509,902
TIRE VALVE SUPPORT TUBE
Sepp Lutz, Giengen (Brenz), Germany, assignor to Alligator Ventilfabrik GmbH, Giengen (Brenz), Germany
Continuation of application Ser. No. 526,766, Feb. 11, 1966. This application Aug. 26, 1968, Ser. No. 755,458
Claims priority, application Germany, Mar. 4, 1965, 1,480,868
Int. Cl. F16k 15/20
U.S. Cl. 137—223 2 Claims



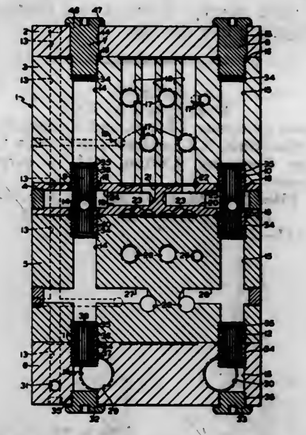
A valve shaft construction for a pneumatic tire valve comprises a tube which has a substantially uniform diameter bore which is unobstructed throughout its length. The tube is narrowed only in an area spaced from the inlet end in order to define an interior shoulder against which the valve casement abuts. The construction provides a simple manufacture and permits fast filling and discharge of fluids therethrough.

3,509,903
LUBRICATED ROTARY PLUG VALVE
Earl W. Lowe, Carl E. Flores, and Lawrence F. Lackenbill, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed July 17, 1968, Ser. No. 745,495
Int. Cl. F16k 5/22
U.S. Cl. 137—246.15 15 Claims



A rotary plug valve having a valve body member provided with a ported plug seat and a ported valve plug member rotatable in said seat for opening and closing the valve. The valve is provided with a closed lubricant system defined by at least one lubricant channel in one of the opposed surfaces of the seat and the plug member, the lubricant channel interrupting at least one packing groove provided on one of the opposed surfaces, the packing groove having a particular configuration which enables the closed lubricant system to be charged with a lubricant and the packing ring in the groove being uniformly deformed against the wall of the groove so as to reduce localized lubricant pressure loss and increase the effective capacity of the lubricant reservoir of the system.

3,509,904
PANEL BLOCK ASSEMBLY
Paul E. Olson, Lexington, Ky., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Dec. 26, 1967, Ser. No. 693,289
Int. Cl. F16l 39/00
U.S. Cl. 137—269 14 Claims



A panel block assembly in which a plurality of panel blocks, each having internally disposed longitudinal through passages, are disposed in longitudinal end-to-end engagement whereby the through passages in each block register with the corresponding through passages in each adjacent block so that the registered passages extending through the assembly of blocks comprises a piping system for a fluid pressure system, the

panel blocks being held in end-to-end fluid tight engagement by a plurality of externally threaded tubular connectors, each connector having the ends thereof oppositely threaded and screwed into a pair of correspondingly threaded ends of an axially registered pair of longitudinal through passages of adjacent panel blocks, thereby extending across the junction between the adjacent blocks to provide lateral support for the panel block assembly.

3,509,905

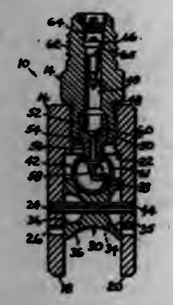
LINE CLAMPING SELF-TAPPING SERVICE VALVE

John W. Mullins, P.O. Box 20524, Oklahoma City, Okla. 73120

Continuation-in-part of application Ser. No. 650,322, June 30, 1967. This application Nov. 15, 1967, Ser. No. 683,382

Int. Cl. F16l 41/04

U.S. Cl. 137—318 1 Claim



A U-shaped member straddles a line to be tapped. The legs of the U-shaped member project beyond the line and are transversely drilled for receiving a pin which journals a cube-shaped block between the legs. Each face of the block is provided with a line receiving recess for use with a like plurality of different sizes of lines. The bight portion of the U-shaped member is centrally drilled and threaded perpendicular to the axis of the straddled line for threadedly receiving a centrally bored air valve core equipped valve housing having a line piercing core coaxially projecting into the line.

3,509,906

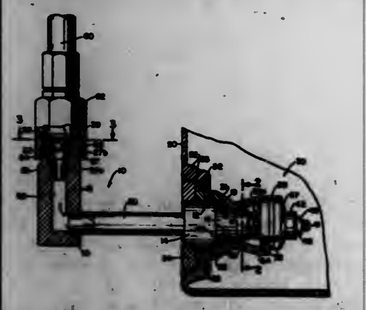
TAPPING FAUCET

R. Ellsworth Doremus, Clifton, and Richard E. Doremus, Upper Montclair, N.J., assignors to Golden Gate Manufacturing Company, Clifton, N.J., a corporation of New Jersey

Filed June 29, 1967, Ser. No. 650,124

Int. Cl. F16l 37/28; B67d 1/08

U.S. Cl. 137—323 9 Claims



A tapping faucet for emptying the contents of a keg including a tapping member for opening and closing a valve in the keg and an outlet member for connection to a hose which is in turn connected to a dispensing device. The tapping faucet includes an automatic shut-off valve for preventing fluid in the hose from draining out when the valve is disengaged from a keg.

3,509,907

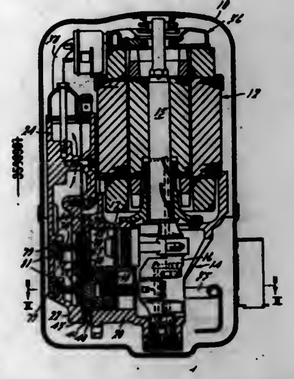
COMPRESSOR VALVING ASSEMBLY

Edwin L. Gannaway, Sidney, Ohio, assignor to Copeland Refrigeration Corporation, Sidney, Ohio, a corporation of Ohio

Filed Sept. 16, 1968, Ser. No. 762,175

Int. Cl. F04b 39/10, 35/04; F16k 17/26

U.S. Cl. 137—512 4 Claims



A refrigeration compressor of the reciprocating type having a head containing inlet and outlet passages has a laminated valve plate assembly located between the head and cylinder, with inlet valves working against the bottom of the plate assembly and discharge valves working against the top of the plate assembly, the valve plate assembly consisting of a lower section formed of molded material and a top section formed of machined steel, the sections being secured together and to the head and block by the head bolts with interposed gasketing.

3,509,908

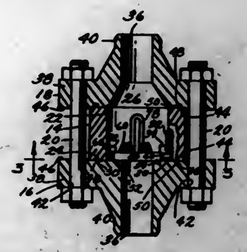
CHECK VALVE

Raymond E. Latham and Marvin L. Holbert, Jr., Houston, Tex., assignors to Gray Tool Company, Houston, Tex., a corporation of Texas

Filed Nov. 29, 1967, Ser. No. 686,434

Int. Cl. F16k 15/03

U.S. Cl. 137—527 14 Claims



A radially directed annular shoulder in the housing through passageway seats a flapper having opposed trunnions nearer one edge. The trunnions are received in sockets elongated axially to allow movement of the trunnions away from the seat. Springs received in the sockets urge the trunnions toward the seat. Another spring presses the flapper toward the seat. The cross-sectional area of the housing passageway at the immediately downstream of the flapper trunnions remains circular, but is larger in area to accommodate the fluid flow plus the volume of the flapper when the valve is open. As flow is directed against the flapper from the upstream side, the axial springs compress and the flapper moves off the seat. At the same time, the flow tends to rotate the flapper about the axis of the trunnions which are acting against the axial springs. When fully open, only a small portion of the edge of the flapper is exposed to the flowing media; hence, a low pressure drop is experienced.

3,509,909

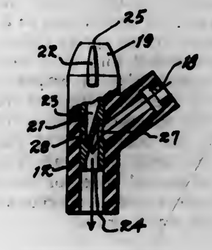
VACUUM VALVE

Charles E. Bender, New Paltz, Martin C. Parkinson, Hyde Park, and Douglas Franer, New Paltz, N.Y., assignors to The Virtis Company, Inc., Gardiner, N.Y., a corporation of New York

Continuation of application Ser. No. 430,524, Feb. 5, 1965. This application June 29, 1967, Ser. No. 650,134

Int. Cl. F16k 11/08

U.S. Cl. 137—565 3 Claims



A vacuum valve is shown having a body made entirely of resilient material. The body is provided with a longitudinal tube therewithin which is open at both ends thereof. A transverse tube is angularly disposed at an acute angle with respect to the lougitudinal tube and communicates therewith. The transverse tube is closed at one end thereof. A stopcock having a stem portion is rotatably movable within the longitudinal tube. The stem portion of the stopcock is open at both ends thereof. An obliquely disposed barrier member intervenes the ends of the stem of the stopcock. The stopcock also has a handle portion which overlies one end of the longitudinal tube. A pair of openings are provided which join the interior of the stem portion with the exterior thereof. These openings are disposed on opposite sides of the barrier member. The openings are selectively registerable with the transverse tube. A cut-out portion is disposed within the interior of the transverse tube spaced from the opening thereof. This cut-out portion is right angularly disposed with respect to the tube and is of larger diameter than the tube, extending outwardly on both sides thereof. The opening is adapted to hold the mouth of a closed container.

The opposite end of the longitudinal tube is adapted to be connected to a source of vacuum. Adjacent the handle portion of the stopcock upon the exterior of the longitudinal tube are indicating means showing the position that the openings within the stem portion of the stopcock assume.

The structure described above permits vacuum to be selectively applied to a container, the vacuum held, or the vacuum released depending upon the position that the stem portion of the stopcock assumes.

3,509,910

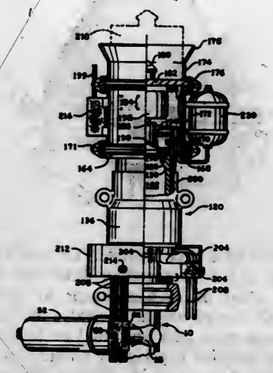
SUBMERGIBLE WELLHEAD VALVE AND CONTROL SYSTEM

Norman A. Nelson and Jerry B. Tomlin, Houston, Tex., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Oct. 16, 1968, Ser. No. 768,018

Int. Cl. F16k 31/42

U.S. Cl. 137—594 15 Claims



A submergible wellhead assembly having a plurality of valves each having a hydraulically energized valve operator for controlling the flow of fluid therethrough. The wellhead assembly includes a removable electrically energized hydraulic fluid power supply source, which forms the upper portion of the wellhead assembly and includes a collet connector for removable connection of the fluid power supply source to the wellhead body. Hydraulic power for actuation of the wellhead valve is supplied to the wellhead body from a self-contained electrically energized hydraulic supply system through the collet connection structure.

3,509,911

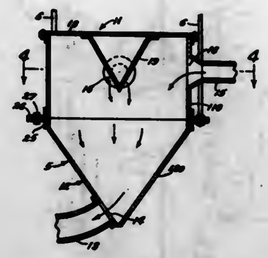
DUST COLLECTING PLENUM INSTALLATION

Eugene A. Carsey, Cincinnati, Ohio, assignor to The Kirk & Blum Manufacturing Co., Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 2, 1966, Ser. No. 576,951

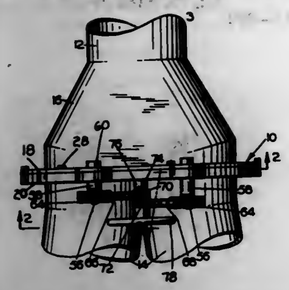
Int. Cl. B65g 53/00

U.S. Cl. 137—602 1 Claim



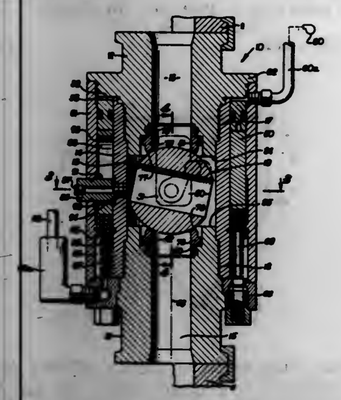
A circular dust collecting plenum adapted for permanent installation in a manufacturing area and having a variable number of dust feeder pipes radiating from its upper circular portion for connections with suitable, dust entraining hoods, and a main exhaust pipe connected to the restricted bottom of a lower inverted cone-shaped portion of the plenum, said main exhaust pipe being adapted to discharge into a cyclone dust separator.

3,509,912
VALVE
William E. James, 2005 NE. 51st Ave., Portland, Oreg. 97213
Filed Oct. 30, 1967, Ser. No. 678,903
Int. Cl. F17d 1/00
U.S. Cl. 137—610 8 Claims



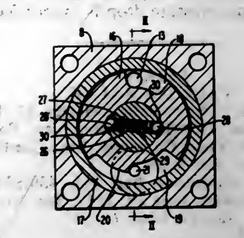
The valve is of a type intended for use with a pair of branch pipes and is arranged to direct the flow through one or the other of such pipes or to meter the flow simultaneously therethrough. The valve includes a housing having a single pipe inlet and dual or branch outlets. A platelike gate member is pivotally mounted in the housing to control the flow of fluid through the branch pipes. The gate has rack teeth on one end engageable by pinion wheels for driving it between valving positions. The side edges of the gate are tapered into knife edges, and furthermore such side edges have cut-out portions into which solids may move to allow pivotal adjustment of the gate member in valving operations thereof. The bottom edge of the outlets in the housing is slightly lower than the bottom edge of the inlet to cause a turbulence in the fluid passing through the housing, thus allowing only a minimum of solid or semi-solid material in the fluid from lodging in the housing.

3,509,913
ROTARY PLUG WELL SAFETY VALVE
George E. Lewis, Arcadia, Calif., assignor to Hydril Company, Los Angeles, Calif., a corporation of Ohio
Filed July 25, 1967, Ser. No. 655,804
Int. Cl. F16k 31/63
U.S. Cl. 137—614.11 9 Claims



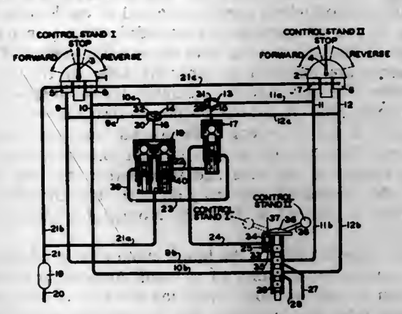
The disclosed well pipe safety valve concerns a flow controlling plug stopper rotatable in a body passage enlargement by a crank which is subject to turning by a pressure responsive actuator outside the passage enlargement.

3,509,914
CONTROL DEVICE, ESPECIALLY HEIGHT-CONTROL DEVICE FOR HYDROPNEUMATIC SPRING INSTALLATIONS WITH FLOW CONTROL
Fritz Naumann, Unterensingen, Kreis Nurtingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Apr. 12, 1968, Ser. No. 720,973
Claims priority, application Germany, Apr. 14, 1967, D 52,802
Int. Cl. F16k 11/10
U.S. Cl. 137—628 21 Claims



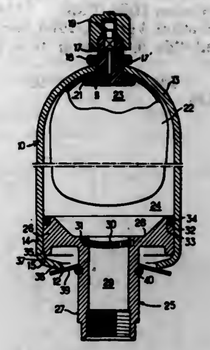
A control device, especially a height-control device for hydropneumatic spring systems in motor vehicles, which is equipped with connections to a pump, to a tank and to an oil space of the spring cylinder or the like, to be selectively connected with each other by the control device; more particularly, an excess pressure valve is provided between the connection of the pump and the connection of the oil space while a rotary valve is arranged between the connection of the pump and the connection of the tank; the rotary valve in its turn is provided with a control edge for controlling a further valve disposed between the connection of the tank and the connection of the oil space.

3,509,915
DUAL STATION FLUID SYSTEM CONTROL DEVICE WITH SAFETY INTERLOCK BETWEEN STATIONS
Erwin Janssen and Werner Olbrich, Hannover, Germany, assignors to Westinghouse Bremsen- und Apparatebau G.m.b.H., Hannover, Germany
Filed Aug. 16, 1967, Ser. No. 661,040
Claims priority, application Germany, Sept. 6, 1966, W 42,370
Int. Cl. F17d 3/00
U.S. Cl. 137—637 2 Claims



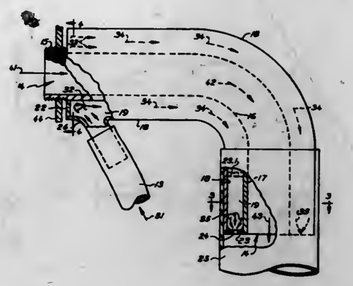
A valve device for transferring engine control from a first control device to a second control device is locked in position unless the second control device is positioned in the same engine control position as the first control device.

3,509,916
PRESSURE VESSEL
Jacques H. Mercier, 1199 Park Ave., New York, N.Y. 10028
Filed Feb. 14, 1968, Ser. No. 705,471
Claims priority, application France, Feb. 24, 1967, 96,337
Int. Cl. F16l 55/04
U.S. Cl. 138—30 11 Claims



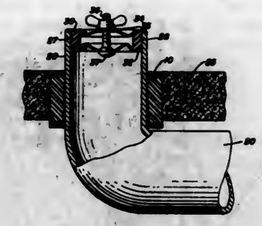
The invention relates to a pressure vessel comprising a container of rigid material having a cylindrical portion at one end with an inwardly extending annular flange, the junction between the flange and the cylindrical portion being curved and a closure plate in said container having a peripheral rim on its outer surface having a radius of curvature less than that of said junction so as to engage the curved portion of said junction at the root end of the flange to minimize the forces against the flange that would tend to move the latter outwardly.

3,509,917
EXHAUST ANTIFREEZE STRUCTURE FOR PNEUMATICALLY POWERED APPARATUS
Albert J. Gartner, Westview, Texada Island, British Columbia, Canada, assignor to Kal-Pac Engineering Ltd., Kilkenny, North Vancouver, British Columbia, Canada, a corporation of Canada
Filed Mar. 25, 1968, Ser. No. 715,772
Int. Cl. E03b 7/12; F16l 53/00
U.S. Cl. 138—32 17 Claims



For a pneumatic percussion drill, an exhaust antifreeze apparatus. An exhaust pipe in the exhaust port with a surrounding water jacket. Water, flowing into the jacket preventing condensate freezing at the port and pipe, discharged through perforated outer end. Silencing by adding flexible exhaust extension.

3,509,918
FLANGE SPACERS
William A. Muzinich, 106 Reservoir Road, San Rafael, Calif. 94901
Filed Mar. 29, 1968, Ser. No. 717,261
Int. Cl. F16l 5/00
U.S. Cl. 138—178 4 Claims

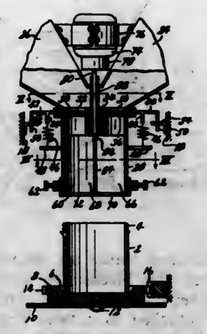


An easily frangible flange spacer for soil pipe is formed as a collar of foamed plastic.

3,509,919
PRODUCTION OF A PHARMACEUTICALLY ACCEPTABLE SALINE SOLUTION CONTAINING A RADIOACTIVE GAS AND USE THEREOF
Roy S. Tilbury, Monroe, N.Y., and Henry H. Kramer, Mahwah, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 9, 1967, Ser. No. 607,894
Int. Cl. B65b 1/04
U.S. Cl. 141—11 9 Claims

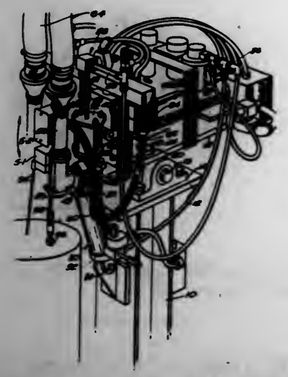
A process for production of saline solutions containing a radioactive gas by dissolving the gas in the saline solution in the absence of air.

3,509,920
APPARATUS FOR PRODUCING A DECORATIVE FOOD PACKAGE
Kenneth C. Word, 1701 Hillcrest Drive, Carthage, Mo. 64836
Filed Oct. 4, 1965, Ser. No. 492,770
Int. Cl. B65b 3/06
U.S. Cl. 141—100 3 Claims



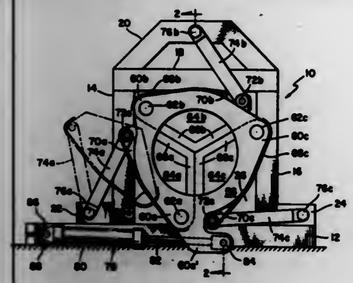
Flowable food materials of contrasting colors such as peanut butter and jelly are contained within separate hoppers. The materials flow from the hoppers through metering valves, into a partitioned filling head, through an aperture plate, and into a rotating container.

3,509,921
FILLING APPARATUS FOR SLUSH-MOLDING
Jaroslav F. Adamik, Warren, R.I., assignor, by mesne assignments, to Marbill Company, Providence, R.I., a corporation of Rhode Island
Filed Feb. 8, 1967, Ser. No. 614,587
Int. Cl. B65b *1/30*; B65d *5/377*
U.S. Cl. 141—205 16 Claims



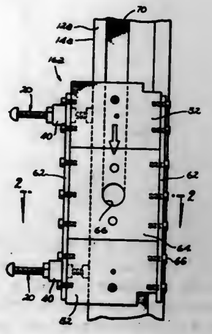
Filling apparatus having nozzles to which plastisol is gravitationally delivered, a valve in each nozzle, a trigger finger operable by contact with the mold into which the plastisol is to be discharged for opening the valve, a float for closing the valve when the plastisol reaches a predetermined level, brackets for detachably mounting the nozzles to enable substituting one set of nozzles for another, and power-operable means for moving the nozzles into and out of operative position above the molds.

3,509,922
THREE-BLADE SHEAR MECHANISM FOR CUTTING TREE-LENGTH LOGS INTO BOLTS
John P. Lundberg, Washburn, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed May 8, 1968, Ser. No. 728,382
Int. Cl. B27b *29/00*
U.S. Cl. 144—34 10 Claims



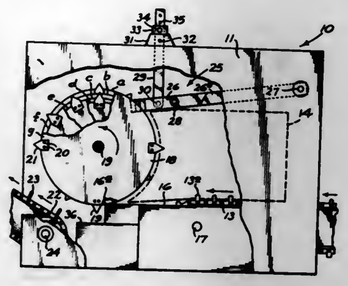
Three sector-shaped blades are provided with cooperable knife edges. The blades are mounted for pivotal movement in a vertical plane, one corner of each blade being pivotally attached to a twist ring member at angularly spaced locations of 120° from each other. The other corners of the blades are pivotally connected to elongated guide members so that when the ring member is oscillated or rotated in one direction, the blades are simultaneously forced inwardly toward each other to sever the bolt from a tree-length log and when the ring member is oscillated or rotated in an opposite direction, the blades are swung outwardly away from each other. A holding device comprised of sector-shaped clamping jaws is similarly constructed, the jaws being actuated inwardly in unison to whatever extent is necessary to hold the tree during the shearing operation performed by the trio of blades.

3,509,923
ROUTER GUIDE
Robert Bailey, 15340 Mayall St., Mission Hills, Calif. 91340
Original application Apr. 27, 1966, Ser. No. 545,655. Divided and this application July 10, 1968, Ser. No. 743,651
Int. Cl. B27f *5/02*
U.S. Cl. 144—136 2 Claims



The sliding router guide has a guide opening which is dimensioned to closely receive the routing tool and confine the tool against movement relative to the guide. Routing movement of the tool along the work surface is accomplished by bodily sliding the guide along the surface.

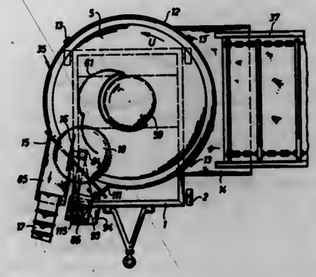
3,509,924
BALE-SHREDDING MACHINE
Marinus Newhouse, Jr., 1048 N. 6th St., Redmond, Oreg. 97756
Continuation-in-part of application Ser. No. 570,556, Aug. 5, 1966. This application Oct. 26, 1967, Ser. No. 681,307
Int. Cl. A01f *29/00*
U.S. Cl. 146—70.1 17 Claims



A machine for shredding bale material which may contain foreign matter including a chamber into which bales are fed, rotating cutters having cutterheads which move upwardly against the face of a bale advancing through the chamber, and an elongated hold-down assembly pivotally mounted in the chamber having an end positioned adjacent the cutters which is adapted yieldably

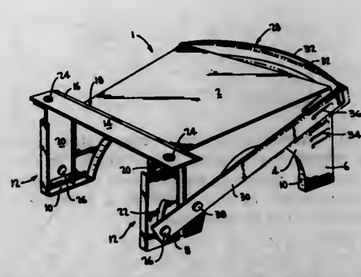
to press down against the top of a bale. A yieldable connector organization interconnects the hold-down assembly to the top of the chamber, and permits the hold-down to swing upwardly free of the top of a bale when predetermined upward pressure is applied against the assembly as by foreign matter in the bale. Shredded material is carried away from the chamber by means of a conveyer having its infeed end positioned adjacent the cutters.

3,509,925
APPARATUS FOR GRADUALLY BREAKING UP A HEAP OF CEREAL OR LEAF CROP
Ernst Weichel, Bahnhofstrasse 1, Heiningen, uber Goppingen, Germany
Continuation of application Ser. No. 635,481, May 2, 1967. This application Apr. 9, 1969, Ser. No. 830,169
Claims priority, application Germany, May 7, 1966, W 41,516
Int. Cl. A01d *55/00*; B23d *19/00*; B02c *11/04*
U.S. Cl. 146—105 31 Claims
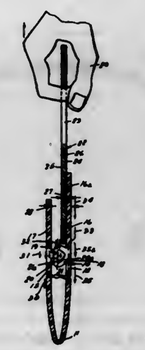


There is disclosed apparatus for breaking up a heap or mass of cereal or leaf crop, in which cutting means adjacent a window in a stationary container wall cuts a sliver from a heap or mass rotated on a turntable forming the base of the container and in which various means are provided for urging the heap or mass outwardly into the range of the cutting means.

3,509,926
SLICER
Nathan K. Morris, Neptune, N.J. (P.O. Box 543, Asbury Park, N.J. 07712)
Filed Apr. 19, 1968, Ser. No. 722,767
Int. Cl. B26d *4/00*
U.S. Cl. 146—171 4 Claims



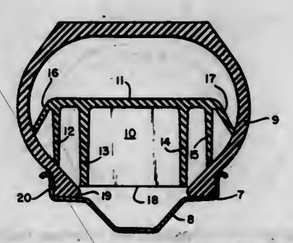
An improved slicer comprising a body which provides a platform and side supports, the side supports extending forwardly beyond the front edge of the platform and defining internal, vertically extending tracks. Support means for a blade are slidably secured in the vertically extending tracks such that the blade is adjustable in a vertical direction above the surface of the platform. Novel lever means are provided comprising a substantially U-shaped member, the leg portions of which are pivotally mounted in superposed relation to the side supports with the end of the leg portions being coupled with the blade support means. The base portion of the substantially U-shaped member comprising the lever means extends between the side supports and is in spaced relation to the rear edge of the platform. When adjustment of the blade height is desired, the base portion of the lever member is pressed thus elastically deforming the leg portions of the lever member allowing the lever member to pivot and thus move the blade to a new position.

3,509,927
BAG WITH CARRYING HANDLE
James R. Hasty, Piermont, and Steven Aussit, New York, N.Y.; said Hasty assignor to Minigrip, Inc., Orangeburg, N.Y., a corporation of New York
Filed Oct. 23, 1967, Ser. No. 677,445
Int. Cl. B65d *33/10*, *33/24*
U.S. Cl. 150—3 3 Claims



A flat bag of a relatively flexible thermoplastic material having pressure interlocking bag sealing rib and groove elements along the bag top with flanges above the interlocking elements, and a thin, flat, stiff bag carrying member attached to one of the flanges in a straight line holding the elements straight and carrying the weight and supporting the flexibility of the bag.

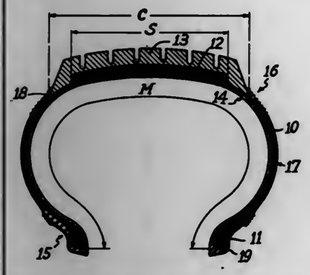
3,509,928
TUBELESS TIRE WITH SUPPLEMENTAL SUPPORT
Elie P. Aghnides, 795 5th Ave., New York, N.Y. 10021
Continuation-in-part of application Ser. No. 342,884, Feb. 6, 1964. This application Oct. 18, 1967, Ser. No. 676,200
Int. Cl. B60c *17/04*
U.S. Cl. 152—158 7 Claims



The disclosure relates to a tubeless tire and rim arrangement having an insert for the tubeless tire which is adapted to support the load in the event that the air leaks out

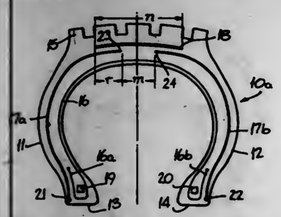
of the tire. The insert is formed of an elastic material of a generally annular configuration, with its inner wall contacting either the rim or the inner wall of the tire adjacent the bead thereof, and the insert may be provided with one or more webs formed of a material such as fiberglass or steel mesh which is embedded within the plastic material of the insert in order that it shall retain its shape and size when the tire rotates at high speeds.

3,509,929
RUBBER ENVELOPE FOR RADIAL CARCASS OF A PNEUMATIC TIRE
Emile Jean Delobelle, Colombes, France, assignor to Pneumatiques, Caoutchouc Manufacturing et Plastiques Kleber-Colombes, Colombes, France, a French body corporate
Filed Dec. 26, 1967, Ser. No. 693,437
Claims priority, application France, Dec. 29, 1966, 89,434
Int. Cl. B60c 9/02
U.S. Cl. 152—354 4 Claims



This invention relates to pneumatic tires of the type having a radial carcass and a breaker layer between a crown of the carcass and a tread thereof. The invention consists in the provision of an uninterrupted layer of rubber having a thickness which is substantially constant, said layer of rubber being continuously applied over the whole internal surface of the carcass around the beads and over the external surface of the flanks of the carcass up to the shoulders of the tire where it is connected to the side parts of the tread, the side edges of the layer of rubber stopping before the edges of the breaker layer.

3,509,930
PNEUMATIC TIRES
Henri Mirtain, Compiegne, France, assignor to Uniroyal, Englebert France S.A., Paris, France, a corporation of France
Filed Feb. 12, 1968, Ser. No. 704,754
Claims priority, application France, Mar. 14, 1967, 98,745
Int. Cl. B60r 5/00, 9/00, 11/00
U.S. Cl. 152—354 10 Claims



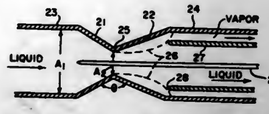
A radial ply tire construction wherein the carcass comprises a continuous radial inner ply structure and an outer ply structure which is discontinuous in the crown region of the tire and the cords or cables of which have a lower coefficient of elongation than the cords of the inner ply structure. The sections of the outer ply structure terminate beneath the breaker structure at respective distances in from the opposite edges of the latter ranging from about ⅛ to not more than ½ the width of the breaker structure. The cords or cables in the sections of the outer ply structure are preferably also substantially radially oriented, but may be non-radially inclined at an angle ranging from about −45° to +45° to the radial direction in one of the sections of the outer ply structure.

3,509,931
FIBER REINFORCING BELT FOR VEHICLE TIRES
Gerhard Eckelt, Hannover, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Oct. 5, 1965, Ser. No. 493,210
Int. Cl. B60c 9/18; B29h 17/28
U.S. Cl. 152—359 5 Claims



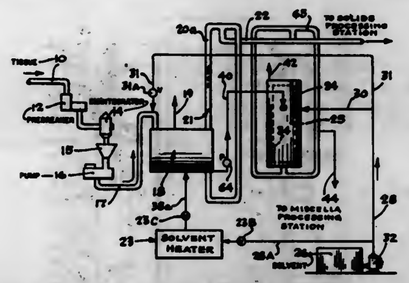
Rayon fiber belt embedded radially inwardly from tread of a resilient tire body resistant against upsetting with less tread wear. Each fiber of rayon material has an irregular cross-sectional area planimetered by a circumscribing circle of a diameter ranging between 35 and 100μ. Fiber particularly of rayon has hooked, arcuate, or kidney shape in cross section for interlocking support of fibers providing eight-fold increase of buckling stress without materially affecting flexibility thereof. Individual fibers are rayon cord in the tire belt and specifically have a titer 2000/3 grams/den.

3,509,932
FORCED CONVECTION SURFACE EVAPORATOR
John Chambers, Rte. 1, Box M41, Del Mar, Calif. 92014
Continuation-in-part of application Ser. No. 528,520, Feb. 18, 1966. This application Nov. 16, 1967, Ser. No. 683,666
Int. Cl. B01d 1/16
U.S. Cl. 159—2 9 Claims



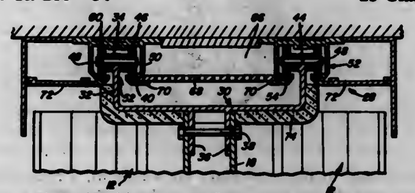
A forced convection surface evaporator comprises means for effecting a flow of heated liquid to be evaporated, means for initiating evaporation of the liquid by varying the pressure of the liquid in a direction transverse to the direction of flow and also in the direction of flow, said initiating means being capable of reducing the pressure of the liquid in the direction of flow to its vaporizing pressure. Means for maintaining the evaporating of the liquid thus initiated includes means for imparting turbulence to the liquid and thereby effecting a transfer of heat to the surface of the liquid. Also included are means for controlling the rate of evaporation from the surface of the liquid so as to permit expansion of the vapor while preventing nucleate boiling within the body of the liquid.

3,509,933
APPARATUS FOR RENDERING BIOLOGICAL TISSUES BY HEAT TRANSFER
Ezra Levin, Champaign, Ill., assignor to VioBin Industries, Inc., Champaign, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 408,231, Nov. 2, 1964. This application May 23, 1967, Ser. No. 640,523
Int. Cl. B01d 1/14
U.S. Cl. 159—16 6 Claims



Three separate apparatuses are disclosed herein for practicing methods of defatting and dehydrating wet animal tissue by heating the animal tissue in a fat solvent that forms with water an azeotrope having a boiling point lower than that of the solvent. Adherence of the particles to the apparatus is substantially reduced by heating of the slurry of fat, water, particles, solvent, and azeotrope by solvent vapor. The particles may be heavier than the solvent and are moved during heating along a path by mechanical means illustrated as a screw, drag or vaned rotor. Adherence of sticky wet particles to the structure defining the bottom of the path is substantially eliminated by defining the path bottom by a screen subjected to jets of solvent vapor and exposed to the mechanical means for moving the particles along the path. The particles are partially dehydrated in a first vessel of the type described above, called a primary cooker, and may be more fully dehydrated in a secondary cooker. In apparatus incorporating a vaned rotor substantially complete dehydration may be achieved in the first vessel.

3,509,934
TWO TRACK FOLDING DOOR CONSTRUCTION
Jay A. Smart, Salt Lake City, Utah, assignor to The Won-Door Corporation, a corporation of Utah
Filed Nov. 12, 1968, Ser. No. 775,045
Int. Cl. A47h 5/04; E06b 3/94
U.S. Cl. 160—84 15 Claims



An accordion type folding door comprising a pair of lead post interconnected sections, each of which is defined by a plurality of hinge interconnected panels, and an overhead support and control system therefor including two laterally spaced tracks and a lead post mounting roller assembly. The roller assembly includes two roller units for engagement in the two tracks, each unit comprising a plurality of rollers which are so orientated as to positively engage within the track for free non-twisting or binding movement therealong and in a manner whereby an off-center pull on the door will not affect the free rolling movement of the roller assembly along the tracks.

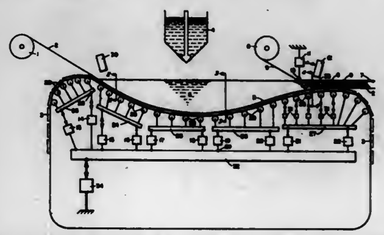
3,509,935
METHOD OF MAKING A REFRACTORY SHELL MOULD UTILIZING SILICATE ESTER BINDER COMPOSITIONS
Gordon Halsey, Oswestry, England, assignor to Monsanto Chemicals Limited, London, England, a British company
No Drawing. Original application Dec. 5, 1966, Ser. No. 598,907. Divided and this application Dec. 4, 1968, Ser. No. 794,463
Claims priority, application Great Britain, Dec. 7, 1965, 51,828/65
Int. Cl. B22d 9/04
U.S. Cl. 164—25 4 Claims

This invention relates to binding agents, for example to certain new binding agents comprising a hydrolyzed silicate ester useful in the production of refractory articles. The binding agent of the present invention is one which comprises a hydrolyzed organic silicate ester and a glycol soluble in the hydrolyzed ester. The invention also comprises a process for the production of a binding agent according to the invention, in which an organic silicate ester is hydrolyzed in the presence, at least in the last part of the hydrolysis reaction, of a glycol soluble in the hydrolyzed ester.

3,509,936
COATED ARTICLES AND METHOD OF REDUCING THE EROSION OF INGOT MOLD STOOLS
Joseph B. Kearfott, Lincoln Park, and Charles E. Baer, Jr., Birmingham, Mich., assignors, by direct and mesne assignments, to Nalco Chemical Company, Chicago, Ill.
No Drawing. Filed Feb. 28, 1964, Ser. No. 348,263
Int. Cl. B22c 3/00
U.S. Cl. 164—72 19 Claims

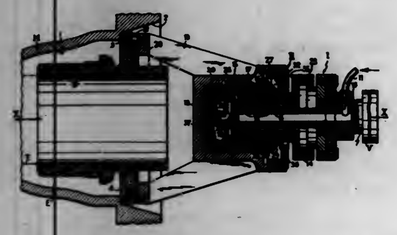
The base member or stool of a metal mold used to cast ingots is coated with a coating comprising a vitreous or fused silica refractory material suspended in a colloidal silica sol binder. The coating after being dried adheres to the base member and forms a protective coating which inhibits erosion of the base member while preventing sticking of the ingots to the base member upon ingot formation and permitting removal of the ingots from the molds without inclusions of the coating material.

3,509,937
CONTINUOUS HORIZONTAL CASTING
Frederick J. Radd, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Continuation-in-part of application Ser. No. 434,867, Feb. 24, 1965. This application June 2, 1967, Ser. No. 643,079
The portion of the term of the patent subsequent to Sept. 26, 1984, has been disclaimed
Int. Cl. B22d 11/06
U.S. Cl. 164—87 4 Claims



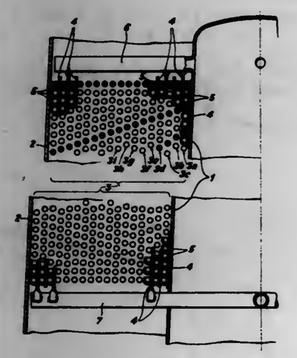
A process for continually casting fusible material into a horizontal sacrificial web is modified by removing a substantial portion of the melt superheat in a batch cooling prior to the continuous casting.

3,509,938
SUPPORT DEVICE FOR POSITIONING AND LOCKING A CORE OF A CENTRIFUGAL CASTING MOULD AND A CORE ADAPTED TO SAID DEVICE
Michel Pierrel, Pont-a-Mousson, France, assignor to Centre de Recherches de Pont-a-Mousson, Pont-a-Mousson, France, a French body corporate
Filed Oct. 4, 1967, Ser. No. 672,884
Claims priority, application France, Nov. 17, 1966, 83,938
Int. Cl. B22d 13/02; B28b 7/30
U.S. Cl. 164—392 14 Claims



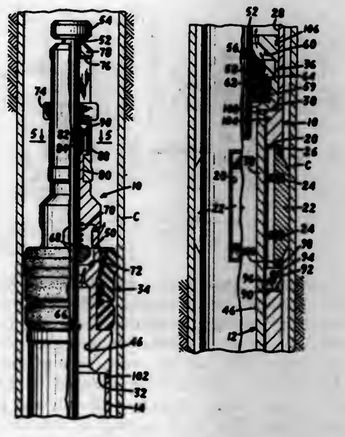
A device for placing in position and locking a core in a centrifugal casting mould, said device comprising a flexible assembly between a core-carrying rotatable part and a non-rotatable part connected to handling means, the rotatable part being combined with an axial thrust rolling bearing interposed, on the axis of rotation of the rotatable part, between the latter and the non-rotatable part and axial compression elastic means which act in opposition to the thrust bearing for maintaining the elements of the bearing in mutual contact.

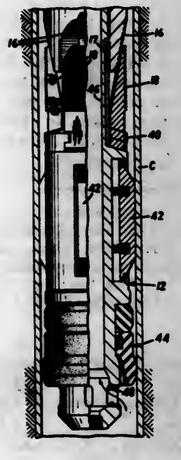
3,509,939
HEAT EXCHANGER FOR A STEAM RAISER WITH SUPPORT
Max Weber, Wiesendangen, Zurich, Switzerland, assignor to Sulzer Brothers, Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed Nov. 7, 1967, Ser. No. 681,182
Claims priority, application Switzerland, Nov. 11, 1966, 16,294/66
Int. Cl. F28d 7/00; F28f 9/00
U.S. Cl. 165—162 9 Claims



The heat exchanger is constructed with helically coiled tubular members of slightly conical shape disposed between a displacement member and a casing. A plurality of comb-like carrying rods support the tubes of the tubu- secured to the displacement member. The prongs of the carrying rods are bent about the coiled tubes of each tubular member.

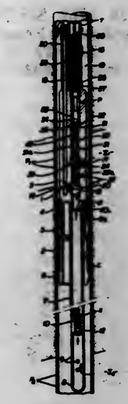
3,509,940
RETRIEVABLE WELL TOOL
David E. Young, Bellaire, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Oct. 30, 1968, Ser. No. 771,846
Int. Cl. E21b 23/00
U.S. Cl. 166—121 26 Claims





According to the exemplary embodiment, a retrievable bridge plug of the type adapted to be anchored in a well conduit against both upward and downward movement and to seal the well conduit against passage of fluids in either direction comprises an upper body and a lower body depending from the upper body and arranged for limited sliding movement thereon. The upper body carries an upwardly facing cup-type packing element and the lower body a downwardly facing cup-type packing element. Both bodies have friction drag capability so that they are substantially self-supporting in the well. Slips on the lower body coact with expander surfaces on the upper body to anchor the tool in the conduit, and a control system selectively permits or prevents relative movement of the upper and lower bodies to permit or prevent the setting of the slips. Although the tool has only a single expander and set of slips, it is capable of being anchored against movement in either direction by providing a hydraulically developed downward reaction force on the expander to react against differential pressure tending to push the lower body and slips upwardly. Valves operated by the control system are opened to bypass fluids and closed to bridge the conduit.

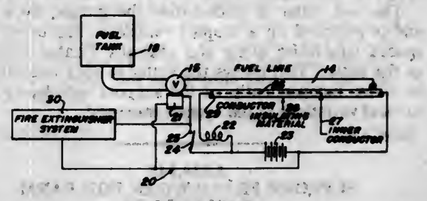
3,509,941
CONFLUENT PRODUCTION APPARATUS
Kurt Lestwyler and Earl W. Davis, Houston, Tex., and Waldo W. Hensley, Jr., Lafayette, La., assignors to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California
Filed Apr. 22, 1968, Ser. No. 723,007
Int. Cl. E21b 23/00
U.S. Cl. 166—149 32 Claims



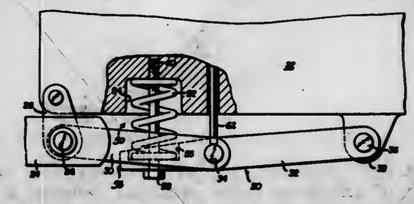
Apparatus for producing well fluid from a well traversing spaced producing earth zones, in which a tool assembly is disposed in the well casing between the zones and in sealing engagement with the well casing, the tool assembly having passages adapted to communicate with the respective zones, and a device being positionable in the tool for establishing communication between a production tubing string and either of the respective passages selectively, or both of said passages conjointly. Such apparatus wherein said device is removably connectible to a pump for enabling attachment of different devices for production of fluid from either of said zones selectively or from both of said zones conjointly. Such apparatus wherein said device is releasably latched in the tool and is retrievable on a wire line. Such apparatus wherein said device is carried by a pump and selectively positionable in the tool for enabling production of fluid from one of said zones or from both of said zones conjointly.

3,509,942
SYSTEM FOR DETECTING STRUCTURAL FAILURE
John E. Lindberg, 1211 Upper Happy Valley Road, Lafayette, Calif. 94549
Filed Aug. 15, 1966, Ser. No. 572,365
Int. Cl. A62c 35/12; F16k 17/36
U.S. Cl. 169—2 7 Claims

Shocks and stresses upon structure are detected by a sensor having an electrical conductor secured to the structure parallel to the longitudinal axis thereof. Excessive strain upon or breakage of the sensor opens an electrical circuit that then acts to produce remedial action.

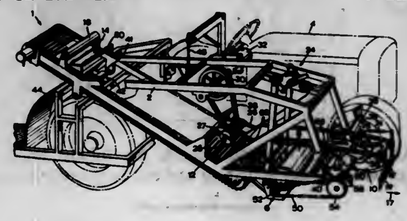


3,509,943
SENSING MECHANISM
Lewis G. Schowalter, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 7, 1968, Ser. No. 711,417
Int. Cl. A01b 63/112
U.S. Cl. 172—7 6 Claims



A draft sensing mechanism for sensing variations in draft load between an implement and a tractor. The sensing mechanism includes a toggle linkage interposed between the implement hitch and the tractor which is normally biased to a first position corresponding to a predetermined draft load on the implement. A follower member is connected to the toggle linkage to indicate changes in position thereof in response to changes in draft load on the implement. The linkage is normally biased to a first position by a spring with the first position being adjustable to accommodate changes in the predetermined draft load on the implement.

3,509,944
SOD CUTTING APPARATUS
Gerardus Johannes Brouwer, 599 Pearson St., and John Van Dyken and Klaas Oussoren, both of R.R. 2, all of Newmarket, Ontario, Canada
Filed June 27, 1966, Ser. No. 560,770
Int. Cl. A01b 45/04, 39/10
U.S. Cl. 172—19 7 Claims



A sod cutter having a vibrating sod undercutting blade. Several thin, flat guide strips, connected to the rear of the blade, extend rearwardly to the front end of a conveyor mounted behind the blade, to guide cut sod from the blade onto the conveyor. A cut-off blade, to cut sod to length, is periodically driven into the ground. A tiltable mounting permits the cut-off blade, as it is slowly raised

between strokes, to tilt rearwardly during times when it drags along the ground.

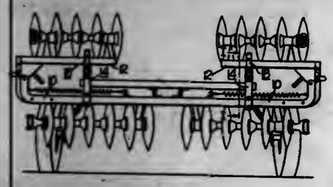
The sod cutter is guided over the ground by a roller and is mounted on a support vehicle at two pivot points spaced lengthwise along and centrally located widthwise of the cutter. This allows the cutter to rock laterally with its roller independently of the support vehicle, to adjust to local variations in the surface traversed.

3,509,945
SUPPORT FRAMEWORK FOR FARM IMPLEMENTS
Charles J. Vassberg, Rte. 1, Box 201, Lyford, Tex. 78569
Filed Mar. 9, 1967, Ser. No. 621,938
Int. Cl. A01b *69/00, 65/00*
U.S. Cl. 172—285 5 Claims



A farm implement, such as a two-way plow, has a pair of articulated beams permitting swinging of the implement-supporting beam to two operating positions extending in opposite directions at an angle to the path of travel of the implement. A hitch to the tractor controls the relationship of the line of draft to the tractor through a steering connection with a swiveled wheel assembly. The hitch includes not only a universal joint behind a tow bar but is provided with a coupling that slides freely along the tow bar, permitting sharp, virtual 90° turns without danger of the implement tipping over as would be true of conventional structures if not held to limited turning.

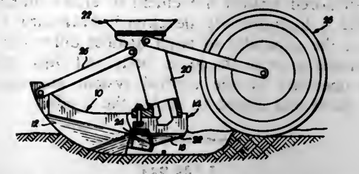
3,509,946
FOLDING IMPLEMENT GANG
Keith A. Wheeler, West Allis, Wis., assignor to Allis Chalmers, Milwaukee, Wis.
Filed Sept. 26, 1967, Ser. No. 670,700
Int. Cl. A01b *21/08, 33/16, 35/28*
U.S. Cl. 172—570 3 Claims



An improved transport latch for foldup implement gangs which is self-actuating and can be positively locked.

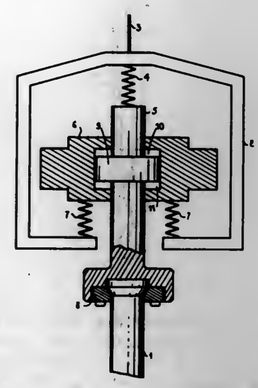
3,509,947
SEED PLANTER SHOE
David Garst, Coon Rapids, Iowa, assignor to Acra-Plant, Inc., Newton, Kans., a corporation of Kansas
Filed Aug. 7, 1967, Ser. No. 658,793
Int. Cl. A01b *39/20;* A01c *5/06*
U.S. Cl. 172—721 1 Claim

A seed planter shoe having a groove maintainer behind the groove former and comprised of a pair of spaced-apart, elongated slides. The lowermost edge of one of the slides is generally horizontal and the lowermost edge of



the other slide slopes upwardly and rearwardly whereby the edges diverge as the trailing ends of the slides are approached.

3,509,948
PILE DRIVING SYSTEM
Pierre Besnard, Paris, France, Assignor to Societe Generale du Vide (Sogev), Paris, France, a corporation of France
Filed Sept. 20, 1968, Ser. No. 761,066
Claims priority, application France, Sept. 28, 1967, 122,627
Int. Cl. E02d
U.S. Cl. 173—44 6 Claims

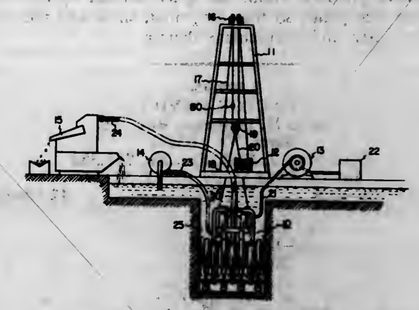


A housing, for example suspended on a crane or on pile driving guides, has a vibrator suspended therein by means of springs. The vibrator has an element movable in the direction to drive the pile and connect it thereto, as well as a reaction body. A first spring supports the reaction body within the housing and a second spring supports the housing on the movable element of the vibrating mass, so that the vibrating mass is low, while the static load of the weight of the entire vibrator and housing presses the pile to be driven into the soil.

3,509,949
EXCAVATION OF TRENCHES FOR BURIED WALLS
Fukuichi Kukihara, Tokyo-to, Japan, assignor to Kabushiki Kaisha Tone Boring, Tokyo-to, Japan, a joint-stock company of Japan
Filed Aug. 28, 1967, Ser. No. 663,615
Claims priority, application Japan, Nov. 9, 1966 (utility model), 41/102,977
Int. Cl. E02f *3/88*
U.S. Cl. 175—40 1 Claim

An excavator having a row of several drill bits provided with partly overlapping drilling paths, and in which some bits rotate counter to the others, is freely suspended

and lowered as it excavates a trench, with water being forcibly ejected through some of the bits to form mud



and thereby facilitate drilling, and the resulting mud being drawn through the other bits for removal.

3,509,950
WELL DRILLING MUD AND SCREEN COMPOSITION AND METHOD OF USE THEREOF
Raphael G. Kazmann, 611 College Hill Drive, Baton Rouge, La. 70808, and John A. McEntire III, 5806 Hawthorne Blvd., Little Rock, Ark. 72207
No Drawing. Filed Mar. 27, 1968, Ser. No. 716,330
Int. Cl. E21b *21/04;* C10m *3/14*
U.S. Cl. 175—65 7 Claims

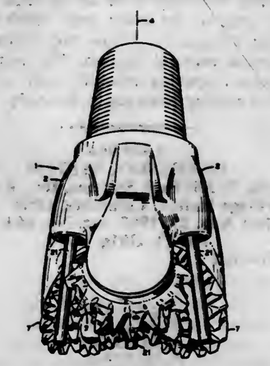
A screen composition of sand and epoxy resin permeable to water, oil, and other fluids for use in wells. The composition may be used generally as a filter or as a construction material. In the well drilling process a special drilling material of an organic gum and enzyme is employed after drilling with conventional drilling muds. The highly thixotropic organic gum and enzyme material breaks down to a very low viscosity fluid obviating the plugging of the screen with mud, which would be encountered using conventional drilling fluids.

3,509,951
METHOD OF PREVENTING DRILLING FLUID LOSS DURING WELL DRILLING
Tom W. Enochs, Midland, Tex., assignor to Specialty Research & Sales, Inc., Midland, Tex., a corporation of Texas
Continuation of application Ser. No. 527,227, Feb. 14, 1966. This application Aug. 11, 1967, Ser. No. 659,984
Int. Cl. E21b *21/04*
U.S. Cl. 175—70 11 Claims



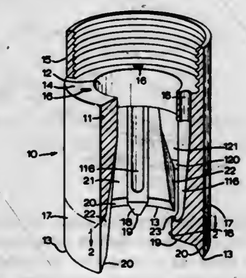
A wax emulsion is used to control loss of the drilling fluid while drilling wells. The wax emulsion is so formulated that the wax remains in emulsion with the drilling fluid during the time it is pumped through the drill stem and the nozzles of the drill bit, but that it is sheared or broken out of the emulsion as soon as the drilling fluid enters into a porous underground strata.

3,509,952
PASSAGEWAY EXTENSION FOR DRILLING TOOLS
Edward M. Galle, Houston, Tex., assignor to Hughes Tool Company, Houston, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 588,458, Oct. 21, 1966. This application Dec. 11, 1968, Ser. No. 798,840
Int. Cl. E21b *9/08*
U.S. Cl. 175—339 19 Claims



Discloses a passageway extension in the form of a flexible conduit attached to and depending from the exit orifice of a drilling fluid passageway of a jet rock bit. The object is to conserve the energy of the fluid stream until it impinges on the bottom of the hole, and accordingly the flexible conduit is extended quite close to the bottom of the hole, as close as ¼ inch. The conduit preferably has a uniform bore equal in size to the exit orifice of the jet nozzle to which it is attached, as a sealed and coaxial extension, both to avoid turbulence and minimize the downward force on the extension. Flexible materials such as rubbers and resilient plastics are used so that the conduit will give way to rock shelves and large rock cuttings, but will thereafter snap back to its original form and position. The conduit is disposed below the nozzle rather than the reverse to insure that destruction of the conduit will not cause loss of the nozzle.

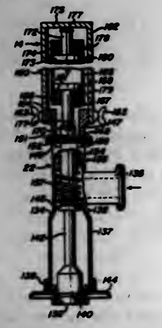
3,509,953
SPADE BIT
Norman Donald Becker, Calgary, Alberta, Canada, assignor to Becker Drilling (Alberta) Limited, Calgary, Alberta, Canada, a Canadian company
Filed May 7, 1968, Ser. No. 727,209
Int. Cl. E21c *13/02*
U.S. Cl. 175—405 11 Claims



An annular bit for percussion drilling of earth formations having fluid guiding passages. Sectoral portions of

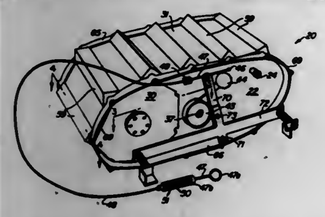
the depending wall of the bit body are elongated downwardly and spaced equiangularly about the body and terminating in lower bevelled cutting margins. Intermediate sectoral portions of the bit body terminate in bevelled cutting margins which are axially spaced above the lower cutting margins. The sectoral portions of the body have inclined surfaces and are tapered in radial thickness from the central passage to the bevelled cutting margins. Each elongated sectoral portion has an upright projecting tooth extending inwardly from the inclined surfaces and has a chisel edge at the lower end, which is above the lower cutting margin but below the cutting margin of the intermediate sectoral portion. The teeth have fluid guiding passages opening inwardly and communicating with the fluid guiding passages in the body.

3,509,954
DISPENSING SYSTEM
John Sramcik, % Fill Pack Systems, Inc., P.O. Box 5096, Tri-Village Station, Columbus, Ohio 43212
Filed Aug. 29, 1967, Ser. No. 664,143
Int. Cl. G01g 13/02
U.S. Cl. 177—122 5 Claims



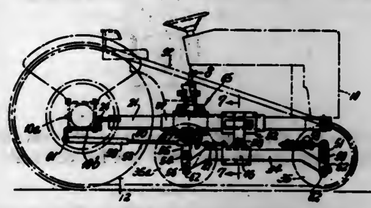
An automatic dispensing system for liquid material wherein the flow of material into a container is controlled in response to the weight thereof. The system includes an improved weight sensor and a dual rate fill valve which automatically moves to a restricted position for limited flow when the container is almost full.

3,509,955
PROPULSION UNIT
William H. Lichfield, Cortaine, Utah, assignor to Troy A. Ray, Las Vegas, Nev.
Filed Nov. 24, 1967, Ser. No. 685,571
Int. Cl. B62m 27/02, 29/00
U.S. Cl. 180—5 14 Claims



A small, self-contained, endless track-type propulsion unit having a cover plate to deflect dirt, water, etc., and to alternatively serve as a skid for the propulsion unit. The power unit for the overall propulsion unit includes side plates, structurally interconnected by a gas tank, and an endless belt bridging and guided by the side plates and having traction cleats thereon. The motor for the power unit is positioned between the side plates, within the endless belt, and it drives the belt while creating a positive pressure within the space defined by the belt and the side plates so that dirt, mud, snow and the like cannot enter and accumulate therein.

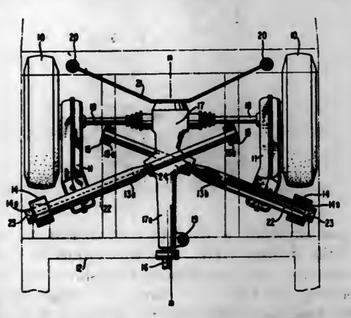
3,509,956
TRACTOR DEVICE
Conrad H. Dufresne, Box 315, Barre, Vt. 05641
Filed Mar. 7, 1968, Ser. No. 711,303
Int. Cl. B62d 55/04, 55/12, 35/24
U.S. Cl. 180—9.5 12 Claims



A tractor which has been converted from a four wheel device to an endless track type in which a supporting frame which is pivoted to the rear axle housing is provided and has a construction which is readily adaptable to accommodate tractors having main frames of different lengths and widths so as to properly locate the supporting wheels in the required position. The rear supporting wheels are controlled in their movement and a stabilizing means is disposed between the main frame and supporting frame to resist torsion in the supporting frame.

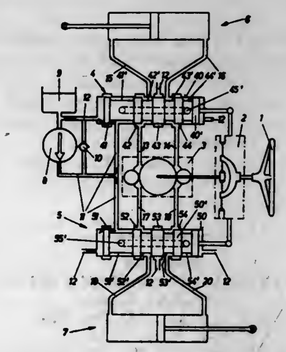
Also, the treads of the endless track have a centrally disposed inner channel for cooperating with the periphery of the supporting wheels to prevent lateral movement of the treads thereon, some of the treads also having inner driving members located adjacent the sides of said channel to assist the sides of the channel in their function and at the same time provide driving means cooperating with the rear wheels to operate the endless track.

3,509,957
AXLE SUSPENSION FOR MOTOR VEHICLES WITH WHEELS SUPPORTED ON INCLINED GUIDE MEMBERS
Friedrich H. van Wheesen, Kirchheim, Teck, and Erwin Loffler, Fellbach, Wurttemberg, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Sept. 29, 1967, Ser. No. 671,732
Claims priority, application Germany, Oct. 1, 1966, D 51,222
Int. Cl. B60k 17/00
U.S. Cl. 180—73 29 Claims



An axle suspension for motor vehicles with wheels supported on inclined guide members, in which the inclined guide members are supported at the vehicle body or frame on a wide base by means of intersecting bearing axles, one bearing support for each bearing axle being arranged near the wheel and the other beyond the vertical longitudinal center plane of the vehicle as viewed from a respective wheel. The bearing axles are preferably constructed as hollow tubular elements offset in opposite directions within the area of the axle gear housing and accommodating over at least a portion of their extent, torsion rod springs for the spring support of the wheels.

3,509,958
POWER STEERING APPARATUS, ESPECIALLY FOR MOTOR VEHICLES
Armin Lang, Schwabisch, Gmund, Germany, assignor to Zahnradfabrik Friedrichshafen, Aktiengesellschaft, Friedrichshafen, Germany, a corporation of Germany
Filed Oct. 9, 1967, Ser. No. 673,757
Claims priority, application Germany, Oct. 18, 1966, Z 12,480
Int. Cl. B62d 5/08
U.S. Cl. 180—79.2 11 Claims



The invention relates to power steering mechanisms for motor vehicles which use oil pressure for actuating double acting cylinder servo motors of conventional double ended construction. The principal feature of the invention is the provision of a pair of small cylinders to effect power steering instead of a single large cylinder; either cylinder can produce the necessary steering force in the event of failure of the other cylinder. Normally both cylinders are operative; in the event, however, that there is a break in a pressure conduit or other occurrence whereby one cylinder loses its thrust effect, an increased oil pressure is exerted in the other cylinder so as to compensate for the loss of booster effect of the one cylinder.

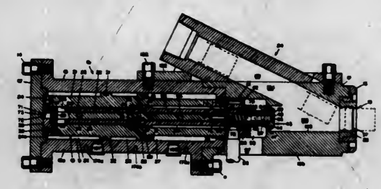
3,509,959
UNDERWATER SEISMIC EXPLORATION SYSTEM AND FIRING DEVICE AND CHARGE THEREFOR
Homer L. Fitch, Mount Arlington, N.J., and Richard G. Guenter and Hugo Schlatter, Wilmington, Del., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Apr. 29, 1968, Ser. No. 724,942
Int. Cl. G01v 1/12, 1/13, 1/38
U.S. Cl. 181—.5 29 Claims

The invention provides:

(1) A marine seismic system, in which explosively operated charges are initiated at a submersed firing station and then allowed to travel from the firing station for detonation outside the system;

(2) A firing mechanism as a now preferred firing station (per se, and also as a component of the above system) containing a combination of piston and muzzle structure for sequentially receiving, emplacing and initiating percussion initiatable seismic charges and then ejecting the initiated charges for detonation outside mechanism. Single, double and triple piston assemblies are disclosed;

(3) A marine seismic method including the steps of submersing a firing station, transporting charges to, and initiating them in, the firing station, and allowing the initiated charges to travel from the firing station for detonation;

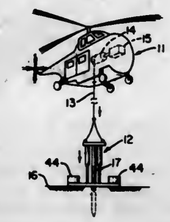


(4) A seismic cartridge unit, including booster well and seismic charge, having an external configuration for adaptation in the above firing mechanism; and,

(5) A complete seismic cartridge assembly comprising the above cartridge unit, and additionally, a percussion initiatable primer device, with delay fuse and with the explosive charge preferably of the NCN type.

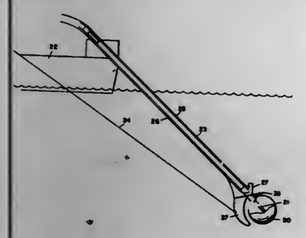
Preferred embodiments utilize ejector means coupled to initiator means, for ejecting the initiated charges from the firing station for detonation; and, preferably, the system is applied to utilization of percussion initiatable NCN type charges containing a delay fuse in the primer element to delay the detonation until after the initiated charge is delivered from the system.

3,509,960
METHOD AND APPARATUS FOR AIRBORNE SEISMIC EXPLORATION
Ferris F. Hamilton, 320 High St., Denver, Colo. 80218
Filed June 20, 1968, Ser. No. 738,572
Int. Cl. G01v 1/02
U.S. Cl. 181—.5 6 Claims



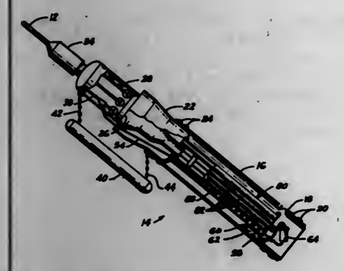
In a method and apparatus for seismic operation, a seismic energy source is constructed and arranged to be supported in a depending manner from a cable carried by a helicopter and is gradually lowered to rest on the earth's surface at each selected location while the helicopter hovers above. Means are provided for positively anchoring the seismic energy source to the earth's surface in order to impart a seismic input into the earth and is activated by remote control from the helicopter. Following each seismic input, the anchor is removed and the source is lifted and flown to the next location where the procedure is repeated.

3,509,961
UNDERWATER SEISMIC EXPLORATION
Homer L. Fitch, Mount Arlington, N.J., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 665,075, Sept. 1, 1967. This application Oct. 30, 1968, Ser. No. 773,371
Int. Cl. G01v 1/38, 1/12
U.S. Cl. 181—.5 6 Claims



A system for underwater seismic exploration in which a liquid-containing, expandable and contractable container disposed in water has an explosive charge detonated therein whereby the primary explosive pulse is enhanced and the secondary pulsations decreased to give an improved source of seismic waves.

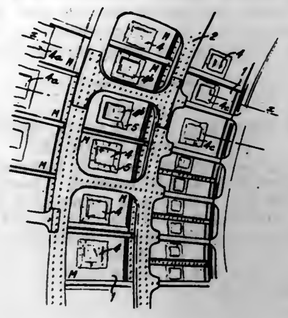
3,509,962
GAS EXPLODER WITH ATOMIZER LIQUID EXTRACTOR
James R. Barnett, Grenada, Miss., assignor to Western Geophysical Company of America, Houston, Tex., a corporation of Delaware
Filed Apr. 7, 1969, Ser. No. 814,090
Int. Cl. G01v 1/06; H04v 23/00
U.S. Cl. 181—.5 11 Claims



A seismic gas exploder having a combustion chamber for receiving a mixture of combustible gases and an atomizer liquid extractor coupled thereto for automatically extracting and carrying away the liquid products of condensation from each cycle of exploder operation.

3,509,963
PROCESS AND MATERIAL FOR SOUND PROOFING VEHICLES
Paul E. Deplante, Bordeaux-Cauderan, France, assignor to Avions Marcel Dassault, Saint-Cloud, Hauts-de-Seine, France
Filed Apr. 10, 1967, Ser. No. 629,719
Claims priority, application France, Apr. 29, 1966, 58,116
Int. Cl. E04b 1/86; B32b 7/00
U.S. Cl. 181—33 17 Claims

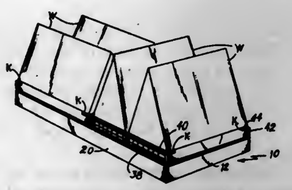
The present invention has for its main object a new method and system for reducing the acoustic penetration of a wall and, in particular, of the metallic or plastics wall of a conveyance having on its interior face (that is, the face remote from the main source of noise) a juxtaposed arrangement of equal or unequal panels bounded by the frame members of the body structure of said conveyance.



This method and system also makes possible the reduction of noise-propagation through the structure whereby a mechanical vibration transmitted to some point in the structure spreads along the entire length thereof, and, during its passage, vibrates all the panels of the covering that it encounters.

The invention has for another of its objects a general method and system of reducing transmission of noise through a composite wall.

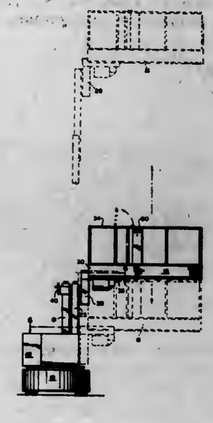
3,509,964
SOUND ABSORBING ASSEMBLY WITH AN INTEGRAL CAGE
Oliver C. Eckel, P.O. Box 226, Weston, Mass. 02138
Filed Feb. 24, 1969, Ser. No. 801,266
Int. Cl. E04b 1/84, 1/99, 5/57
U.S. Cl. 181—33 3 Claims



A sound absorbing assembly has one or more open-mesh metal cages each having an integral bottom, two oppositely disposed sides extending from the latter, each side having a tongue extending laterally into the interior of a vertical portion of a sound absorbing member.

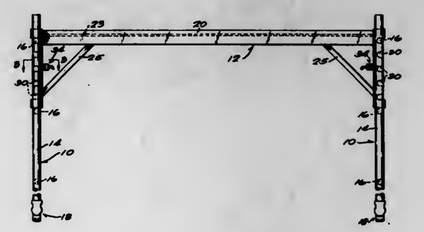
3,509,965
MOBILE OVERHEAD SERVICE UNIT
Maurice E. Mitchell, 9 Hickory Road, Muncie, Ind. 47303
Filed Sept. 13, 1968, Ser. No. 759,694
Int. Cl. E04g 1/22
U.S. Cl. 182—62.5 8 Claims

This compact overhead service unit has an elongated traversing work platform mounted on a lift mast carried, with a counter-balance, on a turntable in a self-propelled mobile base. The elongated platform has a centered travel position wherein it is lowered over the mast, which then projects through a trap door in the platform, in a highly compact arrangement for travel through restricted aisles and doorways under control of a workman on the lowered platform. Power is supplied from a battery mounted in counter-balance relation on the turntable. One lift cylinder raises the platform carrier to the top of the mast assembly. A second lift cylinder extends the mast to raise the platform to any level up to an extreme top position. Turntable rotation swings the platform continuously through



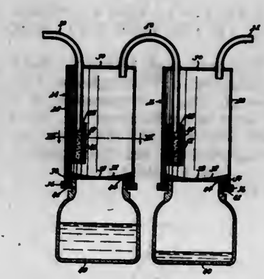
360° in either direction at any level. The platform can be traversed horizontally and radially outward to an extreme reach position in any direction at any level above the lowered mast, and in extended position can be lowered below the top of the mast and swung. The unit thus combines extreme travel compactness with versatile work positioning over a large swing area and great lift height from a stationary mobile base in a restricted area.

3,509,966
SCAFFOLD STRUCTURE
Richard L. Sarno, New Berlin, Wis., assignor to "Automatic" Sprinkler Corporation of America, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 14, 1968, Ser. No. 713,134
Int. Cl. E04g 1/20; E06c 7/16
U.S. Cl. 182—119 4 Claims



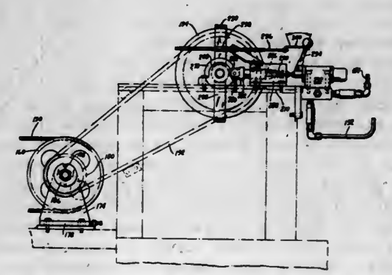
A scaffold structure having a pair of spaced end frames of conventional design. A pair of platform support assemblies are adjustably mounted on the end frames and adapted to support a platform member therebetween. Each support assembly is comprised of a horizontal platform support member having a pair of elongated connector members fastened to opposite ends thereof. Such connector members are provided with a plurality of vertically spaced notches positioned for engagement with the horizontal cross members of the end frames. The sides of the connector members together with a pair of slidable locking pins serve to securely hold the support assemblies on the end frames in any desired vertical position and further serve to facilitate easy adjustment of the platform from one vertical position to another.

3,509,967
SYSTEM FOR TREATING CRANKCASE VAPORS IN AUTOMOTIVE ENGINES
Paul K. Ballard, 3708 Haskell, Kansas City, Kans. 66104
Filed Oct. 24, 1967, Ser. No. 677,541
Int. Cl. F16n 39/06; F01m 1/10
U.S. Cl. 184—6 3 Claims



A system for treating crankcase vapors in automotive engines consisting of a conduit extending from the engine intake manifold to the crankcase, above the oil level in the latter, whereby crankcase vapors are drawn through said conduit by the engine intake vacuum, a cooling condenser and filter interposed in said conduit whereby the major portion of said vapors are reduced to liquid form and solid impurities are removed therefrom, and means for collecting said liquid and solid impurities for disposal, any remaining vapor being drawn into the engine for burning therein.

3,509,968
OVERSPEED CONTROL VALVE ASSEMBLY FOR A HYDROSTATIC ELEVATOR ENGINE
Charles E. Gregory, Anchorville, Mich., assignor to Jered Industries, Inc., Birmingham, Mich., a corporation of Michigan
Filed Mar. 1, 1968, Ser. No. 709,776
Int. Cl. B66b 11/04
U.S. Cl. 187—26 8 Claims



This specification describes a valve assembly for controlling the motion of a hydrostatic motor having a

pressure operated working piston. The valve assembly includes a working pressure source and a pressure distributor valve arrangement for controlling distribution of pressure from the pressure source to the working chamber of the hydrostatic engine on one side of the piston and for controlling communication between the other side of the piston and the exhaust region. When the rate of movement of the piston exceeds a calibrated limiting value, a speed sensitive valve operator triggers the operation of an overspeed valve device that distributes a correcting pressure to pilot elements in the control valve assembly thereby restoring the control valve assembly to a central or neutral position to interrupt the motion of the elevator platform. The interruption continues until the control valve system is manually reset.

3,509,969

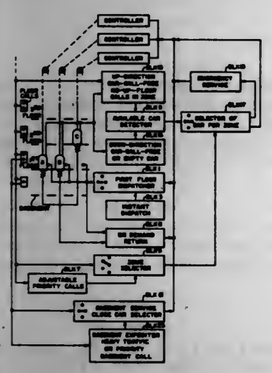
AVAILABLE CAR ELEVATOR CONTROL INCLUDING MEANS TO PROVIDE EXTENSION FLOOR SERVICE

John Sestero, Paramus, and Henry C. Savino, Hackinsack, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of applications Ser. No. 94,723, Mar. 10, 1961, and Ser. No. 110,464, May 16, 1961. This application Aug. 30, 1962, Ser. No. 220,522

Int. Cl. B66f 1/18

U.S. Cl. 187—29 24 Claims



1. In an elevator system for a structure having a plurality of vertically-spaced floors including a main floor, a plurality of intermediate floors above the main floor and an extension floor below the main floor, a plurality of elevator cars, door means for each of the elevator cars operable for opening and closing a doorway of the associated elevator car, means mounting the elevator cars for movement relative to the structure to serve the floors, down floor call registering means operable for registering a call for down elevator service from each of a plurality of said floors, up floor call registering means operable for registering a call for up elevator service from each of a plurality of said floors, car call registering means for each of the elevator cars operable for registering a call for each of a plurality of said floors which may be desired by load in the associated elevator car, and selecting means for selecting an available one of the elevator cars to provide down elevator service from one of said intermediate floors a first one of said elevator cars being available for selection by the selecting means while such car is adjacent an intermediate one of the floors while a call is registered by the up floor call registering means for a floor above such first elevator car, the selecting means comprising assigning means for assigning an available car selected by the selecting means to answer a call for service registered by one of the down floor call registering means at an intermediate one of the floors.

3,509,970

SAFETY DEVICE FOR ELEVATOR CARS

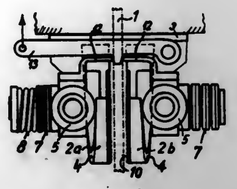
Rudolf Gabler, Heiden, Switzerland, assignor to Aufzuege AG Schaffhausen, Schaffhausen, Switzerland

Filed Feb. 23, 1968, Ser. No. 707,619

Claims priority, application Switzerland, Mar. 16, 1967, 3,798/67

Int. Cl. B66b 5/16

U.S. Cl. 187—90 13 Claims



A pair of rotatable brake pressure plates, when released, under spring force clamp the guide rail. Each plate incorporates a helical bearing surface borne upon by a roller, for increasing the clamping force as the plates rotate to a position in which their brake shoes grip the rail.

3,509,971

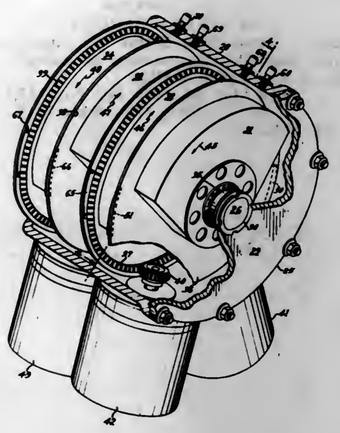
VIBRATION CONTROL SYSTEM

Milton I. Gerstine, Ardentown, Del., and John E. Burkam, Media, Pa., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Jan. 2, 1968, Ser. No. 695,251

Int. Cl. F16d 63/00

U.S. Cl. 188—1 11 Claims



A vibration control system for balancing out fuselage vibrations in one or two directions in one plane, which vibrations are caused by the rotating wing of an aircraft; the vibration control system having a force-producing mechanism of at least two pairs of counter-rotating weights driven by at least two AC asynchronous motors, with the motors being synchronously operated to revolve the weights at three times the angular velocity of the rotating wing by electronic motor control systems therefor. Each motor control system utilizes a common speed reference generator producing pulses having a given repetition rate and includes an electromagnetic pick-off for sensing the speed of the motor and producing pulses having a repetition rate which is a predetermined function of motor speed and equal to the given repetition rate of the speed reference generator when the weights are being rotated at three times the angular velocity of the rotating wing. Both pulse trains are fed to series-connected tunnel diodes forming a reversible register responsive to a difference in the number of the pulses received, the register having different operating potentials or states representative thereof for actuation of blocking oscillators when the register is in certain operative states. The oscillators then cause SCR switches to become actuated to couple the power supply to the motor for increasing the speed of the motor. When the register is in one of its inoperative states, the switches are not in their actuated condition and the motor is decoupled from the power supply, which causes the speed of the motor to decrease, the speed being further decreased by use of an eddy current brake. Another electromagnetic pick-off senses the position of the weight which gates a command signal from a vibration-sensing accelerometer, such signal being supplied to the register which responds thereto by shifting the state thereof to one or another operative state or to one or another inoperative state. Such a command signal either delays or speeds up the time when the switches would normally either couple or decouple the motor and power supply so as to either advance or retard the phase of the motor and ultimately cause a change in the angular position of the weight to appropriately oppose the vibrations on the fuselage.

3,509,972

BAND BRAKE

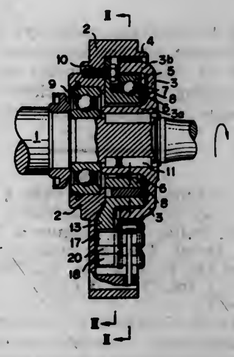
Masaharu Sumiyoshi and Hiroyoshi Kako, Toyota-shi, Japan, assignors to Toyota Jidosha Kogyo Kabushiki Kaisha, Aichi-ken, Japan, a corporation of Japan

Filed Nov. 12, 1968, Ser. No. 774,657

Claims priority, application Japan, Jan. 20, 1968, 43/3,160

Int. Cl. F16d 53/00

U.S. Cl. 188—77 1 Claim



The present invention provides a brake means comprising two brake bands, one of which being used for obtaining the initial brake power and the other being always used to increase the said initial brake power regardless of the rotational direction of the rotor by means principally of the combination of cam surface and balls or rollers.

3,509,973

ANTI-SQUEAL DISC BRAKING DEVICE

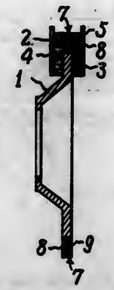
Shigehiro Kimata, Yokohama, Japan, assignor to Isuzu Motors Ltd., Shinagawa-ku, Tokyo, Japan

Filed Apr. 19, 1968, Ser. No. 722,785

Claims priority, application Japan, Apr. 28, 1967, 42/26,946

Int. Cl. F16d 65/12

U.S. Cl. 188—218 5 Claims



A breaking device with a braked member, in which a ring-shaped damping plate is circumferentially installed without metallurgical bonding for the prevention of resonance and squeal thereof.

3,509,974

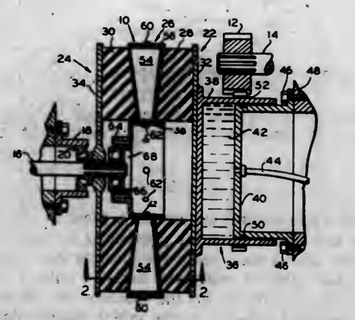
INTERNAL RESISTANCE ROLLER CLUTCH

Keith W. Kampert, Libertyville, and Kenneth E. Hontz, Streamwood, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Substituted for abandoned application Ser. No. 566,975, July 21, 1966. This application Oct. 1, 1968, Ser. No. 788,973

Int. Cl. F16d 25/00

U.S. Cl. 192—85 9 Claims



A clutch assembly having a power driven input plate and an output plate, a face of resilient material having high hysteresis characteristics bonded to the opposing surfaces of the plates, a roller means mounted between and engageable by the faces, and means for forcing the faces into engagement with the roller means.

3,509,975

CLUTCH AND TRANSMISSION ASSEMBLY

Dewey H. Long, Jr., Milwaukie, Oreg., assignor to Pettibone Mercury Corporation, Tualatin, Oreg., a corporation of Oregon

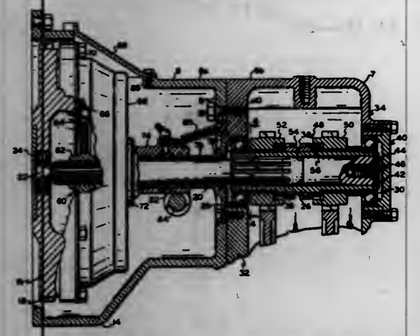
Filed May 31, 1968, Ser. No. 733,646

Int. Cl. F16d 67/00

U.S. Cl. 192—110 1 Claim

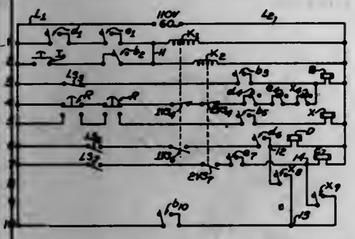
A clutch housing for a vehicle has a shaft therein supporting a clutch driven plate assembly. One end of the

shaft has journaled connection with a flywheel of the vehicle and a hub of the driven plate assembly has a splined connection with the shaft adjacent to the end at the flywheel. The other end of the shaft is received within a drive tube and has a splined connection therewith for



unitary rotation. The drive tube has rotatable support in the housing and has outer connecting means for driving output mechanism. The shaft is adjustable axially within the tube so as to be retracted from clutch mechanism to permit the latter to be removed radially from an access opening in the housing for repair.

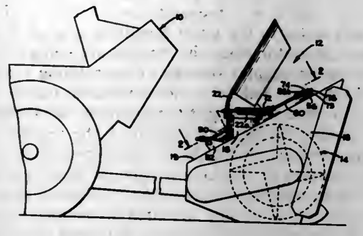
3,509,976
SINGLE CYCLE CONTROL SYSTEM WITH ANTI-REPEAT MEANS
George M. Ceon, Shaker Heights, Ohio, assignor to Textrol Inc., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 11, 1968, Ser. No. 766,869
Int. Cl. F16d 71/00, 67/04
U.S. Cl. 192—142 14 Claims



Single cycle control system for a press or the like having an anti-repeat relay for preventing a repeat cycle of operation and a start relay for starting each cycle. The anti-repeat relay is energized initially only if the start relay and valve relays for the machine are de-energized. Valve-operated switches in the initial energization circuit for the anti-repeat relay prevent it from being energized again if the valves for the brake and clutch on the machine do not close at the end of a cycle. The start relay is energized by operating run switches, provided the anti-repeat relay is energized then. Both the start relay and the anti-repeat relay must be energized to start the machine.

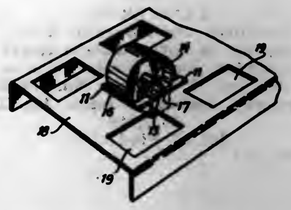
3,509,977
CHUTE CONTROL MECHANISM
Roger J. Bacon, Port Washington, Wis., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed May 1, 1967, Ser. No. 634,963
Int. Cl. B65g 11/00
U.S. Cl. 193—22 2 Claims

An upright, generally cylindrical discharge chute is rotatably mounted on the upper end of a tubular vertical conduit leading upwardly from the snow-gathering housing of a powered snow-removal unit of the type known as a snow-caster. The chute is locked on the conduit by a tubular cord that fits into concentric semi-



cylindrical grooves of the two members, and rotation of the chute relative to the conduit to vary directional orientation of the discharge opening at the upper end of the chute is controlled by a power-actuated lever which is connected to the chute by means of a cable.

3,509,978
CONVEYOR EQUIPMENT
Philip Bedford, Knutsford, England, assignor to Atlantic Conveying Equipment Limited, a corporation of the United Kingdom
Filed Sept. 27, 1967, Ser. No. 670,851
Claims priority, application Great Britain, Sept. 30, 1966, 43,715/66
Int. Cl. B65g 13/00
U.S. Cl. 193—35 10 Claims

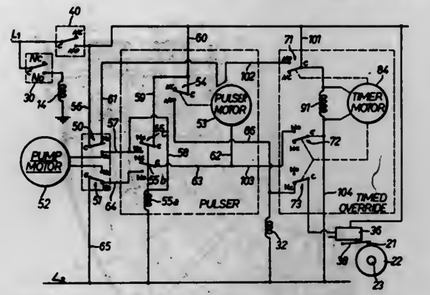


A gravity roller conveyor comprising a support surface having rectangular apertures into which either roller elements or retaining elements may be inserted to form a conveying surface. The elements are held in position by means of chip means associated with the elements.

3,509,979
COIN CONTROL SYSTEM FOR A LIQUID DISPENSING MACHINE
Russel W. New, Dallas, Tex., assignor to Meter-All Mfg. Co., Inc., Dallas, Tex., a corporation of Texas
Filed Jan. 25, 1968, Ser. No. 700,415
Int. Cl. G07f 15/00
U.S. Cl. 194—13 8 Claims

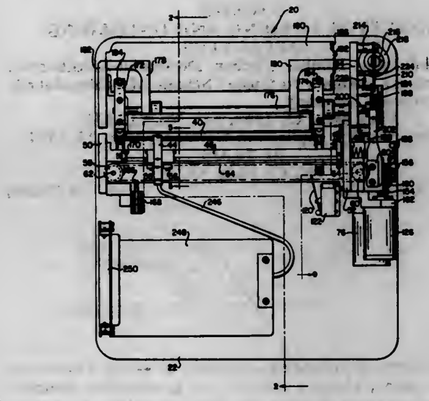
A control system is disclosed for unattended liquid dispensing machines, such as coin-operated gasoline pumps. The deposit of a coin actuates a stepper one or more times, depending upon the denomination of the coin, to establish a credit in the system. Establishing a credit connects power to the system. The system includes switches to supply power to the pump motor that are actuated by the purchaser, usually when he takes the hose nozzle from its support on the pump. As liquid is dispensed, its quantity is measured and for each amount dispensed that is the monetary equivalent of a unit of credit, a credit erasing stepper

is actuated to remove one unit of credit from the system. If the purchaser does not take all of the liquid he purchased, a pulsing circuit is provided in the system to actuate the credit erasing stepper a sufficient number of times to clear the system of credit and turn off the power, when the purchaser turns off the power to the pump, usually by



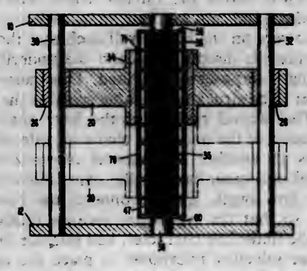
hanging up the hose. If the purchaser does not take all of his purchase and fails to turn off the power to the pump as for example, by failing to hang up the hose, a timer will energize the pulsing circuit after a given period of time, remove the credit, and cut off power to the system.

3,509,980
THERMAL PRINTER
Clark R. Loughry and Richard D. Joyce, Kettering, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Mar. 12, 1968, Ser. No. 712,545
Int. Cl. G01d 15/10
U.S. Cl. 197—1 7 Claims



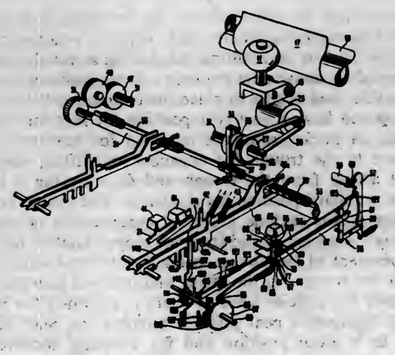
A compact thermal printer which operates on a low power input. A matrix-type print head is indexed along a print line in the printer by an endless belt, and the print head is slidably mounted on a guide bar member which pivots to force the print head into engagement with a thermally sensitive print medium located at the print line. After printing, the guide bar member pivots the head away from the print medium, and the print head is indexed to the next printing position to permit immediate viewing of the character printed. Transport means, including ratchet and pawl members, solenoid members, and an electric motor, utilize a small power input to index the print head and return it to the starting point at the print line.

3,509,981
MAGNETIC CONTROL APPARATUS FOR POSITIONING MACHINE ELEMENTS TO MULTIPLE OPERATING POSITIONS
John E. Hylan, Birmingham, Mich., and Allan F. Walter, Exton, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 7, 1967, Ser. No. 658,803
Int. Cl. B41j 19/00
U.S. Cl. 197—82 2 Claims



The control apparatus of the invention includes two magnets, one of which is fixed and the other movable. The movable magnet is mounted for controllably moving a machine element to a selected one of a plurality of positions at which a machine operation is to take place. At least one of the magnets is an electromagnet constructed of a plurality of individual interconnected coils, with each group of adjacent coils defining and associated with one of the machine operating positions. A switching means is operable for connecting at least a selected one of the coil groups to a source of electrical energy so that its resulting magnetic flux interacts with the magnetic flux of the other magnet whereby relative movement between the magnets results so that the machine element is moved by the movable magnet to a selected machine operating position.

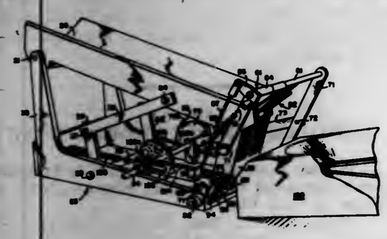
3,509,982
AUTOMATIC LETTER UNDERSCORING MECHANISM
Leon E. Palmer, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 14, 1968, Ser. No. 705,512
Int. Cl. B41j 29/26
U.S. Cl. 197—113 4 Claims



The automatic underlining of a character after it is typed is accomplished by the incremental rotation of a cam

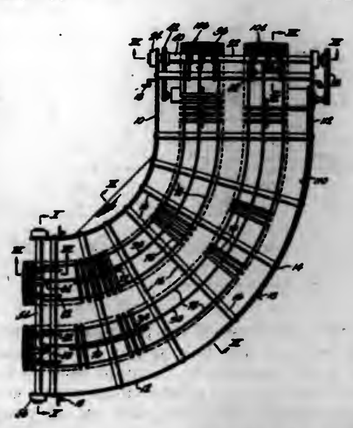
which moves a pair of cam followers. The first cam follower disconnects the escapement mechanism from the torque bar on alternate movements of the cam. The second cam follower activates the underline character selecting interposer on alternate movements of the cam. The cam is moved by a ratchet wheel and ratchet driver which is adapted to be driven by the cycling of the filter shaft. When the mechanism is placed in its operative mode by the locking-down of a control button, the cycling of the filter shaft during the normal operation initiated by the pressing of a character button moves the ratchet driver which causes the ratchet wheel and cam to rotate an increment and place the cam followers on the high dwell such that the escapement mechanism is disconnected and the underline character selecting interposer is activated. This causes underline character to be struck in the same space as the selected character. The second cycling of the filter shaft caused by the activation of the underline character selecting interposer results in another incremental movement of the ratchet wheel and cam, causing the cam followers to return to the low dwell. This reconnects the escapement mechanism, so that the typewriter escapes following the printing of the underline character, and releases the underline character selecting interposer to place the apparatus in condition to select and print the next character.

3,509,983
POCKET DISCHARGE ARTICLE BY ARTICLE FEED
Earl R. Anderson and Clifford E. Keesling, Los Gatos, Calif., assignors, by mesne assignments, to Brex Corporation, Los Gatos, Calif., a corporation of Nevada
Filed Jan. 29, 1968, Ser. No. 701,423
Int. Cl. B65g 47/78, 47/24
U.S. Cl. 198—26 10 Claims



An article by article feeder for handling field run of fruit and vegetable articles such as pears, peaches, onions and the like, as an abutting file, having a trough which is mounted for movement between a lower position in which an article feed occurs to place the endmost article against a stop and having an upper position for removal of such article. A pocket means is mounted for movement with respect to the trough for engaging and lifting said endmost article from the trough and for carrying it bodily to an outboard position for discharge. The trough and the pocket means include a slotted construction of each to enable movement to and from telescoped relation to insure engagement of the pocket means below the endmost article in the trough for the lifting and removal operation. An orienter for articles such as pears is provided for receiving a discharged pear and for aligning the pear with its axis in a given position and for effecting end-over-end positioning of pears which are positioned in the orienter with the stem end out of position after the orientation alignment thereof.

3,509,984
ARTICLE ORIENTING CONVEYOR
Robert W. Hartung and Clayton D. Huffman, Albion, Mich., assignors to Union Steel Products Company, Albion, Mich.
Filed May 6, 1968, Ser. No. 726,915
Int. Cl. B65g 47/24, 15/00, 17/00
U.S. Cl. 198—33 8 Claims



An article orienting conveyor consisting of two parallel and separate endless conveyor strands capable of being driven at different speeds wherein articles simultaneously supported upon and conveyed by both conveyor strands may be selectively oriented relative to the general direction of conveyor movement while being conveyed. Novel article engaging means are utilized to facilitate orientation and maintain uniformity and consistency of orientation.

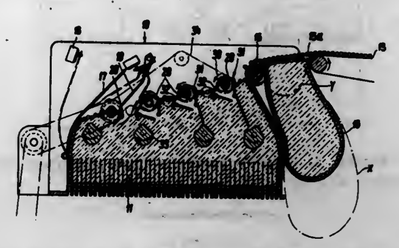
3,509,985
CONVEYOR LOADING AND UNLOADING APPARATUS
Gerhard Julius Konrad Fischer, Dortmund-Kirchhoerde, Germany, assignor to Gustav Schade Maschinenfabrik, Dortmund, Germany
Filed Mar. 15, 1968, Ser. No. 713,535
Claims priority, application Germany, Mar. 25, 1967, M 73,335
Int. Cl. B65g 65/28
U.S. Cl. 198—36 4 Claims



Loading and unloading apparatus in which a conveyor loader pivots about a central axis to distribute material circumferentially around the axis, including an articulated conveyor also pivotable about said axis arranged to pick-up the material and to discharge said material also at said central axis.

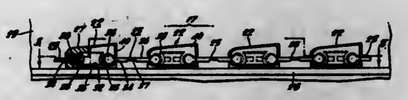
3,509,986
DEVICE FOR SUPPLYING CIGARETTES INTO A MAGAZINE OF A PACKING MACHINE
Heinz Focke, Siemensstrasse, 309 Verden, Germany
Filed Nov. 13, 1967, Ser. No. 682,236
Claims priority, application Germany, Nov. 12, 1966, F 50,657
Int. Cl. B65g 47/44
U.S. Cl. 198—69 12 Claims

A method of supplying cigarettes from a cigarette manufacturing machine or the like to a magazine of a packing machine to form groups of cigarettes comprises supplying the cigarettes without the use of trestle-like receptacles from said cigarette manufacturing machine to said magazine by means of a continuous conveyor means. The de-



vice for carrying out said method comprises a continuous conveyor means arranged between the cigarette manufacturing machine and the magazine directly to supply the cigarettes from the cigarette manufacturing machine into said magazine.

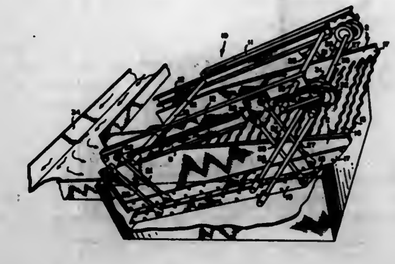
3,509,987
SLAT CONVEYOR ASSEMBLY
George Donald Flaith, Wyndmoor, and Edward M. Hyde, Lafayette Hill, Pa., assignors to Proctor & Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed May 8, 1968, Ser. No. 727,413
Int. Cl. B65g 15/52
U.S. Cl. 198—195 10 Claims



A slat conveyor assembly in which metallic slats are interconnected by plastic flexible hinges co-extensive in length with the slats. The slats have a central bore extending longitudinally therethrough and have open ended keyhole-shaped edge grooves extending longitudinally therealong to receive projecting key portions of the flexible hinges. The conveyor is adapted to travel between guide flanges on the head and tail rolls or oppositely disposed guide rails extending along the sides of the conveyor, and bumper elements are provided on each slat to retain the slats and hinges assembled and to slide against the associated guide member. The slats of the apron may provide a smooth supporting surface, a notched feeding surface, or a spiked feed surface.

3,509,988
SHUFFLE FEED MECHANISM
Traver J. Smith, San Jose, Calif., assignor of one-half to Genevieve I. Hanscom and one-half to Genevieve I. Hanscom, Robert Magnuson, and Lois J. Thomson (formerly Lois J. Duggan), as trustees of the estate of Roy M. Magnuson
Filed June 13, 1968, Ser. No. 736,794
Int. Cl. B65g 27/04
U.S. Cl. 198—219 5 Claims

A shuffle feed structure for feeding articles such as peach halves in parallel single files and for breaking up peach halves which have gotten cupped together similar to whole peaches. The shuffle feed members have a series of similar scalloped or curved recesses or pockets in the fruit advancing faces thereof and alternate shuffle feed members have these pockets offset laterally of the machine



to produce the separating action. Certain shuffle members have their fruit engaging corners cutaway as by beveling to perform the separating action.

3,509,989
COMBINATION PACKAGE
Yael R. Woll, Bedford, N.Y., assignor to New Directions Film Co., Inc., New York, N.Y., a corporation of New York
Filed Feb. 19, 1969, Ser. No. 800,590
Int. Cl. B65d 79/00
U.S. Cl. 206—48 7 Claims

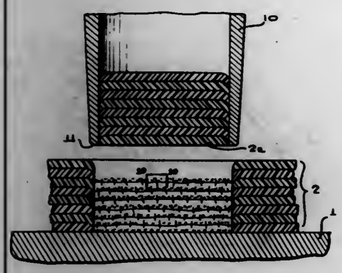


A combination cigarette and match package includes a panel secured to a face of a cigarette package to define a pocket open at one end and closed at an opposite end. The confronting faces of the pocket are provided proximate its open end with striking surfaces and individually slideably separable matches are located in the pocket with their stems projecting beyond the pocket open end. The matches are separably retained in the pocket by spot gluing or by a corrugated sheet. The pocket may be located on a sleeve engaging the cigarette package.

3,509,990
STACK OF JOINED THERMOPLASTIC SHEETS
Thomas E. Piazze, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Original application Nov. 17, 1961, Ser. No. 153,148, now Patent No. 3,287,195, dated Nov. 22, 1966. Divided and this application Apr. 21, 1966, Ser. No. 544,232
Int. Cl. B65h 9/00; B65r 75/00
U.S. Cl. 206—57 9 Claims

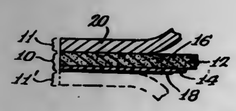
There is disclosed a stack of temporarily joined and aligned sheets comprising a plurality of superposed

thermoplastic sheets joined together along an edge thereof by spaced fold-like mechanical interlocks lying at least in part generally perpendicular to the plane of the sheets,



and heat weld areas disposed intermediately of said spaced interlocks. The edge line may vary in configuration between straight and circular.

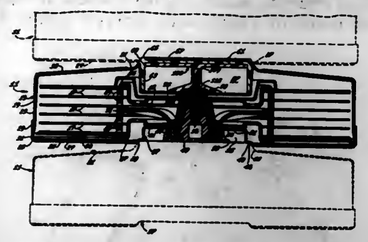
3,509,991
RELEASE SHEET AND ADHESIVE STRUCTURE EMBODYING THE SAME
Alan R. Hurst, Hinsdale, Ill., assignor to Arbco, Inc., a corporation of Illinois
Continuation-in-part of application Ser. No. 772,118, Oct. 31, 1968. This application Apr. 14, 1969, Ser. No. 815,952
Int. Cl. C09j *7/02*; B32b *7/06*; B65d *85/67*
U.S. Cl. 206—59 10 Claims



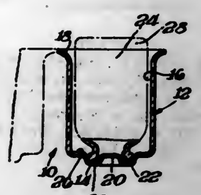
A release sheet is provided which has different release values on each side. Accordingly, a sheet of paper is first coated with a polyethylene or other plastic film, e.g., by extrusion and then both sides are coated with a release agent. Usually the paper is saturated with release agent. The difference in surface texture results in the ability of one release surface to release an adhesive more easily than can the other release surface. This effect does not change significantly with age. The release sheet is useful as a backing for pressure sensitive adhesives to provide a roll of adhesive mass, e.g., in tape form, which can be readily separated from the release paper.

3,509,992
DISC PACK ENCLOSURE
Charles W. David, Marina Del Rey, and Raymond Stuart-Williams, Pacific Palisades, Calif., assignors, by mesne assignments, to Disc Pack Corporation, a corporation of California
Filed June 6, 1966, Ser. No. 555,476
Int. Cl. G11b *1/02*, *25/04*; B65d *21/02*
U.S. Cl. 206—62 6 Claims

This disclosure describes an enclosure including upper and lower container sections with the lower container section having a recess therein and the upper container section having a projection sized to nest within the lower container section. The recess has an end wall and a recessed nesting surface lying intermediate the outer edge thereof and the end wall. The container sections are interconnected by a mechanism which includes a knob positioned within the recess. When containers of this type are stacked in nesting relationship, the recess provides ample space for the knob and/or the container handle to thereby preclude these members from interfering with the stacking of the containers.

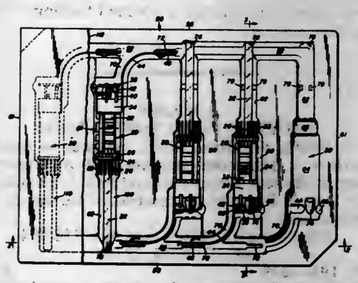


3,509,993
PACKAGING TRAY
Frank Michel, Brooklyn, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
Filed July 18, 1968, Ser. No. 745,808
Int. Cl. B65d *71/00*
U.S. Cl. 206—65 4 Claims



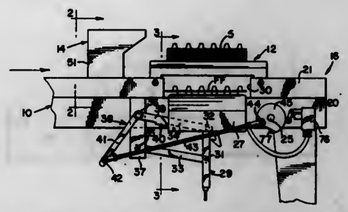
Unitary packaging tray comprises plurality of individual article receiving cells each of which includes bottom with upwardly extending side wall connected around periphery of bottom. Upwardly contoured central boss in each cell bottom is arranged to project into open mouth of empty container-type article when such articles are placed in inverted position in cells of tray. Inwardly contoured ledge in each cell side wall is arranged to support base of filled and capped container-type article when such articles are placed right-side-up in cells of tray.

3,509,994
SHIPPING CONTAINER FOR ELECTRON GUN ASSEMBLIES
Morton M. Poznak, 7 Edgewood Ave., West Orange, N.J. 07052
Filed Mar. 4, 1969, Ser. No. 804,238
Int. Cl. B65d *85/42*, *1/36*
U.S. Cl. 206—65 4 Claims



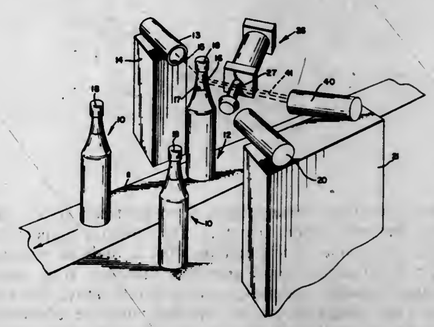
A shipping container of molded plastic having a plurality of side-by-side recesses each configured to accommodate an electron gun assembly.

3,509,995
CONVEYOR AND STACKER FOR FILLER FLATS
Marvin E. Colaw, Topeka, Kans., assignor, by mesne assignments, to Seymour Foods, Inc., Topeka, Kans., a corporation of Delaware
Filed May 22, 1968, Ser. No. 731,116
Int. Cl. B07c *5/344*
U.S. Cl. 209—73 12 Claims



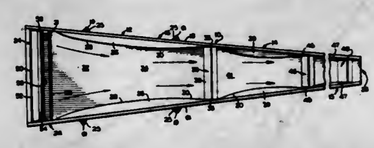
Apparatus for use with a traveling conveyor on which filler flats for packing shell eggs are transported and which has associated means for stacking the filler flats after the eggs have been removed, which apparatus is characterized by a plurality of probes arranged to sense the presence of a whole egg or egg liquid in the pockets of the filler flats as they advance to a stacking area and a control mechanism which is operative to disable the stacking means when activated by the sensors so as to prevent stacking of filler flats which are not in condition for reuse due to the presence of a stuck egg or egg liquid in one or more of the pockets thereof.

3,509,996
DEFECTIVE PACKAGE DETECTOR
Donald J. Malik, Franklin Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 24, 1967, Ser. No. 685,624
Int. Cl. B07c *5/342*
U.S. Cl. 209—111.7 7 Claims



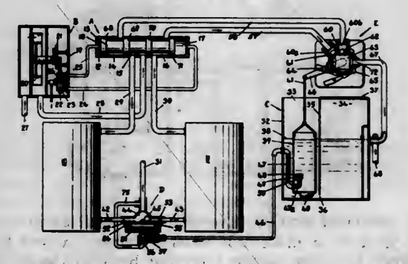
A method and apparatus for use with a conveyor at inspection and rejection stations for inspecting the condition of the headspace in filled and capped product containers of glass or other transparent material, which headspace, in a properly filled container, is devoid of any product or other substance so that a beam of light will pass freely through the same, the apparatus comprising a light source which is arranged to direct a beam of light across the conveyor at an inspection station to activate a photocell disposed in alignment therewith on the opposite side of the conveyor, the light beam being at an elevation so as to pass through the headspace above the product of a properly filled container at the inspection station, the passage of the light beam being interrupted if the container is overfilled, resulting in the activation by the photocell, through an amplifier and relay circuit, of a device for ejecting the container from the line, and a second photocell disposed on the side of the conveyor opposite the light source and at an angle to the normal path of the light beam so as to intercept the light beam when it is refracted due to the presence in the headspace of water or other material which will cause refraction of the light beam.

3,509,997
LAMINAR FLOW SLUICE CONCENTRATOR
William B. Tomlinson, Fernandina Beach, Fla., assignor to Carpco Research & Engineering, Inc., Jacksonville, Fla., a corporation of Florida
Filed Nov. 25, 1968, Ser. No. 778,446
Int. Cl. B03b *3/04*
U.S. Cl. 209—458 14 Claims



A sluice concentrator adapted to separate particulate materials of different specific gravities which are suspended in a feed slurry. The concentrator includes at least one sluice section and a means for feeding an even and tranquil flow of the slurry thereto. The sluice section includes a first portion defining means for initiating a laminar flow of the slurry and converging the flow, to thereby increase the depth and velocity of the slurry and efficiently stratify the materials into a plurality of strata; a second portion defining means for maintaining the laminar flow of the slurry and diverging the flow, to thereby decrease the depth and velocity of the slurry and evenly spread the strata; and a discharge means for removing a fraction of the stratified material from the concentrator.

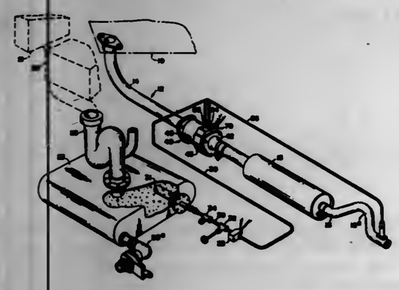
3,509,998
AUTOMATIC REGENERATING APPARATUS FOR WATER SOFTENER
William H. Pellett, 657 Balliol St., Toronto 7, Ontario, Canada, and Robert G. Pellett, 56 Markham Road, Richmond Hill, Ontario, Canada
Filed May 9, 1967, Ser. No. 637,194
Claims priority, application Canada, May 19, 1966, 960,767
Int. Cl. C02b *1/76*; B01d *35/12*
U.S. Cl. 210—98 9 Claims



A complete hydraulically controlled soft water system including hydraulically interacting valves, automatically actuated by water flowing through the system to supply,

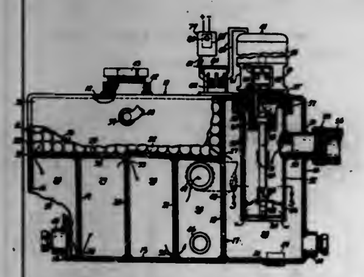
on demand, soft water from one tank and to regenerate the ion exchange resin in the other tank. In essence, a hydraulic pilot valve periodically actuates a master hydraulic valve to alternately connect one of two tanks to a pressurized water supply system. As one tank is isolated from the supply system, it is automatically connected to a brine supply line for regeneration of the ion exchange resin while the other tank supplies soft water.

3,509,999
WASTE DISPOSAL SYSTEM
James S. Reid, Hudson, and Harry W. Green, North Olmsted, Ohio, assignors to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 19, 1967, Ser. No. 668,874
Int. Cl. B01d *1/14*
U.S. Cl. 210—149 11 Claims



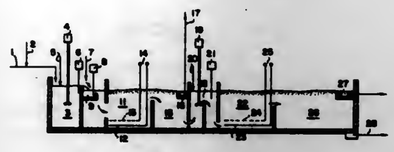
A waste disposal system in which the exhaust system of a vehicular unit is employed to supply heat to a dissipatus tube located internally of the exhaust system thereby to vaporize and purify liquid waste material. A source of ultraviolet energy may also be employed in the system as a second source of purification.

3,510,000
MACERATOR UNIT
Gordon R. Carlson, P.O. Box 16, North Dayton Station, Metuchen, N.J. 08840
Original application Nov. 10, 1966, Ser. No. 593,556. Divided and this application Aug. 9, 1967, Ser. No. 659,517
Int. Cl. B01d *21/24*
U.S. Cl. 210—152 10 Claims



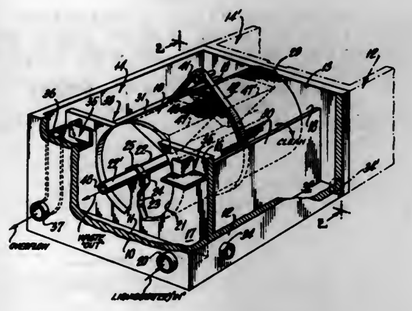
A treatment unit for use on toilets such as in watercraft includes a macerator having a motor driven blade mounted to rotate within a tubular body in spaced relation to an inlet near the top of the body, and a discharge control plate near the bottom of the tube, forming a restricted freely open passage between the plate and the tube wall, through which only small particles can pass.

3,510,001
FLOTATION CHAMBER FOR CLEANING SEWAGE AND THE LIKE
Erhardt Beer, 52 Sophienstr., and Kurt Xylander, 56 Libellenweg, both of Frankfurt am Main, Germany
Filed June 25, 1965, Ser. No. 510,994
Int. Cl. B01d *21/00*; B03d *1/00*
U.S. Cl. 210—192 1 Claim



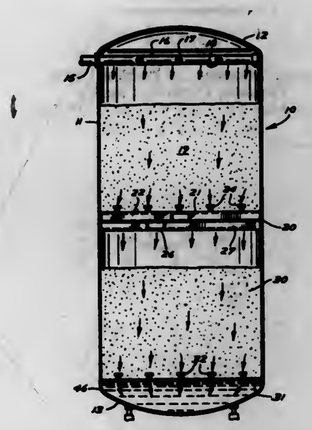
An apparatus for purifying liquid by causing flotation of impurity particles present in the liquid. The generation of the gas bubbles to cause the flotation is produced electrolytically by means of electrodes located at the bottom of the flotation chamber.

3,510,002
ROTARY WATER-FILTRATION APPARATUS, AND METHOD OF MAKING THE SAME
George R. Evans, 58 Nelson Ave., Harrison, N.Y. 10528
Filed Dec. 26, 1968, Ser. No. 787,106
Int. Cl. B01d *33/02*
U.S. Cl. 210—232 24 Claims



The invention contemplates a rotary-filter system in which the end-support structure, for ultimate support of a filter or strainer drum and its axle, is built or erected at the installation site, of concrete, masonry, iron, steel or other suitable material; such structure may, for example, be integrally cast or molded with the concrete, masonry or the like formation of the basic tank structure into which the strainer is to be installed. The end-support structure is provided in opposed walls of a treatment chamber, and one of these walls is the inlet or upstream wall; in the case of the upstream wall, the support structure is a stool or pedestal extending upwardly at the inlet to the interior of the drum, and at the other end the support structure is formed in or as a part of the opposite end wall. Axle-loaded bed plates are adjustably securable on each end-support structure, to assure correct axle orientation and alignment at the site. Once thus aligned, the bed plates are secured, and the axle is fastened in place with its revolvably mounted drum necessarily also in place. Seal, drive, and other finishing connections are then made.

3,510,003
VERTICAL FILTER APPARATUS
Jerome Sheldon Tart, Wayzata, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 8, 1968, Ser. No. 704,103
Int. Cl. B01d *23/10*
U.S. Cl. 210—284 1 Claim



Vertical fluid filtering apparatus having multiple compartments. The bulkheads separating the compartments providing sufficient structural strength to prevent deformation or rupture when subjected to high differential pressure and also providing the means for collection and distribution of the fluid within the filter compartments when in operation.

3,510,004
ARTIFICIAL KIDNEY
Josef Hoeltzenbein, Muenster, Germany, assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Continuation of application Ser. No. 582,896, Sept. 29, 1966. This application Apr. 12, 1968, Ser. No. 720,812
Claims priority, application Germany, Dec. 16, 1965, H 53,975
Int. Cl. B01d *31/00, 29/14, 13/00*
U.S. Cl. 210—321 22 Claims



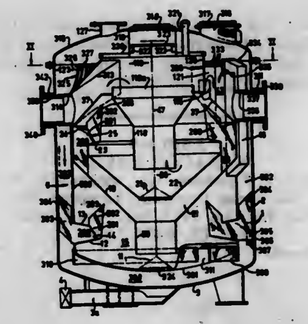
A dialysis tube for blood is coiled to form membraneous layers supported by a member having first and second strands arranged at angles from and projecting their length away from each other for forming flow channels for blood and dialyzing fluid.

3,510,005
NON-WOVEN TWISTED STRAND FILTER FABRIC
Clarence A. Butler, Cleveland, and Dominic R. Lazzaro, Euclid, Ohio, assignors to The Lindsay Wire Weaving Company, a corporation of Ohio
Filed Mar. 22, 1965, Ser. No. 441,569
Int. Cl. B01d *33/04, 39/08, 39/16*
U.S. Cl. 210—400 11 Claims



A non-woven porous fabric and/or endless belt for use as a fluid filter media comprising a plurality of polymeric twisted strands disposed in engaged side-by-side relation. The strands being joined together at their respective spaced points of contact by a plurality of longitudinally extending absorbent fibrous elements containing an adhesive material which is adapted to be exuded therefrom for bonding the strands together at their points of contact to provide a unitary structure.

3,510,006
GRAVITY SEPARATION OF IMMISCIBLE LIQUIDS
Philippe J. Cheysson, Sainte Adresse, France, assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Feb. 2, 1968, Ser. No. 702,620
Claims priority, application France, Feb. 7, 1967, 93,991
Int. Cl. B01d *17/02*
U.S. Cl. 210—522 11 Claims

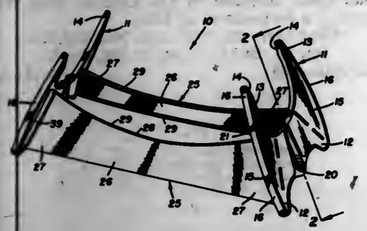


A separator comprising an inner jacket inside the separator and a plurality of separation stages spaced above each other inside the jacket wherein each stage has a tray and a peripheral diffuser.

3,510,007
TIRE DISPLAY APPARATUS
Mercer D. Walklet, Akron, and Thomas P. Rademacher, Medina, Ohio, assignors, by mesne assignments, to Adolph Kiefer-McNeil, a division of McNeil Corporation, Akron, Ohio, a corporation of Ohio
Filed Mar. 27, 1968, Ser. No. 716,555
Int. Cl. A47f *7/04*
U.S. Cl. 211—24 2 Claims

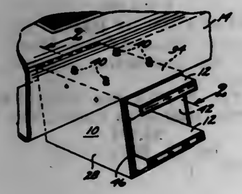
A tire display stand which is adapted to support pneumatic tires in a generally upright position having end frame members with spaced legs, with a surface for seating a tire tread on either side of a hinge area and

with extending arms for engaging the sidewall portion of a tire to provide lateral support and having side panels



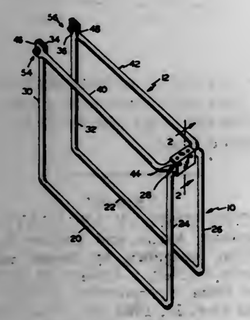
spacing and joining said end frames and serving as advertising escutcheons.

3,510,008
TAPE CARTRIDGE HOLDER
Terry D. Mason, 6432 Viking Circle, Huntington Beach, Calif. 92647
Filed Apr. 29, 1968, Ser. No. 724,918
Int. Cl. A47g 29/00
U.S. Cl. 211—40 6 Claims



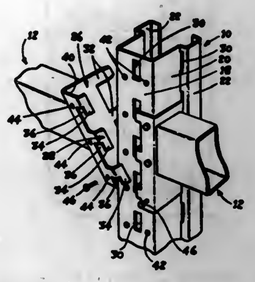
A tape cartridge holder for attachment to the underside of a vehicle dashboard and including resilient means engaged by the cartridge and tending to prevent the cartridge from sliding out of the holder.

3,510,009
TOBACCO RACK
Thos J. Dunford, Leesburg, Ga., assignor to Harrington Manufacturing Company, Lewiston, N.C.
Filed July 31, 1968, Ser. No. 749,016
Int. Cl. A47f 7/00
U.S. Cl. 211—49 3 Claims



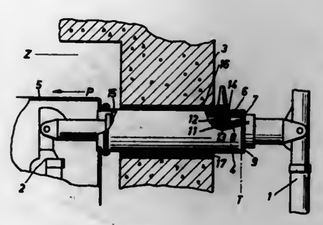
A first rack portion comprises a single piece of tubular material bent to define a pair of parallel bottom portions having a pair of parallel side portions at one side thereof joined by a bight portion. A second pair of parallel side portions extend from the bottom portions and include free ends. A second rack portion is a one-piece tubular member of generally U-shaped configuration, the free ends of said second rack portion being swingably interconnected with the free ends of said first rack portion. A lock member is carried by a bight portion of said second rack portion and is adapted to engage the bight portion of said first rack portion to lock said rack portions in predetermined relationship to one another.

3,510,010
PALLET RACKS
Leon J. Gesner, 38 Purdon Drive, Toronto, Ontario, Canada
Filed May 16, 1968, Ser. No. 729,743
Int. Cl. A47b 57/20
U.S. Cl. 211—176 7 Claims



A pallet rack assembly wherein each horizontal support beam is provided with a connector at each end for engagement with a channel-shaped upright post of the rack; each connector having two spaced sets of fingers engageable with a post and being so dimensioned with respect to the post that one set of fingers in each connector is engageable in advance of the other set of fingers with the post when a beam is being assembled thereon.

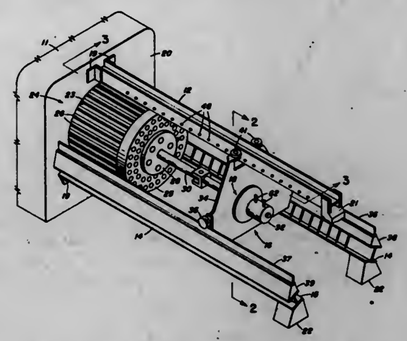
3,510,011
MANIPULATOR FOR WORKING IN NON-ACCESSIBLE SPACES
Hans Wallschuller, 3 Am Furstenhausle, 7758 Meersburg, Germany
Filed Aug. 9, 1967, Ser. No. 659,447
Int. Cl. B25j 3/00
U.S. Cl. 214—1 6 Claims



A manipulator for working in non-accessible spaces, in particular for working with radio-active substances, which comprises a control arm and a receiving arm. Rotary shafts connect operatively the control arm with the receiving arm. A protecting wall includes a lead-in and a lead-in tube is rotatably mounted in the lead-in

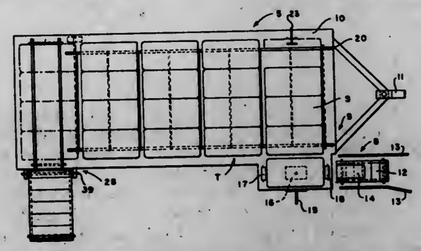
of the protecting wall. The rotary shafts are disposed in the lead-in tube and means include the rotary shafts leading to the control arm and disposed in the lead-in tube. A protecting box receives and surrounds the receiving arm. The protecting box and the receiving arm form a single unit, and means for sealing off the single unit against the escape of gas and dust.

3,510,012
TUBE BUNDLE HANDLING APPARATUS
Johannes Van Meteren, Roelofarendsveen, Netherlands, assignor to The Lummus Company, Bloomfield, N.J., a corporation of Delaware
Filed Aug. 15, 1968, Ser. No. 753,012
Int. Cl. B66f 1/00
U.S. Cl. 214—1 6 Claims



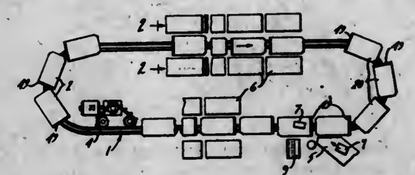
Method of and portable apparatus for removing tube bundles from heat exchangers, the apparatus comprising a hydraulically actuated trolley which cooperates with a plurality of matched pins in support members to "walk" the tube bundle out of or into the heat exchanger shell.

3,510,013
AUTOMATIC BALE LOADING AND UNLOADING WAGON
Albert M. Best, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 20, 1968, Ser. No. 730,685
Int. Cl. B65g 57/32, 57/28, 59/12
U.S. Cl. 214—6 10 Claims



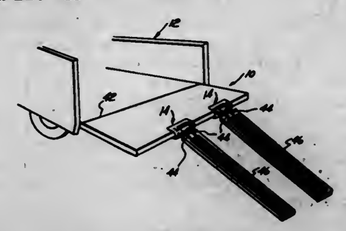
An automatic bale loading and unloading wagon comprised of a flat bed wagon having a vertical bale stacking means at the forward end thereof, a longitudinal main conveyor extending along the wagon bed, a transverse conveyor on the wagon bed adjacent the end of the main conveyor, and a discharge conveyor extending transversely of the wagon adjacent and below one end of the transverse conveyor so as to be able to discharge bales picked up and transported by the wagon one bale at a time.

3,510,014
CONVEYOR SYSTEM
Richard L. Speaker, Hartford, Ted J. Harenda, Muskego, and Arthur L. Thomas, Milwaukee, Wis., assignors, by mesne assignments, to "Automatic" Sprinkler Corporation of America, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 2, 1967, Ser. No. 672,162
Int. Cl. B65g 47/38
U.S. Cl. 214—62 13 Claims



A conveyor includes a plurality of trays pivotally mounted to individual carriages and having a releasable latch mechanism which is actuated by a cam lever pivotally secured to the carriage. The cam lever is pivotally connected to the carriage with the pivotal connection located adjacent the trailing end of the tray. The cam lever includes two distinct inclined surfaces with a short incline at the leading edge at a steeper angle with respect to the plane of movement of the tray than the remaining portion of the cam member. A pneumatic or fluid actuated tilt arm is pivotally mounted at each of the unloading stations and positioned by a spring-loaded air cylinder. The first inclined portion releases the latch mechanism and the remaining incline portion tilts the tray. The leading edge of the tray is formed to define an extension of the leading inclined portion of the cam lever. A tilted tray can then engage an actuated tilt arm without damaging interference.

3,510,015
TAILGATE LOADING RAMP
Harold L. Roshaven, 324 Longfellow Blvd., Fenton, Mich. 33801
Filed May 9, 1968, Ser. No. 727,931
Int. Cl. B60p 1/64
U.S. Cl. 214—85 7 Claims

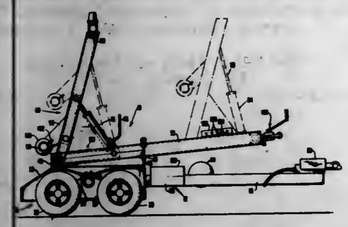


A detachable assembly for the tailgate of pickup trucks and the like for receiving loading ramps to facilitate the loading and unloading of such vehicles.

3,510,016
AUTOMOBILE TOWING TRAILER
William H. Wolff, West Chester, and Samuel J. Mink II, Newtown Square, Pa., assignors to Wolmin Enterprises, Incorporated, Westchester, Pa., a corporation of Pennsylvania
Filed Nov. 29, 1968, Ser. No. 779,847
Int. Cl. B60p 3/12
U.S. Cl. 214—86 22 Claims

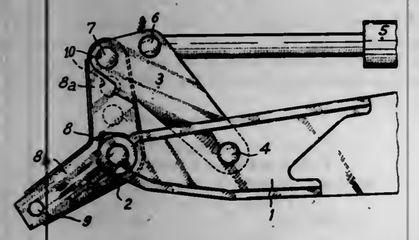
An automobile towing trailer including a rigid frame adapted to be connected to a towing vehicle, and a hoist supported on the frame for engaging, lifting and towing

one end of an automobile. The hoist is mounted for pivotal movement about a king pin on the rigid frame, and for



longitudinal movement over the frame to adjust the position of an automobile being towed relative to the trailer.

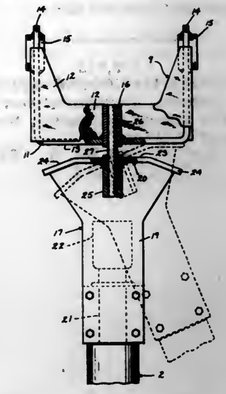
3,510,017
EARTHWORKING MACHINE ADAPTER FOR ENABLING EASY CONNECTION OF VARIOUS WORK TOOLS
Gabriel L. Guinot, Le Plessis-Belleville, France, assignor to Societe Anonyme Poclain, Le Plessis-Belleville, Val-d'Oise, France, a French society
Filed Dec. 14, 1967, Ser. No. 690,558
Claims priority, application France, Jan. 26, 1967, 92,565
Int. Cl. E02f *3/30, 3/36, 3/80*
U.S. Cl. 214—138 4 Claims



In a mechanical earth working machine designed to operate either with an earth working implement such as a drag bucket controlled by an hydraulic ram and lever mechanism, or a different form of earth working implement, such as a grab, not requiring said hydraulic ram and lever mechanism, the provision of an attachment which not only immobilises the hydraulic ram and lever mechanism but also forms a means for attaching an earth working implement which does not require such ram and lever mechanism.

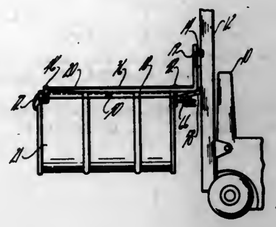
3,510,018
CABLE SUPPORT FOR THE BUCKET ATTACHMENT OF A STICK CLAM EXCAVATOR OR THE LIKE
George W. Mork, South Milwaukee, and Carl F. Novotny, Milwaukee, Wis., assignors to Bucyrus-Erie Company, Milwaukee, Wis., a corporation of Delaware
Filed Feb. 27, 1968, Ser. No. 708,619
Int. Cl. B66c *3/16*
U.S. Cl. 214—147 5 Claims

A support for the bucket attachment of a stick clam excavator includes a first bracket pivotally mounted on the stick and a second bracket on the bucket attachment. The second bracket is suspended from the first by two parallel vertical cables which lie in the plane of movement of the stick. The ends of the cables are held in sleeves on the brackets, and only a short portion of each cable is exposed between the brackets. The cables provide sufficient columnar strength to allow the stick to be used to force the bucket attachment downwardly, but are flexible enough to allow for some movement in a transverse plane



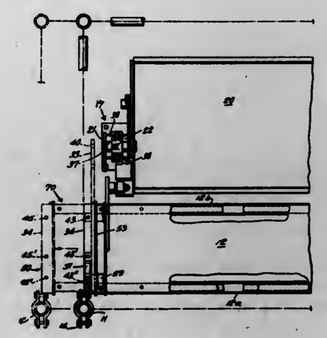
to compensate for ground irregularities. The brackets have facing surfaces which are engageable to limit transverse movement, side portions of one surface being angled to come flat against the other surface when they engage.

3,510,019
DEVICE FOR HANDLING DRUMS IN HORIZONTAL CONDITION
William E. Howard, West Hartford, Conn., assignor to Materials Handling Systems, Inc., West Hartford, Conn., a corporation of Connecticut
Filed Mar. 22, 1968, Ser. No. 715,283
Int. Cl. B66f *9/18*; B66c *1/42, 1/10*
U.S. Cl. 214—620 9 Claims



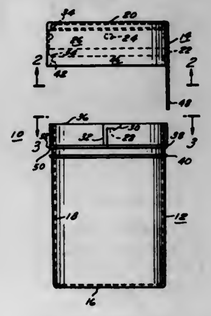
A device for attachment to a fork lift truck allows the truck to be used for handling drums in horizontal condition, the device being capable of engaging, picking up, transporting and thereafter disengaging a drum without the need for the operator leaving the truck. Depending on the construction of each device, and the number of them attached to the fork lift truck, one, two or more drums may be handled simultaneously. For each drum handled the device includes a fixed lug insertable under one end flange thereof and a pivotal hook having a lifting surface insertable under the opposite end flange. The hook and lug are movable into and out of lifting engagement with the drum by simple movements of the frame to which they are attached, controlled by operation of the fork lift truck, and the pivot axis of the hook is so located relative to the fixed lug that when a drum is lifted the weight of the drum urges the hook toward the fixed lug to provide a firm grasp thereon and to resist disengagement.

3,510,020
HOPPER SUPPORT STRUCTURE
Fritz J. Nesslinger, College Point, and Arthur C. Borgman, Franklin Square, N.Y., assignors to Harsco Corporation, Harrisburg, Pa., a corporation of Delaware
Continuation-in-part of applications Ser. No. 524,803, Feb. 3, 1966, and Ser. No. 621,310, Mar. 7, 1967, which is a continuation-in-part of said application Ser. No. 524,803. This application May 9, 1968, Ser. No. 727,920
Int. Cl. B65g *47/00*
U.S. Cl. 214—703 9 Claims



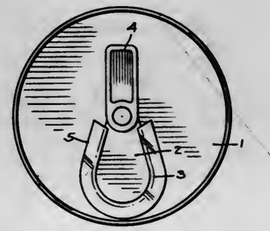
A hopper is movable vertically in a hoist tower to and from different positions for receiving material from a cable supported bucket and is releasably secured to tower posts or uprights in said positions by clamps carried on mounts slidably adjustable in relation to the hopper whereby a hopper of given depth and width may be employed effectively in towers of different plan dimensions.

3,510,021
TAMPER PROOF CONTAINER
Jules Silver, 166 Yantic St., Norwich, Conn. 06360
Filed May 14, 1969, Ser. No. 824,480
Int. Cl. B65d *55/02*; A61j *1/00*
U.S. Cl. 215—9 6 Claims



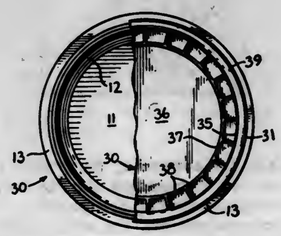
A hollow container and cap combination is disclosed which comprises a hollow container and a skirted cap, the cap having a non-perforated substantially flat top. Lugs on the inner surface of the skirt of the cap may be engaged with recesses provided on the upper, outer surface of the container so that the cap and container are lockably joined together. They may only be separated by means of a downward push on the cap and a rotation thereof. In addition, when the container is filled and sealed with the cap, a ridge portion on the lower end of the cap engages a rib on the container so that the cap cannot be removed without tearing off a tearstrip formed by the ridge and the lower portion of the cap skirt. When sealed, the container has in addition to the sealing by the ridge and rib combination a second seal due to the action of a flange engaging the upper surface of the container. Also the imperforate top prevents any entry of foreign matter into the sealed container.

3,510,022
REMOVABLE TAB HAVING A PROTECTIVE COATING
Paul H. Heller, 22—10 New Haven Ave., Far Rockaway, N.Y. 11691
Filed Oct. 17, 1968, Ser. No. 768,513
Int. Cl. B65d *17/24*
U.S. Cl. 220—54 7 Claims



This disclosure is directed to a metal can, such as for beverages, of the type which has a removable metal tab scored in the top thereof. The improvement resides in partially coating the top and tab portion of the can with plastic. Upon removal of the tab member the plastic coating remains and prevents injury to the user from sharp metal edges at the point of former joinder of the tab and the top of the can.

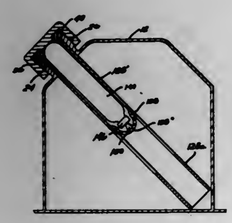
3,510,023
PLASTIC CONTAINER AND LID THEREFOR
Frederick E. Ullman, Winnetka, and Mindaugas J. Klygis, Evergreen Park, Ill., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 14, 1968, Ser. No. 752,556
Int. Cl. B65d *93/10*
U.S. Cl. 220—60 18 Claims



A plastic container and lid, each of unitary construction and formed at least in part of self-supporting plastic material. The sidewall of the container forms at least one circumferential rib on the outer surface thereof adjacent the upper end, and the lid includes a depending

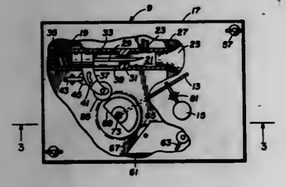
peripheral skirt the inner surface of which has a portion complementary to the rib on the container for locking the lid and container together. The lid may be snapped down over the container rib, or it may be threaded into engagement therewith. A laterally projecting tab may be provided on the lid to facilitate removal. The container bottom and the lid are dimensioned to permit stacking with secure nesting of the bottom of one container in the lid of another.

3,510,024
CAMPING UNIT FUEL TANK FILLER SPOUT ATTACHMENT
John G. Trumble, R.R. 2, Big Rapids, Mich. 49307
Original application Aug. 12, 1966, Ser. No. 572,112, now Patent No. 3,384,267, dated May 21, 1968. Divided and this application Jan. 18, 1968, Ser. No. 714,147
Int. Cl. B67b 7/24
U.S. Cl. 222—5 6 Claims



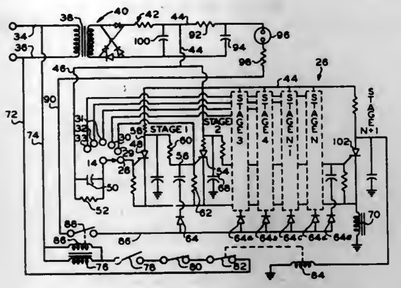
A camping device fuel tank assembly for dispensing fuel under pressure to burners, having a pressurized cartridge receiving and aligning means that fits directly into the tank through the threaded protruding filler spout, the filler spout cap being cooperative with such to first seal the fuel tank and then cause puncturing of the cylinder to force the pressurized fuel out a valved discharge from the tank.

3,510,025
FLOTATION JACKET INFLATING DEVICE
James G. Turner, Jr., 1700 Mercantile Bank Bldg., Dallas, Tex. 75201
Filed Aug. 2, 1968, Ser. No. 749,696
Int. Cl. B67b 7/24; B63c 9/16
U.S. Cl. 222—5 10 Claims



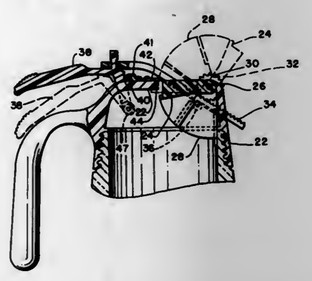
A timer valve for controlling the pressurization of a flotation jacket with compressed gas; the valve includes a spring biased piston driving a puncturing element into a cylinder of compressed gas. The spring driven piston is restrained from driving the puncturing element into the cylinder of compressed gas during a predetermined time interval by means of a timer mechanism. After the predetermined time delay, the piston is released and moves at a speed sufficient to drive the puncturing element into the cylinder end. The piston starts from a cocked position after disengaging a latch from a handle mechanism.

3,510,026
LIQUID METERING CONTROL FOR A LAUNDRY APPLIANCE
Lew Richard Wright, Benton Harbor, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich.
Filed May 20, 1968, Ser. No. 730,550
Int. Cl. B67d 5/30
U.S. Cl. 222—20 2 Claims



An electronic control system for automatically adding a predetermined quantity of liquid to fabrics within a laundry appliance at a selected time or in response to sensed conditions. The control system utilizes a thyristor ring counter to electronically count the number of measured quantities or "charges" of liquid added as preset by an operator and thereafter terminates any further additions of liquid.

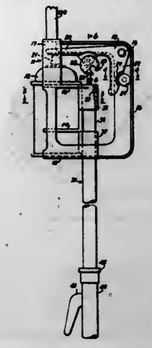
3,510,027
DRIPLESS POURER FOR SYRUP OR THE LIKE
Anna J. Fails, Richardson, Tex.
(3729 Ashford Ave., Fort Worth Tex. 76133)
Filed Jan. 25, 1968, Ser. No. 700,501
Int. Cl. B67d 1/16
U.S. Cl. 222—109 5 Claims



A pourer that can be affixed to a container or made an integral part of the container characterized by having a spout inclined within the container but movable to a pouring position outside the container.

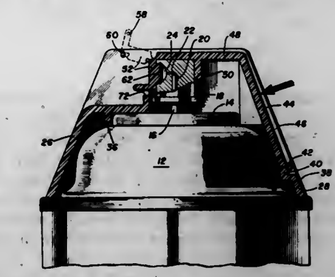
3,510,028
EXTENSION TOOL FOR AEROSOL DISPENSERS
Nello Batistelli, 8205 7th St., Downey, Calif. 90241
Continuation-in-part of application Ser. No. 699,122, Jan. 19, 1968. This application Mar. 10, 1969, Ser. No. 805,462
Int. Cl. B67d 5/64
U.S. Cl. 222—174 8 Claims

A portable combined support and control for a pressurized container of the aerosol type in which the support forms a handle and carries an actuator for the valve of the container so arranged that gripping the handle and actuator will release the valve. Means are provided to



quickly and readily attach an extension pole handle with means on the pole handle for also controlling the valve actuator.

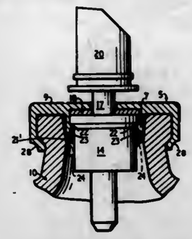
3,510,029
OVER-CAP WITH MOLDED TRIGGER AND AIR SEAL CAP FOR THE SPRAY ORIFICE
Ross L. Doyle, Ramsey, N.J., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 711,994
Int. Cl. B65d 83/00
U.S. Cl. 222—402.12 13 Claims



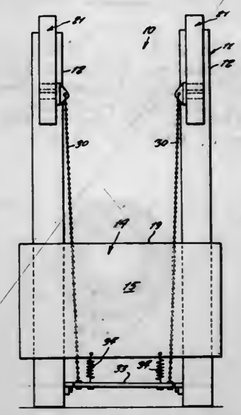
A spray container having an over-cap including a molded trigger for operating the valve stem of the container and an air seal closure cap for the orifice of the spray device, maintaining it unclogged by sealing the orifice from the atmosphere.

3,510,030
CLOSURE FOR AN AEROSOL OR LIKE PRESSURE CONTAINER
Cecil Robert Montgomery Graham, Killara, New South Wales, and Lambert Ronald Little, Eastwood, New South Wales, Australia, assignors to Samuel Taylor Pty. Limited, Gore Hill, New South Wales, Australia, a corporation of Australia
Filed Apr. 30, 1968, Ser. No. 725,397
Claims priority, application Australia, May 2, 1967, 21,153/67
Int. Cl. B65d 83/14
U.S. Cl. 222—545 11 Claims

A closure for an aerosol or other pressurized container having a neck and a mouth therein, a cap placed on said mouth and over said neck, and a substantially cylindrical element connected with said cap and extending into the neck with clearance from the interior wall of said neck, the closure further comprising a ring of elastically deformable material elastically and displaceably fitted over the circumference of said substantially cylindrical element, the outer circumference of said ring being such that the ring is an interference fit within said neck, so that the ring is forced by interior pressure prevailing within said container into engagement with the free end of said substantially cylindrical element.



3,510,031
APPARATUS FOR FOLDING SHEETS
Robert Burch Robinson, Box 183, Newnan, Ga. 30263
Filed Feb. 18, 1969, Ser. No. 800,088
Int. Cl. A41h 33/00
U.S. Cl. 223—37 2 Claims



A device for folding bedsheets, bedspreads or other laundry flat work, the device comprising a frame of upstanding character, the frame having a pair of clamps at its upper end to which the corners at one end of a bedsheet are attached while the lower end of the sheet is stretched downwardly, each of the clamps being operated into clamping position by a foot pedal, and the device including a bin having a folding edge used as a guide during folding operation.

3,510,032
NECKTIE ASSISTANT
Paige E. Carver, 4391 Morgan Drive, Murrysville, Pa. 15668
Filed July 13, 1967, Ser. No. 653,209
Int. Cl. A47j 51/06
U.S. Cl. 223—111 12 Claims

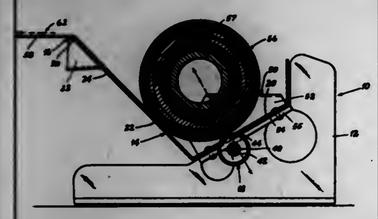
A necktie assistant which is independent of any index mark or other indicia affixed to the necktie and also is independent of the user's shirt button as a gaging means.

The necktie assistant includes a measuring rod having a hook on the upper end for engaging the user's shirt collar. The measuring rod depends along the front of the user's shirt and the lower end of the rod is provided with scaled indicia for use in measuring and recording the proper



length of the inward end portion of the necktie prior to tying the necktie knot. A sliding index member can be slidably mounted on the rod for cooperation with the scaled indicia or for denoting the proper position directly of the inward or small end of the necktie prior to tying.

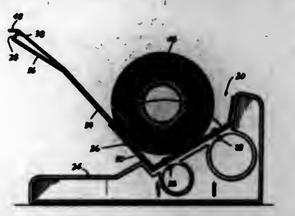
3,510,033
DISPENSER FOR ROLLS OF PERFORATED FOIL
Richard F. Schramm and William J. Burke, St. Louis, Mo., assignors to Speed Equipment Incorporated, St. Louis, Mo., a corporation of Missouri
Filed Dec. 28, 1967, Ser. No. 694,321
Int. Cl. B26f *3/02*; B65h *35/10*
U.S. Cl. 225—77 5 Claims



A dispenser for rolls of perforated aluminum foil. The dispenser has piercing means for piercing and separating sheets of aluminum foil as the web is withdrawn over it. Special roller bearing means are provided in a dispenser trough to facilitate the movement of heavy rolls having varying diameters of aluminum foil and to prevent premature tearing of the perforated sheets.

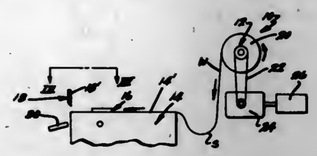
3,510,034
DISPENSER WITH CUTTING MEANS FOR ROLLS OF WRAPPING FILM
William J. Caskey and William J. Burke, St. Louis, Mo., assignors to Speed Equipment Incorporated, St. Louis, Mo., a corporation of Missouri
Filed Jan. 4, 1968, Ser. No. 695,760
Int. Cl. B26f *3/02*
U.S. Cl. 225—77 3 Claims

A dispenser for rolls of plastic film having roll supporting means and a specially formed serrator for cutting the plastic film. The dispenser is comprised of a trough supporting the roll of plastic film with a tray-like extension of the trough extending above it with a perpendicular serrated cutting edge. The particular configuration of the tray-like extension, which supports the web of film as it is pulled away from the roll of film, facilitates the cutting of the web. The tray may have an angled end portion



extending out at an angle from the main body portion of the tray-like extension to facilitate tearing of long sheets. The tray is further provided with oppositely cut-out portions at the angled extension to provide for ready finding and grasping of the extended film web.

3,510,035
WEB ADVANCER AND CUTTER APPARATUS
Russell Farwell, Cedar Springs, Mich., assignor to James A. Black, Union and Averill, Mich.
Filed May 27, 1968, Ser. No. 732,171
Int. Cl. B65h *17/08*
U.S. Cl. 226—1 13 Claims

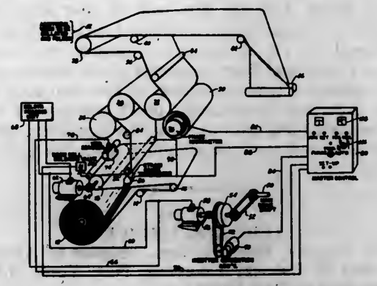


Web advancement apparatus and method enabling advancement of a slack web while allowing complete lateral alignment thereof, using first and second sets of spherical rolling elements, i.e. balls, with individual balls in each set being biased toward balls in the other set, and engaging opposite faces of the web, one set being rotationally driven, and all the balls being universally rotational, to allow forward web advancement with rotation of the balls, while also enabling constant lateral alignment adjustment of the web. Normally one set of balls is positioned above the other, the upper ones being metal, at least in the center, to be relatively heavy, and the lower being resilient, at least on the surface, to allow optimum gripping relationship in cooperation with the upper balls, and good gripping relationship wtih a power roll rotating the lower set. The most accurate registry of the web is achieved, even with intermittent driving action, by having the lower balls offset slightly forwardly of the upper balls, with respect to the direction of web advancement.

3,510,036
INSERTER AND SPLICER WITH REGISTER CONTROL FOR A REPRINTED WEB
Clarence A. Lewis, Jr., Kinnelon, and David Gordemer, Rockaway, N.J., assignors to Bobst Champlain, Inc., Roseland, N.J., a corporation of New York
Filed Mar. 29, 1968, Ser. No. 717,152
Int. Cl. B65h *23/20*
U.S. Cl. 226—2 38 Claims

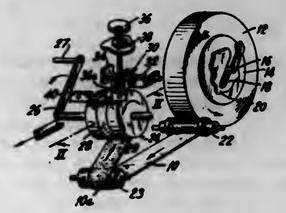
A preprinted web is scanned to detect a registration error relative to a further operation on the web, and the tension is raised or lowered to maintain registration. The

actual web tension is continuously and directly measured by strain gauge means, and is limited to a high limit to prevent breaking the web, and to a low limit which prevents "wandering" of the web. The web tension is automatically reduced to the lower limit during automatic splicing, and until the splice leaves the system where it



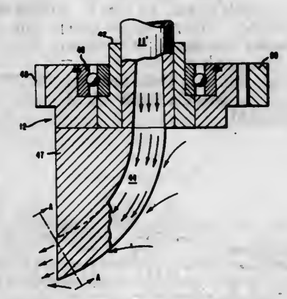
is under tension. A tab of retroreflective tape is adhered to one end of the new preprinted roll in a desired location relative to the preprint on the new web, and the end of the roll is scanned by means of a retroreflective scanner, which overcomes difficulties caused when attempting to use an ordinary mark and scanner.

3,510,037
DEVICE FOR FEEDING PRESSURE SENSITIVE TAPE WITHOUT COIL
Everett E. Sharpe, Shelton, Conn., assignor to Better Packages, Inc., Shelton, Conn.
Filed Oct. 24, 1967, Ser. No. 677,608
Int. Cl. B65h *17/06*
U.S. Cl. 226—5 14 Claims



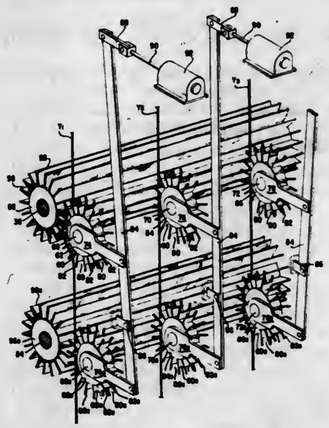
A device for feeding pressure sensitive tape from a roll thereof includes a grooved drum or roller made of a material which will easily release from a tacky material such as pressure sensitive adhesive. Means are provided to guide the tape over the surface of the drum in a manner such that the tape is centered over the groove of the drum which extends completely around the drum surface. The tape is wide enough such that a portion of the tape overlaps the drum surface on each side of the groove. An inventive feature resides in the provision of tape deflection means such as a bar which is mounted above the drum and may be adjustably positioned so as to force the tape into the groove and simultaneously displace the sides of the tape inwardly from each side toward the center of the groove to release it from the drum surface. The drum is rotated to advance the tape and a crease line is formed centrally of the tape by the bar which presses the center of the tape downwardly into the groove. The action frees the tape from the drum, overcomes the tendency of the tape to coil and permits the feed-out of the tape in a creased form which sufficiently rigidizes the tape so that it will feed outwardly in a substantially straight line and will project away from the feeding device into a position in which it will be easily grasped by the user.

3,510,038
PROCESS AND APPARATUS FOR HANDLING FIBROUS ELEMENTS FORWARDED IN FLUID STREAMS
Robert Wendel Bundy, Nashville, Tenn., and Thomas Melvin Sheets, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application July 1, 1963, Ser. No. 291,904, now Patent No. 3,296,678, dated Jan. 10, 1967. Divided and this application Nov. 7, 1966, Ser. No. 592,607
Int. Cl. B65h *54/00*
U.S. Cl. 226—7 4 Claims



A process and apparatus for handling fibrous elements being forwarded in fluid streams to a collecting device wherein the fiber containing fluid streams are diverted and oscillated in a regular pattern for collection by a curved peripheral surface which may be moved in an oscillating or rotating manner.

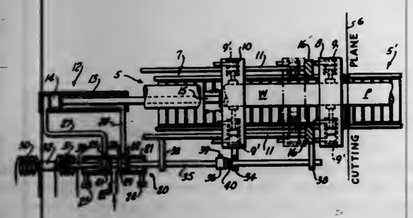
3,510,039
PATTERN MECHANISM FOR TUFTING MACHINES
Charles William Watkins, Hixon, Tenn., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 29, 1968, Ser. No. 709,492
Int. Cl. B24b *51/12*
U.S. Cl. 226—109 10 Claims



This disclosure relates to the textile arts and more particularly to pattern mechanisms for tufting machines. The pattern mechanism disclosed herein includes at least a pair of yarn feed elements disposed for continuous relative driving engagement and selective yarn feeding relationship and each pair of which are relatively movable between a first position for positively feeding at least one

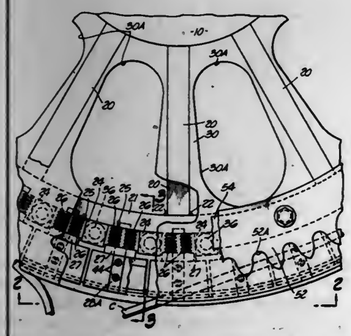
yarn end at a speed determined by the speed of the feed elements and a second position wherein the feed of the yarn is substantially uneffected by the pair of yarn feed elements. Means are also disclosed for selectively initiating relative movement of the yarn feed elements between the first and second positions for producing varied patterns in a tufted fabric by varying the pile height, as desired.

3,510,040
WORK INDEXING APPARATUS FOR CUTOFF SAWS
Charles E. Cleland, Edina, La Roy E. Robinson, Hopkins, and Donald M. Ulevig, Minneapolis, Minn., assignors to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota
Filed Feb. 21, 1968, Ser. No. 707,272
Int. Cl. B65h *17/36*
U.S. Cl. 226—141 17 Claims



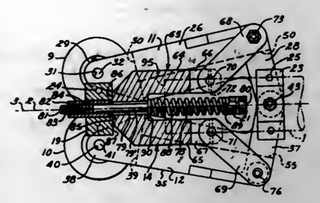
A workpiece is advanced and accurately positioned with respect to the cutting plane of a cutoff saw, either by a hydraulically driven reciprocating indexing vise or by hydraulically driven rollers on which the workpiece rests. In each instance, the spool of a control valve that regulates flow of pressure fluid to the hydraulic motor that produces the motion needed to move the workpiece, is brought to a position in which it effects equal and opposite fluid pressure forces upon the work performing element of the motor or motors, when the workpiece is at its desired location.

3,510,041
MEANS AND TECHNIQUES FOR TENSIONING WIRE
Maximiliann J. Dykmans, 4434 Mayapan Drive, La Mesa, Calif. 92041
Filed Apr. 3, 1968, Ser. No. 718,463
Int. Cl. B65h *17/34*
U.S. Cl. 226—172 16 Claims



A rotatable cable or wire gripping device has a peripheral V-shaped grooved portion within which a series of pairs of gripping jaws is disposed. Each pair of jaws has its own spring means acting independently to wedge a cable between a pair of jaws. A sprocket wheel connected to the gripping device rotates the same. The cable is wrapped around the practical maximum periphery of the gripping device with spring means acting on the cable where it first engages the gripping device to produce good gripping action with the first pair of jaws engaged by the cable. In a modification a series of such gripping jaws is mounted on an endless chain passing over spaced sprocket wheels and finger members on an adjacent chain press a generally straight section of wire into such jaws, and in a further modification the gripping jaws travel along an undulating path to cause the wire being gripped to have a corresponding undulatory shape for enhanced gripping.

3,510,042
ALIGNING DEVICE
John M. Romere, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Continuation-in-part of application Ser. No. 614,194, Feb. 6, 1967. This application Apr. 3, 1969, Ser. No. 822,798
Int. Cl. B65h *17/20*
U.S. Cl. 226—177 21 Claims

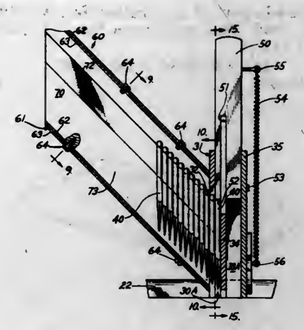


A device to center a longitudinally traveling object, particularly a pipe to be nondestructively tested, and to guide same along a predetermined path. Guide rollers are mounted on arms interconnected for simultaneous pivotal movement toward and away from the pipe, and a spring urges the rollers toward the pipe. A pipe entering the device engages members on the arms to move the rollers apart a distance approximately equal to the diameter of the pipe. An adjusting device permits setting the rollers apart for a pipe of a certain diameter, to reduce wear, when many lengths of like diameter pipe are to be aligned.

3,510,043
STAPLING MACHINE
Charles O. Larson, Sterling, Ill., assignor to Chas. O. Larson, Co., Sterling, Ill., a corporation of Illinois
Filed May 22, 1967, Ser. No. 640,277
Int. Cl. B25c *5/06*
U.S. Cl. 227—113 11 Claims

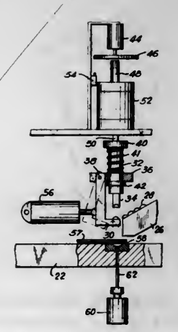
A stapling machine for gravity feeding and driving U-shaped staples of various sizes, the machine including a block having a staple receiving chamber therein and a plunger operatively associated with the block for longitudinal reciprocatory movement relative thereto between a staple driving position and a staple receiving position; a staple holding magazine is carried by the block and includes an elongated slide therein having a discharge end adjacent to the staple receiving chamber; the slide has a cross section that accommodates sliding movement therealong of U-shaped wire staples of various sizes to the staple receiving chamber in the block. An outer surface of the slide facing the bights of the associated staples is disposed adjacent to the plunger and inclined at an angle

of substantially about 45° with respect to the direction of movement thereof thereby to provide gravity feeding of the staples to the staple receiving chamber during the use of the machine for driving staples in both the horizontal and vertical directions. A magnetic member may be disposed in the block to urge the staples along the slide and hold the lead staple in a driving position in the staple



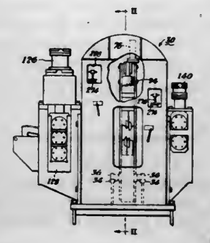
receiving chamber. The block has a groove in one end thereof and a rotatable dial partially overlying the groove, the dial having a plurality of circumferentially spaced notches therein, whereby the stapling machine may be placed over elongated articles having cross sections complementary to the notches for stapling the articles to an underlying support surface.

3,510,044
APPARATUS FOR FASTENING PLIES OF SHEET MATERIAL TOGETHER
Abraham Weidenfeld, 714 Wilmot Road, Scarsdale, N.Y. 10510, and Louis W. Hirsch, 411 Windsor Road, Englewood, N.J. 07631
Filed Oct. 23, 1967, Ser. No. 677,434
Int. Cl. B25c *5/02*; B27f *7/04*
U.S. Cl. 227—118 4 Claims



An apparatus for punching, through a plurality of plies of sheet material, a plurality of fasteners which fasten the plies of sheet material together and may also serve as feet for handbags. The apparatus includes a plurality of punch means for respectively punching fasteners through the plies of sheet material and a base means which supports the plurality of punch means for movement one relative to another, to locate the fasteners at predetermined locations with respect to each other. Four punch means are provided on the base means. One of these punch means is stationary on the base means, and a pair of guide means coact with two other punch means and the base means to guide these two other punch means for movement respectively along straight paths which are mutually perpendicular to each other and which intersect each other at the location of the stationary punch means. A third guide means coacts with the fourth punch means and the base means to guide the fourth punch means for movement along a pair of straight, mutually perpendicular paths, and these latter mutually perpendicular paths are respectively parallel to the paths along which the abovementioned other two punch means are respectively guided. This fourth punch means and the stationary punch means are respectively located on opposite sides of a straight line which extends between the fourth and the stationary punch means and through the other two punch means so that the fourth punch means is situated diagonally opposite the stationary punch means.

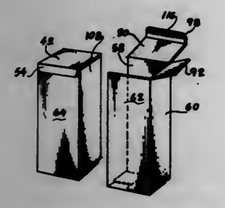
3,510,045
APPARATUS FOR JOINING STRIP MATERIAL
Andrew J. Petros and Clement S. Rybar, Pittsburgh, Pa., assignors to Mesta Machine Company, Pittsburgh, Pa.
Filed July 17, 1967, Ser. No. 653,940
Int. Cl. B23k *1/20*
U.S. Cl. 228—5 14 Claims



A welding machine is disclosed for use with a strip mill or the like wherein a double shearing arrangement together with welding wheels is mounted on a traversing carriage forming part of the machine, for traversing movement with the carriage. The double shear arrangement includes a pair of entry shear blocks one of which is movable relative to the other, stationary block, and a similar pair of delivery shear blocks. The machine includes a pair of clamp mechanisms each of which is tiltable to an associated pair of the shear blocks to juxtapose a strip and held thereby to the stationary one of the associated shear blocks. Each of the clamp mechanisms is closed by means of an air cylinder or equivalent operating through a toggle mechanism. Means are provided for laterally shifting the shafts about which the clamp mechanisms respectively are tiltable to move the clamp mechanisms toward and away from a strip access slot in the carriage and thereby to control the amount of overlap of the strip ends to be welded. The amount of overlap contributed by each clamp mechanism can be adjusted independently of the other clamp mechanism and indicator means are provided for indicating the lateral displacement of each clamp mechanism and the amount of overlappage of the strip clamped therein. Co-operating alignment means are mounted on the machine casing and on the traversing carriage for aligning the traversing carriage laterally of the machine each time the carriage is inserted into the casing.

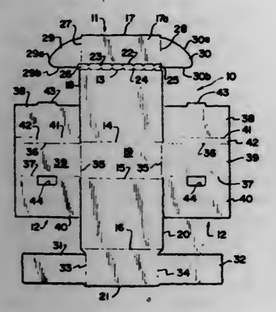
Welding wheel cleaning means are mounted on the machine casing for dressing the welding wheels each time the carriage is inserted into the casing. An air motor is associated with each welding wheel to commence rotation of the welding wheels before they engage the juxtaposed strip ends for welding the same.

3,510,046
REDUCIBLE CARTON CONSTRUCTION
George Reiner, 333 E. 55th St., New York, N.Y. 10022
Filed Aug. 21, 1968, Ser. No. 754,236
Int. Cl. B65d 5/48, 5/54
U.S. Cl. 229—37 8 Claims



A carton having a plurality of detachable compartments which are removed as the contents thereof are expended. In a two compartment carton a continuous perforation extends proximate the middle wall along the outer walls of the carton, the detachable portion forming a three walled unit upon removal. Indicia, on the outer surface of the middle wall, may warn the user of diminishing product therein.

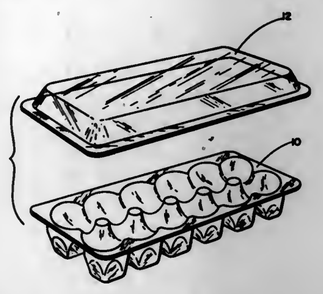
3,510,047
CARDBOARD CARTON
Arnold W. Pascus, Mount Prospect, and Edmund Boehm, Chicago, Ill., assignors to Elwood Industries, Inc., a corporation of Illinois
Filed Feb. 28, 1968, Ser. No. 709,088
Int. Cl. B65d 5/22
U.S. Cl. 229—36 1 Claim



A carton formed from a laminated blank including two outer plies and a corrugated core, with the front, sides and bottom of the carton including at least two thicknesses of material. The outer front section of the carton is adhesively secured to an inner front section, and the outer front section is scored to define a removable section which provides ready access to the interior of the carton.

3,510,048
WITHDRAWN

3,510,049
EGG CARTON
Donald W. Donovan, Glastonbury, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 500,515, Oct. 22, 1965. This application Nov. 21, 1968, Ser. No. 777,713
Int. Cl. B65d 5/66, 1/00
U.S. Cl. 229—44 8 Claims



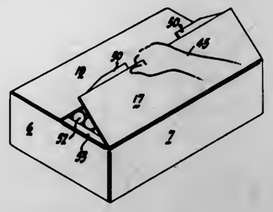
A display carton for eggs and like objects comprising a foamed plastic lower section having a plurality of article receiving pockets formed therein, in combination with a cover section of unfoamed, transparent, rigid plastic, hingedly connected along a portion of the foamed lower section which has a density greater than that of the remainder of the lower section.

3,510,050
DIRECT OPENING LEAVENED DOUGH PACKAGE
Jack R. Culley and Carl S. Dienst, Minneapolis, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 24, 1966, Ser. No. 522,448
Int. Cl. B65d 5/54; B65b 25/16
U.S. Cl. 229—51 10 Claims



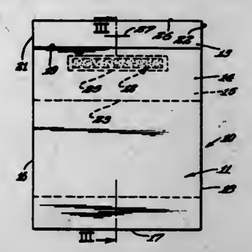
A direct opening composite can composed of a fiberboard center layer including a longitudinally or helically disposed butt joint over which outer and inner tensile members are bonded by a hot metal adhesive. The stiffness of the container body is sufficient to concentrate the stress applied by impact with the edge of said solid object at the tensile members in the region of the butt joint but being insufficient to prevent said container body from bending when struck with moderate force and the combined strength of the tensile members allowing the tensile members to rupture when struck at a point located upon the butt joint with moderate force against the edge of said solid object.

3,510,051
INSPECTION AND RECLOSURE BOX
Duane M. Nordstrom, Kelso, Wash., assignor to Longview Fibre Company, Longview, Wash., a corporation of Delaware
Filed Feb. 17, 1969, Ser. No. 799,599
Int. Cl. B65d 5/54, 17/00
U.S. Cl. 229—51 9 Claims



A box formed from a single sheet of fibreboard, cardboard or the like of conventional outline including inner and outer closure flaps of standard outline in lapping relation closing the upper side of said box, and portions of said inner flaps connected with said outer flaps and separable from said inner flaps upon manually opening one of said outer flaps, exposing half the box contents, and part of said portions re-engageable, in holding relation, with the other sealed outer flap upon closing the opened flap.

3,510,052
DISPOSABLE LITTER BAG
Raymond J. Ruda, Chicago, Ill., assignor to Bagcraft Corporation of America, Chicago, Ill., a corporation of Illinois
Filed July 25, 1968, Ser. No. 747,669
Int. Cl. B65d 33/16
U.S. Cl. 229—62 2 Claims



A litter bag is made of thermal-plastic film having an external tacky or adhesive area carried on a reversible pocket, the adhesive or tacky area serving both to support the bag and to aid in holding the filled bag in a closed condition.

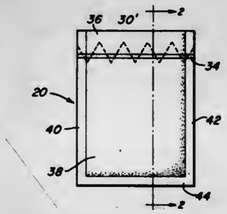
3,510,053
POUCH MADE OF A SINGLE- OR MULTIPLE-PLY SYNTHETIC PLASTICS SHEET MATERIAL, PREFERABLY FOR TOBACCO
Heinz Focke, 10 Siemensstrasse, Verden (Aller), Germany
Filed July 17, 1968, Ser. No. 745,485
Int. Cl. B65d 27/14
U.S. Cl. 229—62 11 Claims

The invention provides a pouch made of a single- or multiple-ply synthetic plastics sheet material, particularly polyethylene, for the reception of a material such as tobacco. The pouch is preferably formed by longitudinally folding over a continuous sheet of plastics material so that it has a short wall and a longer wall which latter serves as a wrap-around flap. The pouch is sealed at three edges



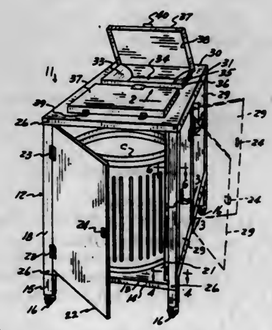
and has an opening sealed by a substantially air-tight closure so constructed that it can be easily torn open.

3,510,054
DISPENSER PACKET
Dominic A. Sanni, Medfield, and Dino Di Carlo, 44 Verndale Road, Newton, Mass., assignors, by mesne assignments, to Dino Di Carlo, Newton, Mass.
Filed July 23, 1968, Ser. No. 746,911
Int. Cl. B65d 27/32, 17/24
U.S. Cl. 229—66 4 Claims



A commodity-dispensing packet made of a flexible fibrous material, said packet being sealed at its peripheral edges, and, when torn open along a predetermined line, being characterized by a series of openings through which the commodity can be dispensed by shaking.

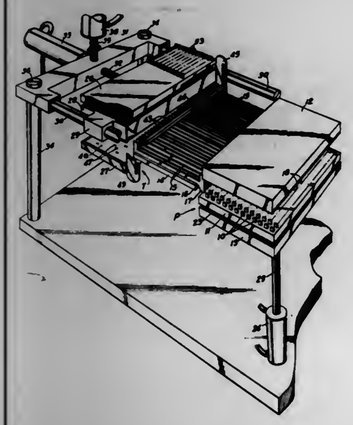
3,510,055
PORTABLE REFUSE CONTAINER
Earl Safford, 1958 Lawrence, Detroit, Mich. 48206
Filed Nov. 28, 1967, Ser. No. 686,176
Int. Cl. B65f 1/00
U.S. Cl. 232—43.2 1 Claim



A portable refuse container which includes an enclosing housing with top and bottom, side and end walls,

the side and end walls defining an enclosure, with apertures in said enclosure receiving hinged doors, said enclosure adapted to receive a plurality of refuse holders; the top wall being apertured and mounting individual chute assemblies in registry with said refuse holders, each chute assembly including a hinged cover.

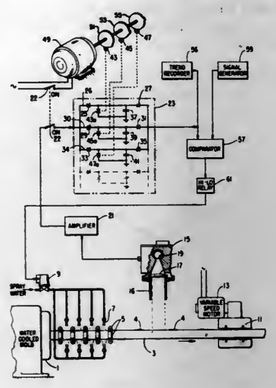
3,510,056
DATA RECORDING DEVICE
Elvin E. East, Cordele, John E. Sims, Tucker, and Thomas A. Elliott, Atlanta, Ga., assignors, by direct and mesne assignments, to Source Data Automation, Inc., Cordele, Ga., a corporation of Georgia
Filed Oct. 2, 1967, Ser. No. 672,376
Int. Cl. G06k *1/08, 1/16, 7/04*
U.S. Cl. 234—45 22 Claims



What is disclosed herein is a data recording device for recording data from a plurality of different data sources each providing data input to the device in a different input mode. As disclosed, the device includes a recording means and a transducing means for converting data input in any of a plurality of input modes into data output in a single output mode to which the recording means is responsive. The transducing means includes a plurality of pegs movable between operative and inoperative positions and the single output mode of the transducing means is defined by the pegs in operative positions. Since only a small amount of force is required to move a peg from inoperative to operative position, data input to the transducing means may be from any data source such as a perforated card, an adding machine, push buttons, a rotary member, or horizontal sliders which provides data input in an input mode suitable to position a peg. Data input to the transducing means from a variety of data sources is described herein.

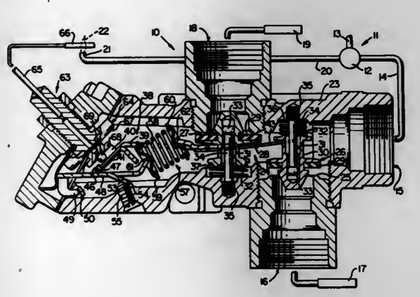
3,510,057
SIGNAL SCANNING DISCRIMINATOR
John V. Werme, Painesville, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Filed May 19, 1967, Ser. No. 639,810
Int. Cl. G05d *23/27*; G01j *5/00*; G11c *11/24*
U.S. Cl. 236—1 5 Claims

A circuit for monitoring the true surface temperature of bar and strip metal during removal from a furnace or casting machine. A scanning circuit which discriminates between true surface temperature and false surface temperature caused by the presence of scale formations on the bar or strip material. This scanning circuit produces an



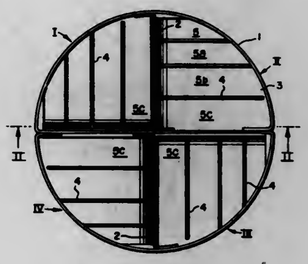
electrical output signal representative of the peak true surface temperature occurring during a predetermined scan period.

3,510,058
DIVERTER VALVE MEANS AND METHOD
Francis S. Genbauffe, Irwin, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Sept. 26, 1967, Ser. No. 670,741
Int. Cl. F23n *1/00*
U.S. Cl. 236—68 12 Claims



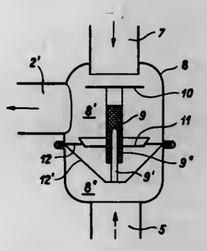
This disclosure relates to a diverter valve means provided with an inlet and a pair of outlets respectively opened and closed by a pair of valve members moved between their opened and closed positions by an actuating means, the actuating means being so constructed and arranged that in one position of the actuator means, one of the valve members is disposed in its closed position and the other valve member is disposed in its opened position and when the actuating means is disposed in another operating position thereof, the first-named valve member is in its opened position and the second-named valve member is in its closed position. The actuating means is also so constructed and arranged that the same causes the particular opened valve member to fully move to its closed position before the actuating means begins to open the closed valve member as the actuating means moves between its operating positions.

3,510,059
AUTOMATIC FLUE DAMPER
Alphons Diermayer and Luitpold Kutzner, Munich, Germany; said Diermayer assignor to Werner Diermayer, Lafayette, Calif.
Filed Apr. 22, 1968, Ser. No. 722,878
Claims priority, application Germany, Apr. 26, 1967, D 52,932
Int. Cl. G05d *23/08*; F23n *5/04*
U.S. Cl. 236—93 5 Claims



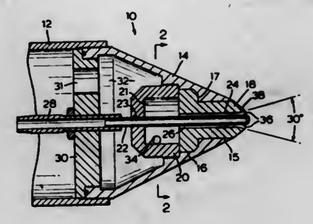
A flue damper in which a conduit is divided into quadrants by perpendicular partitions. A bi-metallic damper section in each quadrant consists mainly of elongated, transversely juxtaposed strips fastened by one short edge to one partition and parallel to the other partition bounding the quadrant so that a passage is quickly opened between the other partition and the nearest strip when the free edge portions of the strips move axially away from the level of the partitions in response to heat.

3,510,060
TEMPERATURE REGULATING DEVICE FOR INTERNAL COMBUSTION ENGINES
Erwin Starmühler, Munich, Germany, assignor to Bayerische Motoren Werke A.G., Munich, Germany
Filed Mar. 25, 1966, Ser. No. 537,488
Claims priority, application Germany, Mar. 27, 1965, B 81,197
Int. Cl. F01p *7/16*
U.S. Cl. 236—34.5 6 Claims



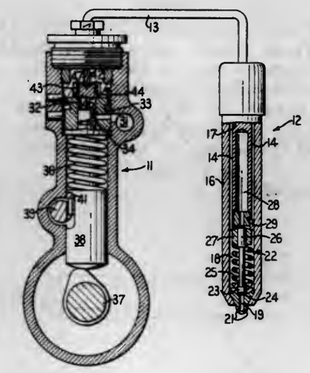
A temperature regulating device for a mixture wherein media of different temperatures are applied to a mixing chamber containing a temperature responsive mixing valve arrangement wherein the media are combined in a predetermined ratio dependent upon temperature sensed by the valve arrangement being responsive to the media of different temperatures in a ratio different from the quantity ratio of the media forming the mixture.

3,510,061
TWO-STAGE SONIC ATOMIZING DEVICE
Charles F. Peczeli, Clarkson, Ontario, and Edward T. Tyrcz, Toronto, Ontario, Canada, assignors to Gulf Oil Canada Limited, Toronto, Ontario, Canada
Continuation-in-part of application Ser. No. 758,753, Sept. 10, 1968. This application June 2, 1969, Ser. No. 834,198
Int. Cl. B05b *7/10*
U.S. Cl. 239—8 8 Claims



A method of atomizing a liquid, which involves passing a gas tangentially into a cylindrical chamber to cause the gas to rotate therein. The gas is next passed spirally inward toward the centre of the chamber, where it passes around a sharp corner transition into a coaxial outlet tube. At this transition, about half of the tangential linear velocity of the gas is converted to axial velocity along the outlet tube, thereby setting up a spinning vortex in the latter. At least one jet of the liquid is expelled centrifugally into the vortex, which further breaks up the already fine stream constituting the jet.

3,510,062
DELIVERY VALVE FOR ENGINE FUEL PUMP
Donald J. Waldman, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 15, 1967, Ser. No. 690,807
Int. Cl. F02m *41/16*
U.S. Cl. 239—96 2 Claims



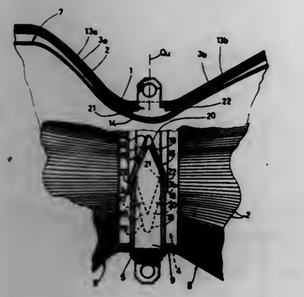
A delivery valve for a fuel pump of a compression ignition engine with a small channel in its valving surface to permit bleed back of pressure and fuel trapped in the housing of the injection valve when both the delivery and injection valves are closed.

3,510,063

APPARATUS FOR FORMING THE EXTERIOR WALL OF COMBUSTION CHAMBERS FOR ROCKET ENGINES

Karl Butter, Munich, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany

Filed Sept. 1, 1967, Ser. No. 665,020
Claims priority, application Germany, Sept. 10, 1966, B 88,894
Int. Cl. B64b *33/06*
U.S. Cl. 239—127.1 6 Claims



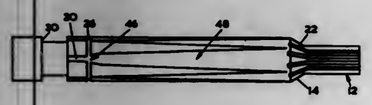
The disclosure is directed ot a method of and apparatus for forming the exterior wall of a rocket engine combustion chamber including a thrust nozzle and having an interior wall defining a cylindrical section merging into a converging section connected by a reduced area throat to a diverging section, the interior wall having its exterior surface laterally subdivided into outwardly opening longitudinally extending coolant channels sealingly closed laterally by an exterior wall constituted by wire wound helically and continuously around the external surface of the internal wall and with adjacent convolutions sealingly secured to each other and to the interior wall.

3,510,064

OXY-FUEL FLAME BURNER NOZZLES

George L. Crook, Harrow, and Alfred H. Read, Barkingside, England, assignors to The British Oxygen Company Limited, a British company

Filed Oct. 24, 1967, Ser. No. 677,562
Claims priority, application Great Britain, Oct. 26, 1966, 47,953/66; July 26, 1967, 34,249/67
Int. Cl. B05b *7/06*
U.S. Cl. 239—424 5 Claims



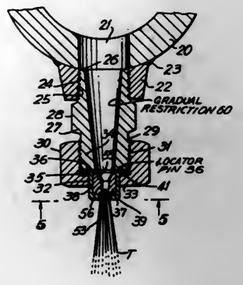
A two-part nozzle for an oxy-fuel flame burner comprises two hollow members which nest together and which define between them several divergent passages for the oxy-fuel gas mixture. The passages are of constant depth and communicate at their narrow ends with separate inlets, and at their wide ends with outlets.

3,510,065

DESCALING NOZZLE

Leonard D. Gigantino, Maplewood, and Otto M. Gigantino, Newark, N.J., assignors to Wm. Steinen Mfg., Co., Parsippany, N.J., a corporation of New Jersey

Filed Jan. 5, 1968, Ser. No. 695,945
Int. Cl. B05b *1/00*
U.S. Cl. 239—590 6 Claims



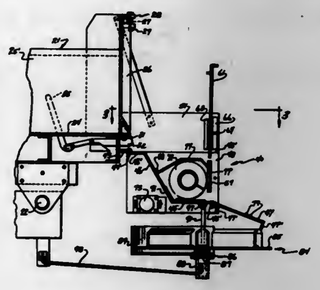
The present disclosure relates to a high pressure descaling nozzle designed to remove surface scale from hot rolled steel during the processing thereof.

3,510,066

SPREADER APPARATUS

Eskil W. Swenson, Cherry Valley, Ill., assignor to Swenson Spreader & Mfg. Co., Lindenwood, Del., a corporation of Illinois

Filed Mar. 10, 1966, Ser. No. 533,325
Int. Cl. A01c *3/06*
U.S. Cl. 239—657 22 Claims



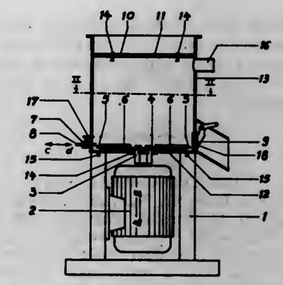
A trough or hopper extends along the rear end of a dump box to receive material therefrom. An auger in the hopper feeds material through a discharge opening onto a spinner. A combination cover and backplate overlies the hopper in one position and is movable to another position to guide material into the hopper. A feed plate overlies the auger in the area of the discharge opening and is supported on the front and rear walls of the hopper. The rear wall of the hopper is pivotally mounted for movement between a position adjacent the auger and another position for cleaning the hopper and auger.

3,510,067

METHOD AND DEVICE FOR CONVERTING THERMOPLASTIC FOIL WASTE TO A FLOWABLE GRANULAR MATERIAL

Erich Beck, Worms-Weinsheim, and Heinrich Schulz, Hanau, Germany, assignors to Fellner & Ziegler G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

Filed Sept. 1, 1967, Ser. No. 665,152
Claims priority, application Germany, Sept. 2, 1966, F 50,106; Aug. 11, 1967, F 53,207
Int. Cl. B02c *19/00*
U.S. Cl. 241—17 14 Claims



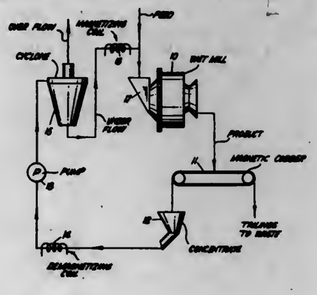
Thermoplastic foil waste is converted to re-usable granular material by mechanically beating the waste to thereby comminute it, and then continuing the beating operation for producing frictional heat which causes densification and agglomeration of the particles. The resulting granules are cooled while the beating motion is continued, thus permitting the granular material to be issued without sticking. A correspondingly controllable single beater unit equipped for timed supply of coolant is employed to perform the process in a continuous sequence of operations.

3,510,068

GRINDING OF MAGNETIC ORES

David Weston, Suite 500, 129 Adelaide St. West, Toronto 1, Ontario, Canada

Filed Nov. 27, 1967, Ser. No. 685,810
Claims priority, application Canada, Dec. 12, 1966, 977,798, Patent 814,997
Int. Cl. B02c *23/00*
U.S. Cl. 241—25 3 Claims



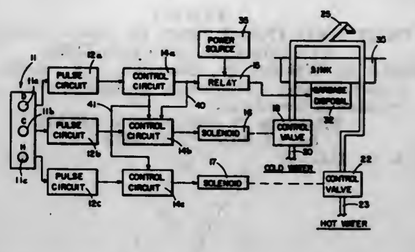
An improvement in the grinding of magnetic ores wherein the magnetic material in the ore is magnetically flocculated before being fed to the mill.

3,510,069

WATER FLOW AND GARBAGE DISPOSAL CONTROL SYSTEM

Donald E. Hannum, Palos Verdes Estates, Calif., assignor to Crosby Research, Inc., Los Angeles, Calif., a corporation of California

Filed May 8, 1968, Ser. No. 727,445
Int. Cl. B02c *18/42*
U.S. Cl. 241—33 6 Claims



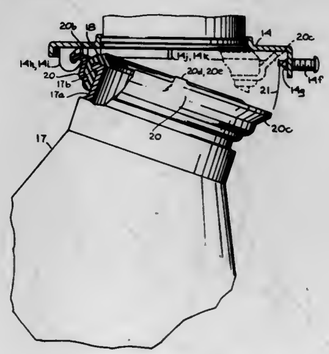
A solenoid valve is placed in the hot and cold water lines of a sink and a relay is used to control the power to a garbage disposal installed in such sink. Separate pushbutton switches are provided for each of the water controls and the garbage disposal. A control circuit comprising a flipflop operating in conjunction with a silicon controlled rectifier is provided to control each of the solenoid valves and the garbage disposal relay, each of said circuits being activated and deactivated in response to momentary actuations of the associated pushbutton switch. The control circuit for the disposal is interlocked with the control circuits for the water valves such that the cold water is automatically turned on and kept on whenever the disposal is operative and the hot water is automatically turned off under such conditions and cannot be turned on during disposal operation.

3,510,070

GARBAGE DISPOSAL APPARATUS

Jerome F. Stratman, Cypress, Calif., assignor, by mesne assignments, to The Tappan Company, Mansfield, Ohio, a corporation of Ohio

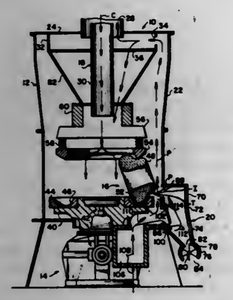
Filed Dec. 6, 1965, Ser. No. 523,235
Int. Cl. B02c *18/42*
U.S. Cl. 241—46 1 Claim



A sink mount for a disposer including a mounting ring on the sink flange assembly at the outlet and a support ring on the upper end of the disposer, with the two having cooperable hook elements which are engaged in the mounting of the disposer to support the latter at

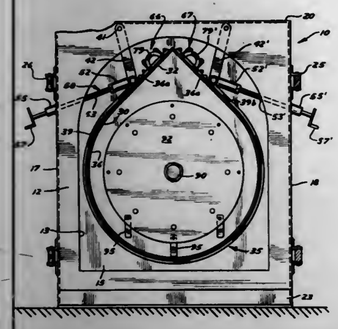
this location for upward swinging movement fully against the flange assembly. One of the hook elements has appreciable peripheral extent, so that the disposer can be rotatably adjusted, and the mounting ring carries an adjusting and holding screw which engages the support ring and forces the same upwardly against the flange assembly to secure the disposer in place.

3,510,071
PYRITE AND TRAMP IRON REMOVAL APPARATUS FOR COAL PULVERIZERS
Gilbert C. Whitney, Jr., Dansville, N.Y., assignor to Foster Wheeler Corporation, Livingston, N.J., a corporation of New Jersey
Filed June 29, 1967, Ser. No. 650,131
Int. Cl. B02c 15/12; B07b 7/02
U.S. Cl. 241—61 3 Claims



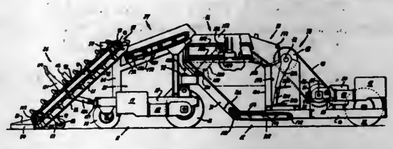
Apparatus for pulverizing raw coal feed stock into comminuted particles which can be conveyed to the combustion chamber of a furnace. Iron pyrite particles and tramp iron fall downwardly and are removed without effecting the upward flow of the powdered coal to the furnace.

3,510,072
MAGNETIC COLLECTOR FOR GRINDER
Howard C. Jacobson, 1484 Branston Ave., St. Paul, Minn. 55108, and Robert P. Olson, Rte. 2, Box 657, Mound, Minn. 55364
Filed Jan. 8, 1968, Ser. No. 696,305
Int. Cl. B02c 13/282
U.S. Cl. 241—73 3 Claims



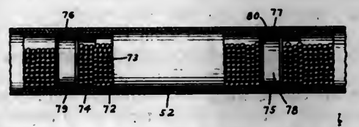
An apparatus consisting of a magnetic member mounted onto a wall portion of the grinding chamber of a hammer mill, said magnetic member including a collector whereby metallic particles are withdrawn from feed material being processed within said chamber, said particles being retained by said collector.

3,510,073
MOBILE ROCK CRUSHING APPARATUS
Richard P. Maillard, 604 Loma St., Redding, Calif. 96001
Filed June 16, 1967, Ser. No. 646,630
Int. Cl. B02c 1/04, 21/02; E01c 19/02
U.S. Cl. 241—81 8 Claims



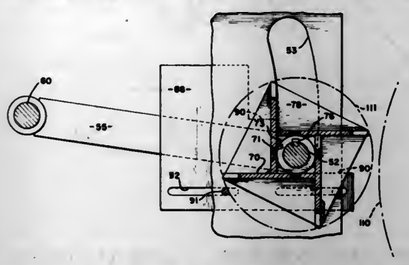
Self-propelled rock crushing apparatus having a pivotally mounted pickup conveyor which delivers the rock to be crushed onto a screen which removes the dirt and small rock particles and delivers the rock in plural paths to multiple crushers.

3,510,074
VIBRATING BALL MILL
Robert Edwards, Lincroft, N.J., and Arthur H. Buckley, Salem, Alfred G. Emslie, Scituate, and Richard H. Spencer, Winchester, Mass., assignors, by direct and mesne assignments, to Electronic Assistance Corporation, Red Bank, N.J., a corporation of New York
Filed July 27, 1967, Ser. No. 656,444
Int. Cl. B02c 17/06, 17/14
U.S. Cl. 241—153 19 Claims



This invention relates to a vibrating ball mill capable of grinding solids suspended in fluid or viscous liquid media and is characterized by conduits containing grinding balls vibrated by an unbalanced weight drive mechanism capable of providing an optium frequency and displacement of the conduits to enable fine grinding and high throughput, the grinding balls being segregated into groups with free zones therebetween to assure uniform distribution of the solids throughout the suspending medium and to reduce resistance to flow of the solids and suspending medium through the conduits.

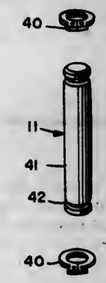
3,510,075
HAMMER MILL
William W. Mann, Talmage, and John E. Brelsford, Terre Hill, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,379
Int. Cl. B02c 13/02, 13/286
U.S. Cl. 241—186 10 Claims



A hammer mill having a positively driven, pivotally mounted feed roll consisting of blades mounted tangential-

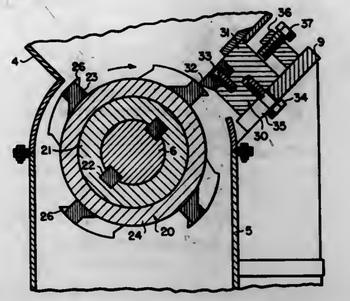
ly about a cylinder which is adjustable and reversible relative to the mill rotor to regulate the aggressiveness and holding effect of the roll.

3,510,076
IMPACT DEVICE
Benton L. Perdue, Portland, Oreg., assignor to Esco Corporation, Portland, Oreg., a corporation of Oregon
Continuation of application Ser. No. 604,685, Dec. 27, 1966, which is a continuation-in-part of application Ser. No. 411,257, Nov. 16, 1964. This application May 23, 1969, Ser. No. 830,200
Int. Cl. B02c 13/28
U.S. Cl. 241—197 4 Claims



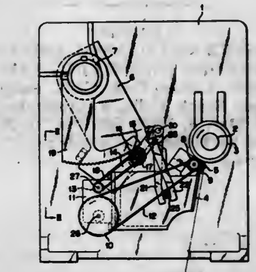
An impact element for a rotary crusher having a holder member and a tip member secured together by means of a transversely extending pin, the pin lying within the rearward projection of the striking face of the tip element.

3,510,077
SIZING SHEAR
John C. Priscu, Las Vegas, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware
Filed June 19, 1967, Ser. No. 647,004
Int. Cl. B02c 18/06, 13/02
U.S. Cl. 241—241 5 Claims



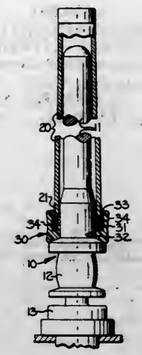
A rotary type shear having an adjustable stationary shear member including a blade and a rotary shear member including a drum and a plurality of curved blades mounted on the drum. A plurality of spaced material holding claw members located adjacent the cutting edge of each curved blade for forcing material between the blade and the blade of the stationary shear member during rotation of the drum.

3,510,078
MECHANISM FOR CONTROLLING WINDING PRESSURE OF PRECISION WINDER
Shin Tsukuma, Itami-shi, and Akio Higuchi, Takatsuki-shi, Japan, assignors to Kamitsu Seisakusho Ltd., Itami-shi, Hyogo-ken, Japan, a Japanese company
Filed Jan. 9, 1967, Ser. No. 608,150
Int. Cl. B65h 54/08
U.S. Cl. 242—18 6 Claims



A device for controlling winding pressure on a package used in a precision winder having a roller bail extending along the whole length of a package. Increases in the diameter of the winding package causes the contacting of a roller bail with the package and rotation of the roller bail. This rotation of the roller bail is transmitted in a reduced speed condition to a roller bail receding means and actuates receding means and actuated receding motion thereof. Thus, contacting pressure between the package and the roller bail is maintained very low on account of the slight contact between the two. The package obtained has relatively uniform and low hardness and is suitable for package dyeing.

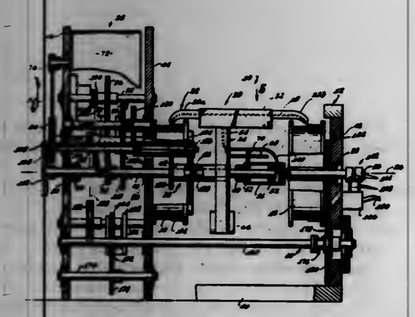
3,510,079
BOBBIN SEATER AND SPACER ATTACHMENT FOR USE IN A TEXTILE YARN PROCESSING MACHINE
Thad T. Flowers, Fort Mill, S.C., assignor to Springs Mills, Inc., a corporation of South Carolina
Filed May 13, 1968, Ser. No. 728,419
Int. Cl. B65h 75/30
U.S. Cl. 242—46.21 5 Claims



A bobbin seater and spacer attachment adapted to be used in a textile yarn processing machine, such as a spinning frame or the like, having a rotatable spindle and a

hollow bobbin received on and driven by the spindle. The bobbin seater and spacer attachment is adapted to be positioned at the base or acorn of the spindle and comprises means for positioning the bobbin upwardly from the base of the spindle for a loose fitting association therewith for ease in doffing and means for magnetically seating the bobbin to prevent longitudinal and vertical movement thereof with respect to the spindle during rotation thereof and to aid in driving the bobbin through rotation of the spindle.

3,510,080
STRIP TRANSFER MECHANISM AND MAGNETIC RECORDER EMBODYING SAME
George E. Lackey, Canoga Park, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Mar. 6, 1968, Ser. No. 711,047
Int. Cl. G03b *1/04*; G11b *15/32*
U.S. Cl. 242—54.1 24 Claims



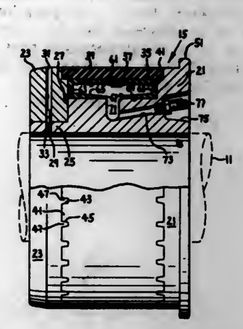
A transport mechanism for a long flexible strip, such as wire or tape, having a pair of stationary coaxial reels about which the strip is wound in opposite directions, and a strip transfer means including a guide through which the strip passes from one reel to the other and which is synchronously driven in rotation about and reciprocated along the common axis of the reels in such a way that the strip is simultaneously unwound from one reel and wound on the other reel. Information recording and retrieving apparatus embodying the transport mechanism.

3,510,081
DRAFTING BOARD WITH SHEET FEED CONTROL
Roy J. Anderson, 1220 Crenshaw Blvd., Los Angeles, Calif. 90019
Filed Jan. 18, 1968, Ser. No. 698,749
Int. Cl. B65h *17/02*
U.S. Cl. 242—67.1 14 Claims



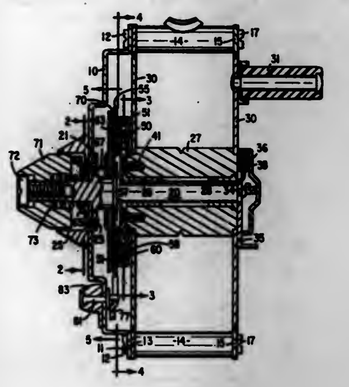
A drafting board having a work sheet feed control in which a length of work sheet supported on a roll may be controllably allowed to move lengthwise under the influence of spring-loaded work sheet tensioning means, and means are also provided for retracting the work sheet.

3,510,082
PNEUMATIC CHUCK
Earl A. Sexton, Gresham, Oreg., and Arthur T. Williams, 2363 SE. 8th Ave., Camas, Wash. 98607, assignors, by mesne assignments, to said Arthur T. Williams
Filed Nov. 24, 1967, Ser. No. 685,439
Int. Cl. B65h *17/02*
U.S. Cl. 242—68.2 12 Claims



A pneumatic chuck or shaft having an air expanded elastomer member in the form of an integral one-piece hollow torus of flattened cross section and opened along its inner central surface for ingress and egress of air, wherein the member has driving lugs at its end portions, or is devoid of driving lugs but is employed to expand an expandable driving sleeve having end-located driving lugs.

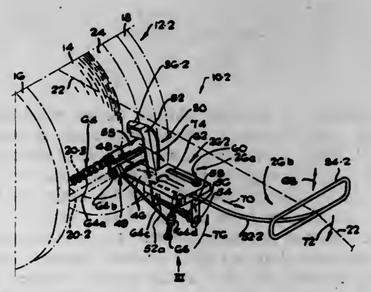
3,510,083
FISHING REEL
Sidney Charles Cook, Ilion, N.Y., assignor to Martin Reel Company, Inc., Mohawk, N.Y., a corporation of New York
Filed July 5, 1968, Ser. No. 742,580
Int. Cl. A01k *89/02*
U.S. Cl. 242—84.51 3 Claims



A fishing reel spool is connected through a one-way positive clutch to an adjustable friction brake to retard unwinding of the line, but allowing free rotation thereof in the winding direction. The spool is mounted on one end of a shaft in a housing and is connected directly to one element of a wedge-type, one-way clutch. The other element of the clutch is drivingly connected to an annular disk. A non-rotatable brake disk is axially shiftable against the annular disk by an adjustment knob threaded

on the opposite end of said shaft, outside the housing, acting on a pressure plate having a series of prongs arranged to pass through suitable openings in the housing to engage and position the brake disk. By rotating the knob, the pressure plate prongs vary the preasure of the brake disk against the annular member which will turn with the spool only in the unwinding direction. A clicker pawl is selectively engageable with teeth on the periphery of the annular disk.

3,510,084
FISHING REEL ATTACHMENT
John Gilbert Drake Andrew, Umzumbe, Natal, Republic of South Africa, assignor to Scott Patrick Trading Company (Proprietary) Limited, Umzumbe, Natal, Republic of South Africa
Filed July 20, 1967, Ser. No. 654,787
Claims priority, application Republic of South Africa, Sept. 27, 1966, 66/5,845
Int. Cl. A01k *89/02*
U.S. Cl. 242—84.52 7 Claims

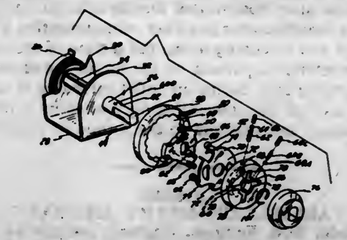


A brake attachment for removable connection to the crossbars of a fishing reel frame includes a brake pivoted on one crossbar and engageable with the spool of the reel, a deflector arm pivoted on another crossbar and terminating in a line guide, a bracket connecting the deflector arm to the brake, and a spring to normally, lightly urge the brake against the spool. During casting, tension in the line being forcibly unwound acts through the guide on the deflector arm to pivot the deflector arm and brake connected thereto to lift the brake away from the spool to allow free unwinding until the tension in the line is relaxed at the end of the case at which time the spring means biases the brake back into engagement with the spool to prevent it from unwinding excess line (backlash). An alternative arrangement provides the pivoted deflector arm with a brake on a crossbar of the reel frame and a spring coiled around the same cross arm to lightly bias the brake into engagement with the spool. A lock collar at one end of the spring provides an adjustment of the bias again at the deflector arm and its brake.

3,510,085
EMERGENCY LOCKING RETRACTOR WITH DISABLING MEANS
Robert W. Stoffel, Ferndale, Mich., assignor to Jim Robbins Seat Belt Company, Royal Oak, Mich.
Filed July 31, 1967, Ser. No. 657,166
Int. Cl. B65h *75/48*
U.S. Cl. 242—107.4 25 Claims

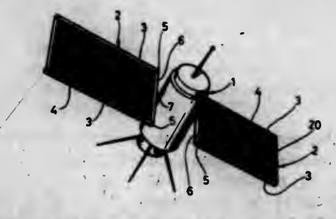
An inertial locking safety seat belt retractor with various mechanisms for disabling the retractor locking means until a minimum length of the belt has been withdrawn from the retractor.

Two embodiments of the disabling means are responsive to the changing diameter of the belt roll wound on the reel. Other embodiments are coupled to the rotating



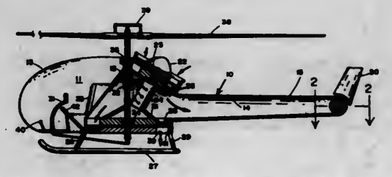
wind up reel and are actuated when the reel rotates a predetermined number of revolutions after the initial extension of the belt.

3,510,086
OUTRIGGER FOR SPACE MISSILES
Erich Arbeitlang and Heinrich Mathes, Ottobrunn, and Sigward Lanz, Munich, Germany, assignors to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany
Filed May 16, 1967, Ser. No. 638,970
Claims priority, application Germany, May 26, 1966, B 87,304
Int. Cl. B64g *1/00*
U.S. Cl. 244—1 11 Claims



An outrigger for space missiles comprises two flexible longitudinal supports which are adapted to be wound around the missile body and between which are arranged devices, for example, mats, nets, etc., for receiving or mounting solar cells. The supports are advantageously made of an inflatable flexible material in the form of a tube such as a rubber or plastic hose which can be inflated by means of pressure gas in order to cause it to unwind from the missile body, and it advantageously includes spring return means for winding it back on the body when the air pressure is removed therefrom.

3,510,087
AIR COUPLING SYSTEM FOR HELICOPTERS
James C. Strickland, 951 SW. 45th Ave., Miami, Fla. 33134
Filed May 6, 1968, Ser. No. 726,759
Int. Cl. B64c *27/82*
U.S. Cl. 244—17.19 5 Claims



An air coupling system for helicopters having a main duct, a pressure fan powered by an engine mounted in the

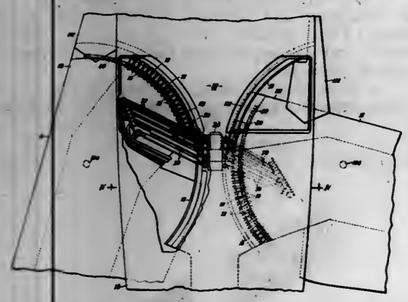
top portion of the main duct, straightening vanes mounted below the fan, a rotor shaft extending through the main duct and having a lift rotor mounted at one end and connected to a turbine at the other end whereby air passing through the main duct rotates the lift rotor to operate the helicopter, and a converging duct communicating with the main duct and extending to the tail section of the helicopter for receiving a portion of the air in the main duct, the converging duct having an outlet extending at an angle with the axis of the converging duct whereby a torque is created equal and opposite to the torque of rotating turbine.

3,510,088

VARIABLE-GEOMETRY AIRCRAFT

Walter John Bird, Feltham, England, assignor to British Aircraft Corporation Limited, London, England, a British company

Filed Feb. 5, 1968, Ser. No. 703,849
Claims priority, application Great Britain, Feb. 6, 1967, 5,619/67
Int. Cl. B64c *3/40, 3/54*
U.S. Cl. 244—46 10 Claims



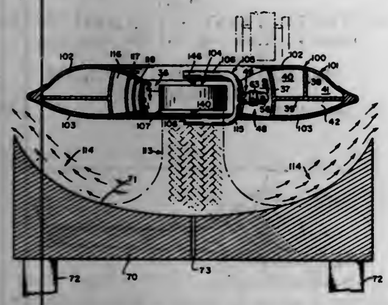
A variable-geometry aircraft in which the load-transmitting connection between each wing and the fuselage is constituted by members on the wing root engaging an arcuate trackway in the fuselage, which is so disposed that the wing pivots about a point outboard of the fuselage and of any part fixed to it, and close to the center of lift, so that trim changes arising from wing sweep movements are minimized.

3,510,089

PROPULSION SYSTEM

Mason Trupp, 310 Blanca Lane, Tampa, Fla. 33606

Continuation-in-part of application Ser. No. 372,178, June 3, 1964. This application Dec. 16, 1965, Ser. No. 514,190
Int. Cl. B64c *29/00*
U.S. Cl. 244—62 1 Claim



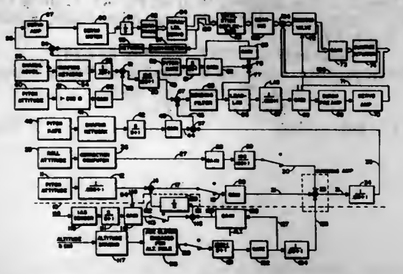
A propulsion system for aircraft and the like which includes a power means that has improved efficiency and wherein there is used the compound action of a spinning jet engine console to produce a reaction plume or plug of matter and energy upon which the aircraft operates and supports itself.

3,510,090

AUTOMATIC ALTITUDE CONTROL APPARATUS FOR AIRCRAFT

Victor L. Falkner, Forest Lake, and Gordon C. Kafer, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Sept. 8, 1967, Ser. No. 666,375
Int. Cl. B64c *13/18*
U.S. Cl. 244—77 9 Claims



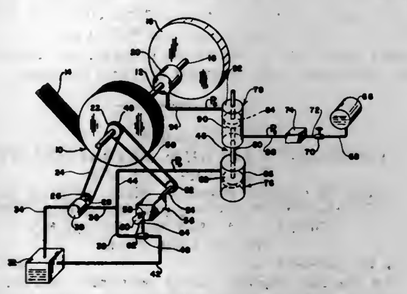
To maintain a constant altitude during rapid airspeed changes, rapid changes in aircraft trim angle of attack are required. Gain limitations of a conventional altitude hold control limit the range of airspeed disturbance over which a relatively constant altitude will be maintained. Airspeed information from the air data computer can be used to improve the performance of a conventional altitude hold control during rapid airspeed changes. The relationship between angle of attack change required for an airspeed change is obtained from the relationship existing between trim angle of attack and indicated airspeed or Mach number. The slope of this curve, change in angle of attack α per change in airspeed at a given airspeed establishes the relationship required to effect the change of attitude reference. The rate of airspeed reference change required for a given rate of airspeed change is obtained by high passing the airspeed signal to obtain the rate of change of airspeed.

3,510,091

LAUNCH OR RECOVERY SYSTEM FOR AIRCRAFT

John Sherman Strance, Dover, Mass., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Dec. 11, 1967, Ser. No. 689,713
Int. Cl. B64f *1/08*
U.S. Cl. 244—63 8 Claims



There is provided an aircraft launch system of the type adapted for catapults utilizing coilable elements

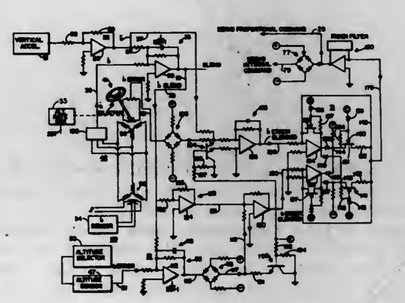
adapted to be wound around a reel and in installations having restricted runways. This improvement includes the provision of a signal directly related to the speed of the reel coiling the launch element and subtracting such signal with a second signal always greater than the first, the resultant or difference signal being applied to a torsional device that is coupled to and controls the speed of the reel.

3,510,092

CRAFT ALTITUDE CONTROL APPARATUS

Russell C. Hendrick, Fridley, and Donald J. Rotier, St. Paul, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 28, 1967, Ser. No. 656,776
Int. Cl. B64c *13/18*; G05b *1/01*
U.S. Cl. 244—77 15 Claims



The disclosure relates to condition control apparatus such as aircraft control apparatus and primarily for outer loop altitude control of the aircraft about its pitch axis wherein two forms of outer loop control are provided (a) altitude rate hold, select and adjust, and (b) altitude hold, select and adjust. In (a) there will be maintained the altitude rate existing at the time of its engagement unless a different altitude rate has been selected prior to its engagement; in this case, it will maneuver the craft to the selected rate. It can also be used in conjunction with the altitude control mode to establish the rate of climb or descent desired by the pilot when accomplishing a selected altitude change. The system is designed to limit the vertical acceleration to 0.1 g. during select and adjust operations and when engaged at an existing altitude rate.

In (b) the aircraft altitude will be maintained at the altitude existing at the time of its engagement unless a different altitude has been selected prior to its engagement; in this case, it will maneuver the aircraft to the selected altitude. The altitude mode can be used simultaneously with the altitude rate mode to permit selection of the maximum altitude rate desired during a climb or descent to a selected altitude. If both modes (altitude rate and altitude hold) are engaged simultaneously, a signal selector is activated. This signal selector selects (from the rate error and altitude error) the signal calling for the more down-elevon signal or the one calling for the more down depression of the nose of the craft if the selected rate is a climb signal. However, the more up-elevon signal or greater nose up signal is selected to control the surfaces of the craft if the selected rate calls for a descent.

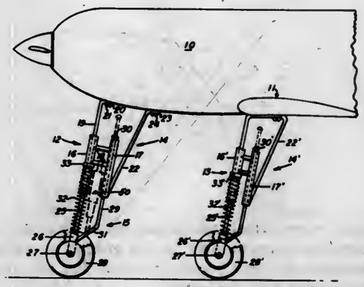
This implementation results in a smooth transition between control modes as the altitude rate error and altitude error signals become equal.

3,510,093

LANDING GEAR FOR AIRPLANES

John Michael Frankovich, 5018 N. Apperson Way, Kokomo, Ind. 46901

Filed Oct. 19, 1965, Ser. No. 497,662
Int. Cl. B64c *25/62*
U.S. Cl. 244—104 4 Claims



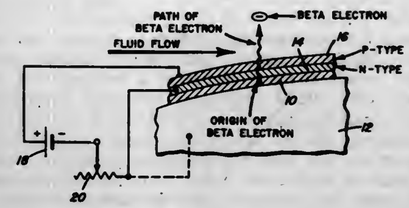
The invention pertains to a landing gear for airplanes, in which the landing gear has two fixed upper struts attached to the airplane structure, two interconnected sleeves attached to the fixed struts, two lower movable struts received within the sleeves and joined at their lower ends to support an axle for a ground engaging wheel, a coil spring surrounding one of the movable struts to urge the axle and wheel downward, and stop means on a movable strut to limit the downward movement of the axle and wheel, the fixed struts, sleeves, movable struts and wheel disposed in a common plane.

3,510,094

METHOD AND MEANS FOR REDUCING THE SKIN FRICTION OF BODIES MOVING IN A FLUID MEDIUM

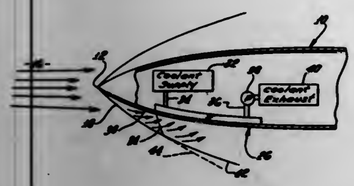
James Clark, 160 Devonhurst Drive, Apt. C., Dayton, Ohio 45429

Continuation-in-part of application Ser. No. 457,394, May 20, 1965. This application Dec. 11, 1967, Ser. No. 689,434
Int. Cl. B63b *1/34*; B64c *3/36*
U.S. Cl. 244—130 17 Claims



A system for reducing the skin friction of aerodynamic bodies and the like incorporating a layer of either alpha or beta emitting radioactive material upon the outer surface of the body, covering the radioactive material with a material having semiconductor properties, and controlling the alpha or beta emissions by varying the electric bias on the semiconductor material. The semiconductor layer may be configured as a diode, triode, F.E.T., and the like.

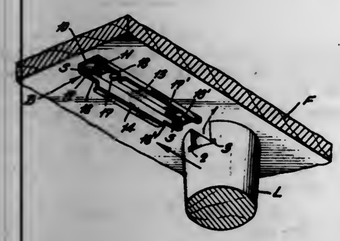
3,510,095
SONIC BOOM AMELIORATION
Raymond L. Chuan, Altadena, Calif., assignor, by mesne assignments, to The Susquehanna Corporation, a corporation of Delaware
Filed Aug. 8, 1968, Ser. No. 751,084
Int. Cl. B64c 23/00
U.S. Cl. 244—130 9 Claims



Shock waves which are generated at the leading edges of aircraft and are audible on the ground as sonic booms are lessened in their booms, by reducing the peak pressure associated with the wave.

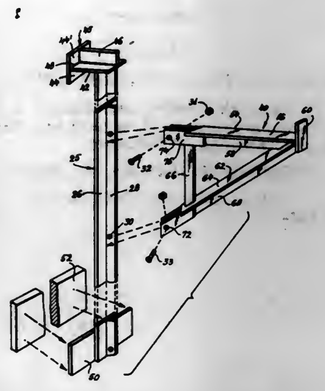
This is accomplished by cryopumping the atmosphere adjacent the aircraft surfaces to a highly condensed form.

3,510,096
BRACKET MOUNTING FOR WOODEN FURNITURE LEGS
Henry Mutchnik and Melvin Mutchnik, both of 5804 Gist Ave., Baltimore, Md. 21215
Filed Oct. 1, 1968, Ser. No. 764,283
Int. Cl. F16m 11/16
U.S. Cl. 248—188 10 Claims



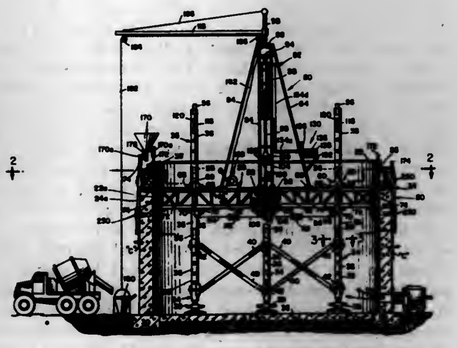
An elongate bracket assembly for rigidly mounting a wooden furniture leg fitted with a longitudinal slot of an inverted T in cross-section, adjacent to its upper end, said bracket having a central web, adapted initially to be affixed loosely to the underside of a furniture unit, and formed with lateral projections extending downwardly from at least the midportion of said web and terminating in outwardly directed flanges substantially parallel to the plane of the web with a displacement therefrom slightly less than the head of the T-slot from the end of the leg. The slotted leg is adapted to be slid onto the bracket so that the midportion of the bracket is accommodated within the stem of the T while the flanges are nested within the arms or horizontal grooved arms of the T, which upon the tightened fastening of the web towards the underside of the furniture unit results in clamping of the furniture leg thereonto by the action of the flanges against the upper surfaces of the horizontal grooves of the T-slot. When the wood legs are of polygonal section, additional bracing brackets may be provided at opposite lateral surfaces of the leg to supplement the action of the main fastening bracket.

3,510,097
METAL SCAFFOLD MOUNTABLE ON BUILDING WALL
William O. McCaleb, Rte. 3, Fayette, Ala. 35555
Filed Dec. 3, 1968, Ser. No. 780,684
Int. Cl. E04g 3/10
U.S. Cl. 248—243 2 Claims



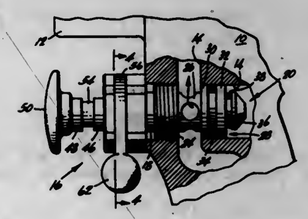
A scaffold has a two part metal framework including a bracket and bracket support. The bracket support includes a long T-bar with welded flanges at the top arranged to form a rectangular hook which engages over the top of a building wall. The bracket is a triangular structure which is detachably bolted to the T-bar and extends outwardly of the building wall. The bracket has a flat horizontal top on which platform boards can be placed. A vertical toe plate at an outer corner of the bracket holds the platform boards on the bracket.

3,510,098
SLIP FORM APPARATUS
Samuel O. Fox, Hanover Park, Ill., assignor to De Muth Steel Products Company, Schiller Park, Ill., a corporation of Illinois
Filed June 22, 1967, Ser. No. 647,998
Int. Cl. E04g 11/20
U.S. Cl. 249—20 14 Claims



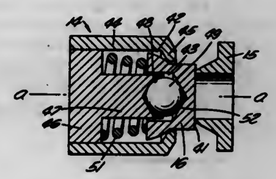
A slip form assembly for use in building hollow, tubular, upwardly extending, poured concrete structures, such as silos, chimneys, storage bins, and the like, including a tubular inner form wall facing the inner wall and spaced outwardly therefrom to permit concrete to be poured between the walls and formed thereby. Means are provided for structurally interconnecting the inner and outer form walls adjacent their upper ends and means are provided for maintaining a selected spacing between the facing inner and outer form walls with the spacing adjacent the upper ends of the two walls being less than the spacing adjacent the lower ends of the form walls. Accordingly, one of the form walls is tapered with respect to the other and is movable upwardly with greater ease during the slip forming operation.

3,510,099
TWO POSITION SAFETY VALVE FOR AIR DRIVEN MOTORS
Woodford J. Crump, South Gate, Calif., assignor to Monogram Industries, Inc., Los Angeles, Calif., a corporation of California
Filed July 17, 1968, Ser. No. 745,511
Int. Cl. F16k 35/06
U.S. Cl. 251—116 5 Claims



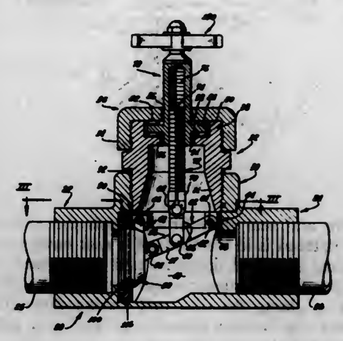
A novel valve assembly for controlling the supply of air to a pneumatically operated motor wherein a ratcheting pawl is provided to lock the valve in either the open or closed position, the pawl being normally biased to the locking position and the pawl including structure to facilitate a manual operation thereof.

3,510,100
ZERO LEAKAGE POPPET VALVE
Waldemar J. Makusay, Van Nuys, and Marinus C. Bokelman, Studio City, Calif., assignors to Bell Aerospace Corporation, a corporation of Delaware
Filed July 22, 1966, Ser. No. 567,284
Int. Cl. F16k 31/04, 25/00
U.S. Cl. 251—138 1 Claim



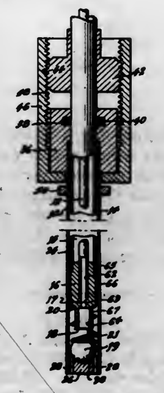
Disclosed is a force motor operated poppet valve adapted to control the flow of fluid through a chamber sealed from the force motor but which utilizes metal to metal poppet-valve seat combination to effect zero leakage. The zero leakage is obtained through the utilization of a poppet assembly wherein the poppet is permitted freedom of movement during the seating mode of operation so as to always fully conform to the seat and effect positive sealing relationship therewith.

3,510,101
HIGH-PRESSURE VALVE
Wilson A. Burtis, 5911 Harvard Ave., Westminster, Calif. 92683
Filed Feb. 16, 1967, Ser. No. 616,595
Int. Cl. F16k 25/00, 31/52
U.S. Cl. 251—228 2 Claims



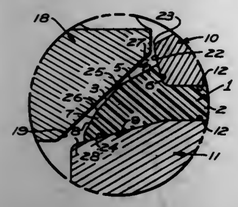
A valve with a flapper closure member pivoted about an axis outside the fluid flow path and actuated by a toggle linkage having limit stop means approximately at over-center relation, corresponding to valve closed position. Sealing contact is metal-to-metal, with valve seat and closure member permitted limited relative movement radially and axially of the valve axis in sealing relation. In open position the closure member is retracted out of the fluid flow path. Arrangement facilitates disassembly of valve parts without disconnecting valve body from adjacent conduits.

3,510,102
VALVE ASSEMBLY
Zenon F. Sungaila, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 8, 1968, Ser. No. 751,103
Int. Cl. B65d 47/20; F16k 31/14, 31/44
U.S. Cl. 251—278 4 Claims



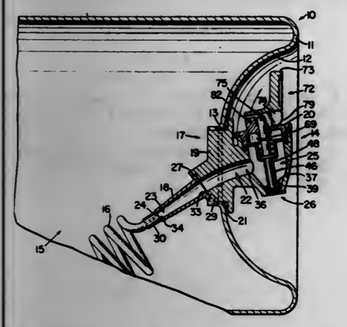
A valve assembly for use with a liquefied-gas container. The assembly enters the container through an opening in the top and has a valve portion proper near the bottom and a control for the valve portion outside the top of the container. The valve assembly serves as an insulated stopper for the container.

3,510,103
VALVE AND SEAL THEREFOR
Anthony J. Carnelle, 1728 S. La Cienega, Los Angeles, Calif. 90035
Filed Feb. 28, 1968, Ser. No. 708,961
Int. Cl. F16k 25/00
U.S. Cl. 251—333 6 Claims



A valve and seal therefor in which the seal of elastomeric material is in the form of a disk having a conical seal element bordered upstream and downstream by buttress elements of triangular cross section; the valve being arranged to clamp the disk and having diverging walls which back the buttress elements as well as a valve face which engages the seal element.

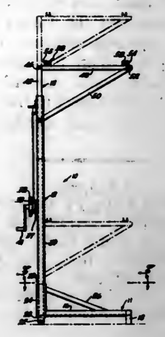
3,510,104
DRIPLESS SPIGOT CONSTRUCTION
Calvin L. Wilson and John H. Fox, Jr., Chesterfield County, and Vincent J. Serio, Jr., Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 8, 1967, Ser. No. 662,266
Int. Cl. F16k 23/00, 25/00, 35/00
U.S. Cl. 251—335 25 Claims



A spigot construction for a dispensing container for carbonated beverages which avoids excessive foaming of the product. A flexible surface over a frusto-conical plug is resiliently urged into tight sealing engagement with the outlet opening of the spigot thereby preventing any after drip. The means for urging the plug into sealing engagement may be either interior or exterior to the housing of the spigot.

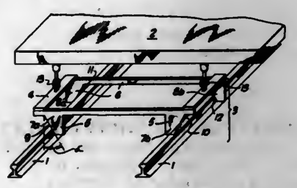
3,510,105
BUILDING PANEL LIFTER
Mohammed S. Gof, 89 Haledon Ave., Paterson, N.J. 07522
Filed Apr. 26, 1968, Ser. No. 724,443
Int. Cl. B66p 1/14
U.S. Cl. 254—4 7 Claims

A building panel lifter and supporter for use in applying building board or panel to a ceiling framework in building construction. The device comprises a base section, an intermediate section and a top section, all removably telescopingly interfitted, and crank and pulley mechanism for adjustably extending and holding said sections in adjusted relatively-extended position for supporting a building panel in position for nailing. The top



section includes upwardly-extendable support arms for increasing over-all height of the device for use in constructing higher than usual ceilings.

3,510,106
LINER ASSEMBLY
Helmuth von Beckman, Columbia, S.C., and Udo Riga, Montreal, Quebec, Canada, assignors to Tamper Inc., Columbia, S.C.
Filed Apr. 2, 1968, Ser. No. 718,114
Claims priority, application Canada, Feb. 1, 1968, 11,358
Int. Cl. E01b 29/22
U.S. Cl. 254—43 7 Claims

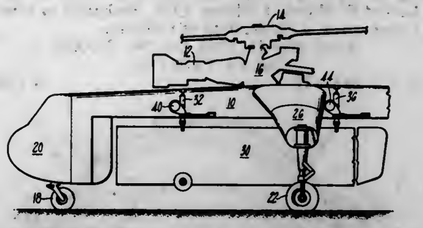


Apparatus for horizontally aligning railroad tracks comprises a frame having two pairs of teeth spaced-apart in the direction of the track. Each pair of teeth has angled rail engaging surfaces, the surfaces of one pair facing outwardly so as to engage the inner faces of the rails and the surfaces of the other pair facing inwardly so as to engage the outer faces of the rails. Means are provided to tilt the frame so that one pair of surfaces engages the rails before the other pair.

3,510,107
MULTIPLE HOIST SYNCHRONIZATION SYSTEM
Ridley Fidler, Milford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 11, 1968, Ser. No. 697,085
Int. Cl. B66d 1/48
U.S. Cl. 254—173 27 Claims

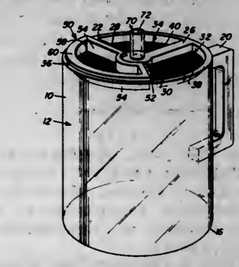
This invention relates to a hoist mechanism in which the speeds of a number of independently driven winch cables are synchronized in order to keep the suspended load in a fixed attitude while it is raised and lowered.

Provisions are also made for individually operating the winches or operating the winches in pairs to shorten or



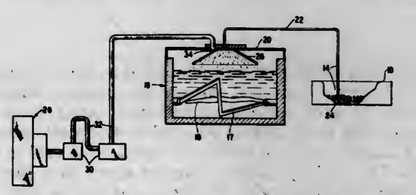
extend the cables with respect to one another and change the attitude of the load.

3,510,108
RICE WASHER
Thomas M. Yego, Jr., 1351 Cornell Way, Sacramento, Calif. 95831
Filed May 7, 1968, Ser. No. 727,174
Int. Cl. B08b 3/02
U.S. Cl. 259—4 13 Claims



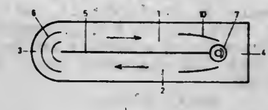
A container designed particularly for washing rice and like foods preparatory to cooking is provided, the container having a perforated cover and a centrally-located opening for directing into the container a flow of water for agitating and thus washing contained articles. The cover is divided into three parts, two parts being fixed in place, the third part being hinged to one of the other two parts for access to the interior of the container. All three parts are perforated to permit outflow of water.

3,510,109
METHOD AND APPARATUS FOR INCORPORATING FIBROUS MATERIALS INTO AIR-FREE HIGH SOLIDS DISPERSIONS
Joseph J. Grabauskas, Chicago, and William F. Underwood, Oak Park, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed Feb. 8, 1968, Ser. No. 704,097
Int. Cl. B01f 7/02
U.S. Cl. 259—18 8 Claims



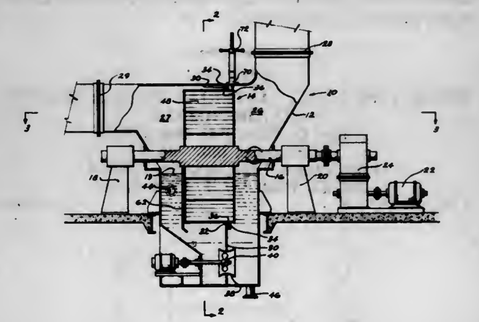
Fibrous materials are incorporated into air-free dispersions having a high solids content. The fibrous-containing air-free dispersions are subsequently fabricated to obtain formed structures which are substantially free of air bubbles.

3,510,110
SEWAGE PURIFICATION
Roelof Jan Kleis, Driebergen, Netherlands, assignor to Ingenieursbureau Dwars, Heederik en Verbey N.V., Amersfoost, Netherlands, a corporation of the Netherlands
Filed July 2, 1968, Ser. No. 741,975
Claims priority, application Netherlands, July 3, 1967, 6709194
Int. Cl. B01f 7/26
U.S. Cl. 259—107 8 Claims



An installation for the purification of sewage by means of the activated sludge method, wherein the sewage flows in a closed circuit, and wherein oxygen is added to the sewage by means of an aerator which also brings the sewage into circulation. The oxygen is added by means of a surface aerator rotating about a vertical axis, and a partition is arranged in the vicinity of the aerator in such manner that the partition forms a part of the separating means between the portions of the circuit before and behind the aerator in the direction of flow.

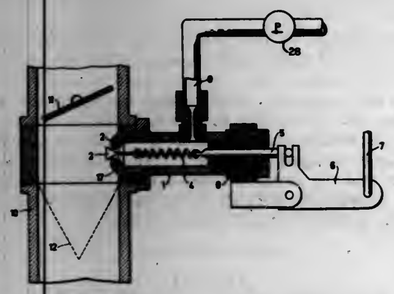
3,510,111
ROTATING LIQUID-GAS CONTACTOR
Frank W. Hochmuth, West Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Feb. 14, 1967, Ser. No. 616,089
Int. Cl. B01f 7/12, 3/04, 15/00
U.S. Cl. 261—29 1 Claim



A liquid-gas contact apparatus having a partially submerged rotor dividing a housing into gas and liquid inlet and outlet portions. A plurality of passageways extend axially through the rotor for liquid and gas flow and contact. A pump and aperture in a diaphragn are provided to recirculate the liquid from the liquid outlet to the liquid inlet portion. The diaphragm surrounds the rotor and divides the housing into the gas and liquid inlet and outlet portions. The diaphragm has a channel and the rotor has a member which cooperates therewith to form a seal to prevent the flow of gas and liquid around

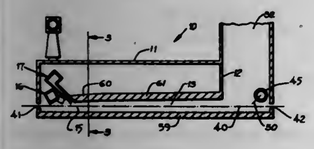
the outside of the rotor between the inlet and outlet portions. A drive motor rotates the rotor in a preselected direction to move a first quadrant of the rotor upwardly out of the liquid and a second quadrant of the rotor downwardly in the liquid. A first baffle is positioned adjacent the end of the rotor in the liquid inlet portion of the housing and covering at least a portion of the first quadrant. A second baffle is positioned adjacent the end of the rotor in the liquid outlet portion of the housing and covers at least a portion of the second quadrant.

3,510,112
LIQUID ATOMIZER
Knut L. Winquist, Hoglundagatan 22, and Sture Anders Backmann, Staregatan 12, both of Orebro, Sweden
Continuation-in-part of application Ser. No. 469,814, July 6, 1965. This application Mar. 7, 1966, Ser. No. 536,550
Int. Cl. F02m 45/08
U.S. Cl. 261—37 11 Claims



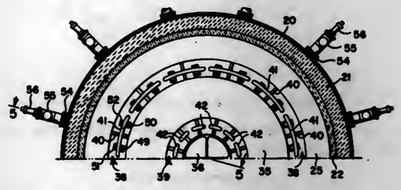
A liquid atomizing device including an outlet orifice and a valve member which is axially reciprocable relative thereto in order to perform a hammering effect upon liquid emerging from said orifice. The orifice is supplied with liquid under a pulsating pressure and the valve member is adjustable during operation so as to vary the extent of the orifice opening relative to the amplitude of liquid pressure at said orifice.

3,510,113
DRIER FOR SHEET MATERIAL WITH A BURNER AND AIR NOZZLE
Walter G. Wise, P.O. Box 27066, Indianapolis, Ind. 46327
Filed June 6, 1968, Ser. No. 734,916
Int. Cl. F26b 13/22; F27b 9/28
U.S. Cl. 263—3 8 Claims



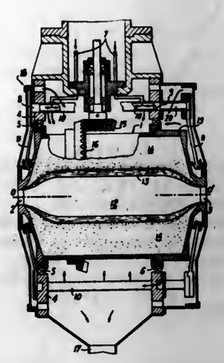
Apparatus for heating and/or drying a sheet of material including a gas burner and a fresh air nozzle both of which exhaust at the entrance of a tunnel through which the material moves. The gas burner is positioned between the nozzle and the material and exhausts its products of combustion almost parallel to the direction of movement of the material while the fresh air nozzle is arranged at an approximate 45 degree angle of exhaust.

3,510,114
DISCHARGE GRATE MECHANISM FOR SHAFT KILN
Craig C. Waddle, Evergreen, John C. Scott, Denver, and Robert K. Harris, Littleton, Colo., assignors to Mintech Corporation, a corporation of Colorado
Filed May 31, 1968, Ser. No. 733,435
Int. Cl. F27b 1/00
U.S. Cl. 263—29 4 Claims



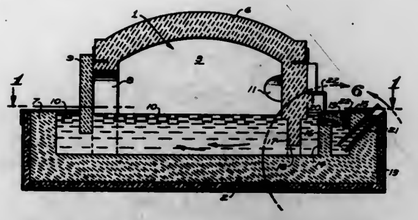
A discharge grate mechanism is disclosed for use in discharging solid particulate materials at a uniform rate from a gravity flow moving bed processing unit, such as a vertical shaft kiln. The discharge grate includes concentric support plates defining annular openings, and annular retarder plates below each opening. Pusher bars are used to push solids from the retarder plates. The discharge grate mechanism is sealed so that the unit can be operated at temperatures above ambient temperatures and at pressures greater than atmospheric.

3,510,115
ROTARY MELTING FURNACE WITH PERIPHERAL COOLING MEANS
Marc Foex and Robert Delmas, Montlouis, Henri Blatmann, Igny, and David Yerouchalmi, Le Mesnil-Saint-Denis, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Feb. 2, 1968, Ser. No. 702,644
Claims priority, application France, Feb. 20, 1967, 95,689
Int. Cl. F27b 7/08
U.S. Cl. 263—33 5 Claims



A rotary melting furnace comprising a rotary cylindrical shell having a horizontal axis and two conical extremities pierced by axial openings, a stationary casing which surrounds said shell, systems for cooling said shell by means of a cooling fluid and means for driving said shell in rotation. The cooling systems comprise spray tubes disposed around the periphery of the shell in axially parallel relation thereto and tube sections which terminate at the conical extremities of the shell, the liquid which has served to cool the conical extremities of the shell being recovered by centrifugation and caused to run over the cylindrical portion of the shell.

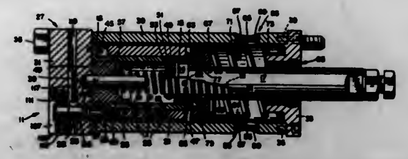
3,510,116
METAL DISPENSING FURNACE
Henry L. Harvill, Riverside, and John L. Harvill, Corona, Calif. (both of P.O. Box 777, Corona, Calif. 91720)
Filed Aug. 30, 1967, Ser. No. 664,372
Int. Cl. F27d 3/14
U.S. Cl. 266—38 6 Claims



A metal dispensing furnace having a molten metal reservoir, a surge chamber joined to the reservoir by a submerged opening, and a dispensing chamber having a discharge spout and intermittently connected with the surge chamber over a baffle wall separating the surge and dispensing chambers.

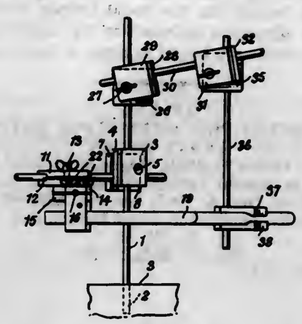
The surge and dispensing chambers being intermittently exposed to a common source of air or inert gas under pressure, and to a common exhaust so that the molten metal in the dispensing chamber is periodically discharged, while simultaneously molten metal in the surge chamber is caused to backflow into the reservoir, agitating the metal therein, particularly at the bottom of the reservoir; then, alternately, is permitted to refill the surge and dispensing chambers causing further agitation of the molten metal in the reservoir.

3,510,117
ADJUSTABLE HYDRAULIC BUFFERING DEVICE
Harold W. Scholin, 1225 N. Northwest Highway, Park Ridge, Ill. 60068, and Holger E. Pedersen, Chicago, Ill.; said Pedersen assignor to said Scholin
Filed Mar. 22, 1967, Ser. No. 625,091
Int. Cl. F16d 57/00
U.S. Cl. 267—1 12 Claims



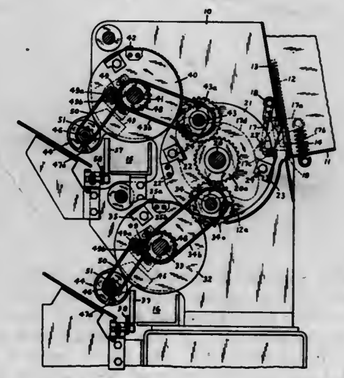
A hydraulic deceleration device or shock absorber for buffering relatively moving parts or objects, to stopped or standstill condition, smoothly and without shock or jar, embodying a cylinder and cooperating piston, wherein the cylinder is formed with a plurality of longitudinally spaced outlet ports adapted to be successively closed off by the piston as it advances in the cylinder to thereby progressively reduce fluid flow therethrough, from the cylinder, and thereby decelerate piston movement in the cylinder, the arrangement, including manually adjustable means for choking off fluid flow through said ports, to any desired extent, the same comprising a sleeve snugly embracing the cylinder and having ducts normally aligned with said ports, the sleeve being adjustably shiftable on the cylinder, through an adjusting screw, to permit the aligned ports to be progressively closed, by precise increments, from fully open to almost completely shutoff condition, to thereby regulate the buffering action of the deceleration device.

3,510,118
WORK HOLDER OR JIG
Fred L. Brechtel, 803 NW. 1st St., Fort Lauderdale, Fla. 33311
Filed Jan. 8, 1968, Ser. No. 696,265
Int. Cl. B25b 5/14
U.S. Cl. 269—104 1 Claim



A jig or clamp for holding articles or workpieces consisting of a supporting rod or post upon which a plurality of clamps are adjustably mounted. Each of the clamps is provided with a projecting rod that is adjustable through the clamp, the rod carrying a clamp through which a second rod is longitudinally adjustable. Workpiece clamping jaws are carried by the second rod. One of the clamps carried by the supporting post has a third rod that is slidably adjustable through it and the latter rod carries a clamp adjacent one end and the latter clamp carries a fourth rod on which workpiece engaging jaws are carried. There are pivotal adjustments between portions of the several clamps so that very substantial adjustment between the rods and the various other parts of the structure is possible and the secure engagement and holding of workpieces of various shapes and sizes is attained.

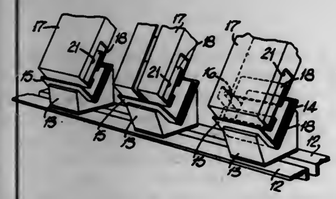
3,510,119
SIGNATURE ASSEMBLING APPARATUS
Gosta R. Linden, Park Ridge, N.J., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,258
Int. Cl. B65h 39/02
U.S. Cl. 270—54 10 Claims



Apparatus for removing successive signatures of a particular type from a stack and delivering the same to an assembling point for introduction in the proper position

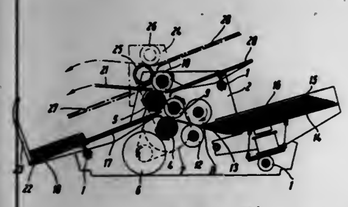
into a collection of signatures that are to be bound into a booklet or magazine or the like. The particular signatures involved have a free edge of paper extending beyond all other layers included in the folded signature. The apparatus includes a turnover device in the path of movement of the particular signatures from the stack to the assembling point, thereby enabling these signatures to be bound into the booklet along a free edge, while other signatures delivered to the assembling point from other stacks are bound in along a folded edge.

3,510,120
APPARATUS FOR ASSEMBLING BATTERY PLATE PACKS
John Derek Harris, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Dec. 6, 1967, Ser. No. 688,549
Claims priority, application Great Britain, Dec. 15, 1966, 56,175/66
Int. Cl. B65g *57/00*
U.S. Cl. 270—58 1 Claim



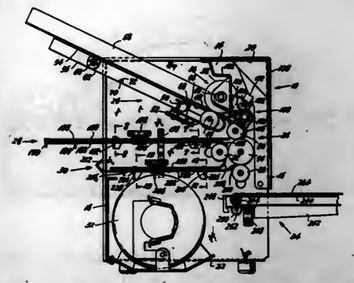
Apparatus for assembling battery plate packs comprises a conveyor having a laterally inclined surface, a wall upstanding from the lower edge of said surface, and means on the conveyor for transferring battery plates and separators alternately from a plurality of fixed stations onto said surface, so that they are arranged on said surface into a pack one edge of which is in contact with the wall.

3,510,121
FOLDING MACHINES WITH FOLDING POCKETS
Erwin Perth, St. Georgen, Black Forest, Germany, assignor to Mathias Bauerle Gesellschaft mit beschrankter Haftung, St. Georgen, Black Forest, Germany, a German company
Filed Apr. 3, 1967, Ser. No. 628,120
Claims priority, application Germany, Apr. 29, 1966, B 86,889
Int. Cl. B65h *45/14*
U.S. Cl. 270—68 6 Claims



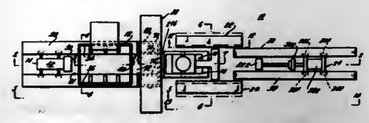
A paper folding machine having an inclined row of drive rolls in engagement with a similarly inclined row of driven rolls, folding pockets arranged to receive paper from one associated pair of rolls including one drive roll and one driven roll and to pass folded paper to another associated pair of rolls, the paper being ejected from the last and uppermost associated pair of rolls to the first and lowest folding pocket the upper surface of which forms a collecting table.

3,510,122
SHEET FOLDING MACHINE
Thomas J. Gavaghan, Norwalk, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Mar. 26, 1968, Ser. No. 716,044
Int. Cl. B65h *45/14*
U.S. Cl. 270—68 10 Claims



A folding machine in which all of the working components for storing, feeding, folding and discharging sheets of paper are located on one side of an interface of the folding machine to permit the folding machine to be operatively joined to other paper handling machines. A paper supply tray and a pair of buckle chutes are removably mounted so that a feeding and folding roller assembly located adjacent the interface can be readily completely exposed and made accessible to an operator of the folding machine.

3,510,123
DEPOSITING AND STACKING MECHANISM FOR CONTINUOUS THREE-KNIFE TRIMMER
Carl Thumim, Chicago, Nicholas Herman, Palatine, and James Des Jardins, Chicago, Ill., assignors to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Original application Mar. 10, 1966, Ser. No. 533,328, now Patent No. 3,424,044, dated Jan. 28, 1969. Divided and this application June 13, 1968, Ser. No. 775,209
Int. Cl. B65h *31/04*
U.S. Cl. 271—86 4 Claims

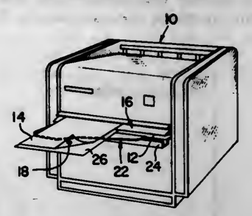


Depositing and stacking mechanism including a pair of oppositely disposed endless loop belt walls, which belts include a plurality of inwardly projecting fingers pivotally mounted on the belt and selectively movable between a projecting support position in which the fingers are capable of supporting material and a non-projecting, non-supporting position, and automatic means for shifting the fingers between these two positions on the occurrence of predetermined events.

3,510,124
COPY MACHINE FEED TABLE
Louis Bentzman, Philadelphia, Pa., assignor to Electrocopy Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 18, 1968, Ser. No. 718,299
Int. Cl. B65h *1/04*
U.S. Cl. 271—8 13 Claims

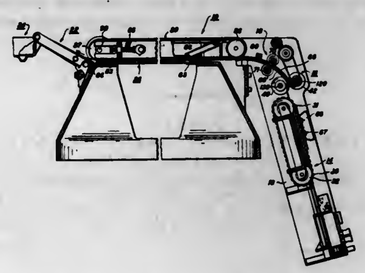
A feed table for use in an electrostatic photo copy machine incorporating a stationary table affixed to the

machine below a protruding paper separator and a paper guide removably connected to the front of the fixed table



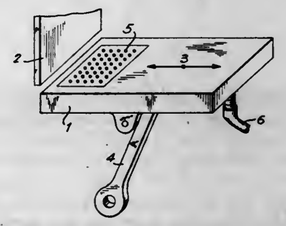
in a readily laterally adjustable and separable transverse connection.

3,510,125
DOCUMENT REGISTRATION SYSTEM
John K. Krueger, St. Georges, Del., and Anthony Howard, Henrietta, and George E. Fackler, Walworth, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 17, 1968, Ser. No. 698,558
Int. Cl. B65h *7/18, 5/02, 9/00*
U.S. Cl. 271—10 10 Claims



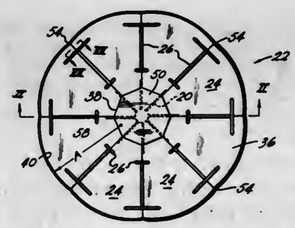
A document feeding apparatus including a document register, means for feeding a document forward and beyond the document register, and control means adapted following feed of the document to reverse the document feeding means and carry the document backwardly into engagement with the document register.

3,510,126
MECHANISM FOR FEEDING A SHEET MATERIAL TO A PROCESSING MACHINE
Victor Romanens, Prilly, Switzerland, assignor to J. Bobst and Son S.A., Prilly, near Lausanne, Switzerland, a corporation of Switzerland
Filed July 27, 1967, Ser. No. 656,553
Claims priority, application Switzerland, July 29, 1966, 11,085/66
Int. Cl. B65h *1/06*
U.S. Cl. 271—32 11 Claims



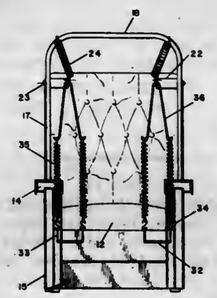
A mechanism in which a reciprocal carrier member adapted for holding a sheet of material thereagainst by suction is provided with a displaceable member which projects from the carrier member under a first differential suction pressure to contact a portion of a sheet spaced from the carrier member whereupon the differential pressures are equalized and a second differential suction pressure is formed whereby the displaceable member is retracted by the force of the second differential suction with the sheet sucked thereagainst so that the sheet is held against the carrier member.

3,510,127
SAFETY ROTATING PLAYGROUND APPARATUS
Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich, a corporation of Michigan
Filed Aug. 13, 1968, Ser. No. 752,353
Int. Cl. A63g *1/14*
U.S. Cl. 272—33 4 Claims



A playground apparatus of the roundabout type consisting of a platform adapted to rotate about a substantially vertical axis wherein the platform is formed of a plurality of segments interconnected along radially extending edges and seams. The segments are of such a configuration that the maximum generated radius of rotation of the platform is defined by segment portions constituting the platform periphery intermediate the segment edges wherein burrs, sharp edges and corners occurring at the segment edges are "recessed" with respect to the generated radius of platform movement thereby protecting a child standing upon the ground adjacent the platform from injury by the platform seams.

3,510,128
CHAIR SUPPORTED EXERCISING DEVICE WITH OVERHEAD BAR AND LEG EXERCISING MEANS
Ray Alma Richardson, 201 S. Eastbourne Drive, Tucson, Ariz. 85716
Filed July 24, 1967, Ser. No. 655,474
Int. Cl. A63b *1/60, 21/60, 21/02*
U.S. Cl. 272—62 2 Claims



An exercising apparatus adaptable for use from a sitting position in connection with a chair. A frame having a generally horizontal overhead member arranged above

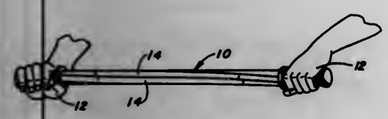
the chair seat within easy grasp of the user is affixed to the chair for pull-up exercise. Leg exercises are provided by stirrups adjustably supported by means including springs from members affixed to the frame at their inner ends and spring suspended at their outer ends. These stirrups can be manipulated against the springs to provide a bicycle-like exercise.

3,510,129
ADJUSTABLE HEIGHT BALANCE BEAM
Richard Benther, Ludwigshafen (Rhine)-Oppau, Germany (% Nissen Corporation, 930 27th Ave. SW., Cedar Rapids, Iowa 52406)
Filed Dec. 4, 1967, Ser. No. 687,567
Int. Cl. A63b *1/02*
U.S. Cl. 272—64 5 Claims



A balance beam having inclined legs pivoted thereto which engage the ground only directly below or beyond the ends of the beam in order to leave the area therebelow clear. Adjustable braces are hinged at one end to the beam and at the second end to the legs. At the same time, the legs are formed to distribute the loads on the beam and to insure its stability.

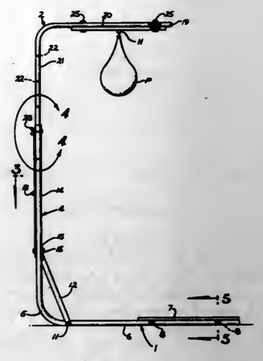
3,510,130
TORSION BAR FOR MODERATE EXERCISE OF ARMS AND SHOULDER
Irwin J. Ferdinand, Glencoe, Ill., assignor to Hirsh Company, Skokie, Ill., a corporation of Illinois
Filed Aug. 8, 1968, Ser. No. 751,193
Int. Cl. A63b *21/05*
U.S. Cl. 272—67 8 Claims



A tubular torsion bar of rolled metal of an optimum length and girth with a bipartite wall having a longitudinal slit extending from end to end for optimum torsional resilience. Hand grips are provided on each end to permit the bar to be gripped and operated torsionally as an exercise apparatus for isotonic contraction and relaxation of muscles of the arms and shoulders by the repeated application and release of manual forces sufficient to substantially stress the bar torsionally in either one of both directions equally.

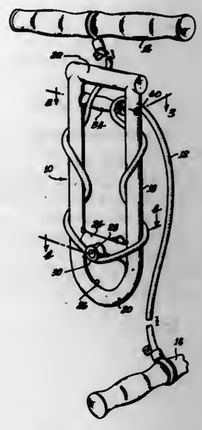
3,510,131
PUNCHING BAG SUPPORT OR STAND
Monroe Gardner, 3410 Club Drive, Apt. 4, Los Angeles, Calif. 90064
Filed Feb. 19, 1968, Ser. No. 706,522
Int. Cl. A63b *69/22*
U.S. Cl. 272—78 4 Claims

A punching bag support or stand mounted on a platform means on which the user stands, resultantly anchoring the punching bag support to the floor and suspending the bag overhead. The stand is characterized by being formed presently of two lengths of tubing or pipe bent to have parallel, telescoping ends which are adjustable longitudinally to vary the elevation of the bag relative to the platform on which the user stands. Bolts or other



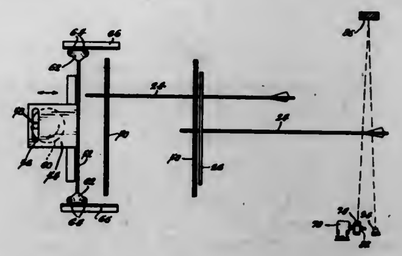
fastening means secure the tubing elements in vertically adjustable position and may be simultaneously employed as part of the means to secure cross brace means for stiffening the structure.

3,510,132
PULL TYPE FRICTIONAL RESISTANT EXERCISING DEVICE
Edgar E. Holkesvick, 1801 Smokewood, Fullerton, Calif. 92631
Filed Dec. 26, 1967, Ser. No. 693,206
Int. Cl. A63b *21/00, 21/12*
U.S. Cl. 272—79 19 Claims



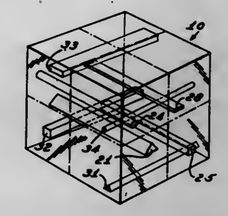
An exercising device for use with a length of rope and adapted to have one end thereof fastened to a support while the length of rope is pulled back and forth therethrough. The exercising device includes two elongated leg members to receive turns of rope therearound, guide means between the leg members adjacent the attachment end for guiding the rope from one leg member to the other leg member, and retaining means adjacent the other ends of the leg members to prevent the turns of rope from slipping off.

3,510,133
SELF-EJECTING BACKSTOP FOR ARCHERY RANGE
Anthony J. Gretzky, Muskegon, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Original application Feb. 15, 1965, Ser. No. 432,787, now Patent No. 3,401,937, dated Sept. 17, 1968. Divided and this application Mar. 21, 1968, Ser. No. 715,106
Int. Cl. F41j *3/100*
U.S. Cl. 273—103 10 Claims



A self-ejecting backstop for use in automated archery ranges including a pair of spaced grids for loosely holding an arrow, an arrow stopping plate spaced behind the grids for stopping arrows penetrating the grids and means for moving the stopping plate toward the grids to impart motion to arrows stopped by the plate and held by the grids to eject the same from the grids whereby the arrows will fall to a collection point for subsequent return to an archer.

3,510,134
GEOMETRIC PUZZLE
Howard A. Brooks and Thaddeus B. Curtz, Ann Arbor, Mich., assignors to KMS Industries, Inc., Ann Arbor, Mich., a corporation of Delaware
Filed Nov. 20, 1967, Ser. No. 684,163
Int. Cl. A63f *9/12*; A63h *33/06*
U.S. Cl. 273—157 3 Claims



A puzzle formed of a plurality of blocks of transparent material which fit together to form a predetermined geometric shape, each block having filaments or shapes which terminate at an abutting surface but which fit with a shape in an adjacent block to form a recognizable continuation to serve as a clue in the building of the predetermined geometric shape.

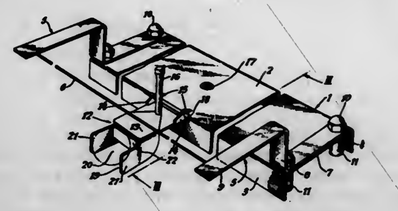
3,510,135
TRAINING DEVICE FOR GOLFERS
Vincent L. Gentile, 1640 N. 78th Court, Elmwood Park, Ill. 60635
Filed Sept. 25, 1967, Ser. No. 670,088
Int. Cl. A63b *69/36*
U.S. Cl. 273—183 3 Claims

The disclosed apparatus consists of three major parts: a vertically adjustable guide stand that consists of a base to which is secured a vertically adjustable tubular member, called a swing arm holder, to the upper end of which is adjustably secured a horizontally disposed padded swing arm having an outer end against which the golfer places the back of his head; a mat on which the golfer stands and which indicates the position the golfer places his feet



when swinging his club to hit the golf ball; and a hitting mat, a rectangular mat having a plurality of equally spaced and parallel guide lines thereon in both the longitudinal and lateral directions.

3,510,136
DEVICE FOR PRACTISING GOLF STROKES
Edmondo Ruspoli, 23 Via Lisbona, Rome, Italy
Filed Mar. 8, 1968, Ser. No. 711,594
Claims priority, application Great Britain, Mar. 15, 1967, 12,169/67
Int. Cl. A63b *69/36, 57/00*
U.S. Cl. 273—185 6 Claims

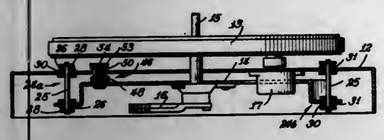


An elongate member forming a sight line is secured to a support which is adapted to be positioned on a putting surface. In its use position, the sight line is spaced above the putting surface to permit a golf ball to be positioned therebeneath and the head of a golf club to be moved thereunder in striking the ball. A ball positioning member connected to the support enables the ball to be accurately positioned with its center directly below the sight line. The support may include trackways which function to store a supply of golf balls and permit the balls to be moved to a use position under the sight line.

3,510,137
RECORD PLAYERS
Gerald H. Freier, Benton Harbor, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Feb. 13, 1967, Ser. No. 615,410
Int. Cl. G11b *3/00*
U.S. Cl. 274—9 17 Claims

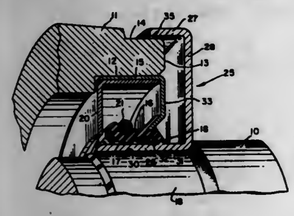
A record player in which the turntable and tone arm are moutned on a works unit plate which is suspended from the base plate on which the turntable drive motor is mounted by means of a system of rigid links having their ends connected by grommets to the works unit plate and base plate, the works unit plate also having studs

protruding through holes in the base plate by which the works unit plate may be releaseably locked to the base plate using appropriately threaded screws and cupped



washers and which studs in their releaseable state permit limited lateral movement of the works unit plate on its suspension system.

3,510,138
OIL SEAL WITH ROCK SHIELD AND WEAR SLEEVE
Edward K. Bowen, Los Altos, Calif., and Philip A. Smith, South Lyon, and Kenneth N. Donelson, Warren, Mich., assignors to Federal Mogul Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 15, 1965, Ser. No. 496,619
Int. Cl. F16j *15/32*
U.S. Cl. 277—35 9 Claims

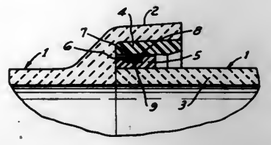


A shaft seal combined with a wear-sleeve-rock-shield member having an inner cylindrical portion with an inner face (often elastomer lined) that fits around the shaft and an outer face in rotating sealing engagement with an elastomeric oil-sealing lip, and also having an outer rock-shield portion that lies close to the housing and is joined to the inner portion by a radial web. The rock-shield portion helps to ward off blows from foreign particles, to protect the seal and to fling particles away therefrom.

A metal seal case may have a radial flange that cooperates with the end wall of the housing to provide therewith a cylindrical water collecting and eliminating groove. The outer rock-shield portion may extend angularly back axially toward the housing end wall and axially back past this flange. The seal case may also have a stepped portion extending axially beyond the housing end wall and holding a felt, dirt-excluding seal that engages the wear sleeve.

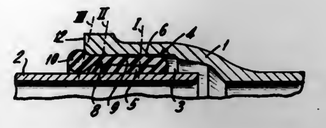
Also, the seal may be unitized, the seal unit then having a radial flange of its case which may support the sealing lip on one side and having an elastomeric portion on the other side, with a hard rubber ring supported by the elastomeric portion. The wear sleeve then has a radially outwardly extending portion lying on one side of the seal unit, and there is on the other side a seal unitizing member secured to the wear sleeve and having a radial portion with a bead in initial running engagement with the ring. The seal unitizing member may also include a cylindrical shield portion. The unitized seal may have an axial lip instead of the hard rubber ring, the axial lip being made from hard oil-resistant synthetic rubber.

3,510,139
GASKETS FOR SEALING JOINTS BETWEEN THE BELL AND SPIGOT OF DRAIN PIPE
Charles Potter, Lakewood, Ohio, assignor to American Vitrified Products Company, Cleveland, Ohio, a corporation of New Jersey
Filed June 23, 1967, Ser. No. 648,491
Int. Cl. F16j *15/02, 21/02*
U.S. Cl. 277—198 8 Claims



The improvement of the present invention is the seal of the joint between the bell and spigot of duplicate bell and spigot pipes, and particularly the gasket used in connection therewith and carried in a groove in the spigot. The gasket is convex outwardly toward the bell and has a generally chordal base which is drawn tightly against the bottom of the groove in stretch fitting relation. The gasket is provided with a peripheral bead and is so shaped so as to provide a ratio of radial or interference fit to resistance to axial assembly of the bell and spigot greater than is obtainable with conventional O-ring seals for pipes of like diameter.

3,510,140
SOCKET-TYPE JOINT GASKET CONSTRUCTION
Theodor Hermann, Gelsenkirchen, Germany, assignor to Rheinstahl Huttenwerke AG, Essen, Germany
Filed May 22, 1967, Ser. No. 640,100
Claims priority, application Germany, June 3, 1966, R 43,401
Int. Cl. F16j *15/10, 15/00*
U.S. Cl. 277—205 13 Claims

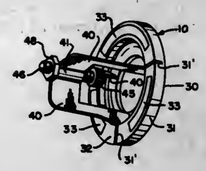


A gasket for use in forming a seal between a straight end of one pipe and a socket-shaped end of another pipe includes an underlying tubular portion which is adapted to tightly engage around the straight end of the first pipe and an overlying tubular portion formed as a continuation of the underlying tubular portion which is adapted to be rolled backwardly to overlie the underlying tubular portion when the pipe having the straight end is inserted into the socket-forming end of the other pipe.

3,510,141
WORKPIECE STOP FOR COLLET CHUCKS
Russell H. Dunham, New Fairfield, Conn., assignor to The Dunham Tool Company, Inc., New Fairfield, Conn., a corporation of Connecticut
Filed Oct. 9, 1968, Ser. No. 766,256
Int. Cl. B23b *31/20, 13/12, 25/00*
U.S. Cl. 279—51 10 Claims

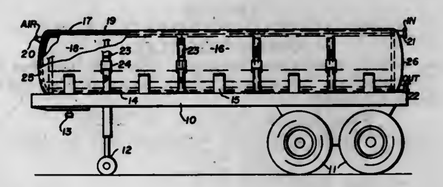
A workpiece stop assembly for contracting collet-actuating sleeve combinations, which stop assembly includes a ring externally mounted to the exposed face of the sleeve

and has a stop body disposed within the bore of the collet. The stop body is cantilevered from the mounting ring by



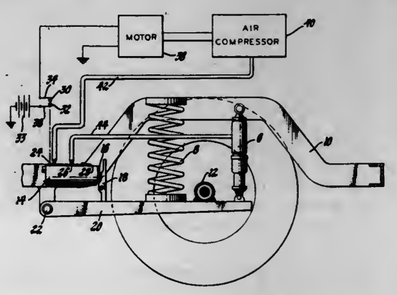
thin L-shaped fins which extend from the mounting ring to the stop body through the slots of the collet.

3,510,142
INFLATABLE TANK AND CARRIER MEANS THEREFOR
Frederick C. Erke, 706 Perkinswood SE., Warren, Ohio 44483
Filed Sept. 26, 1967, Ser. No. 670,739
Int. Cl. B60p *3/22*
U.S. Cl. 280—5 4 Claims



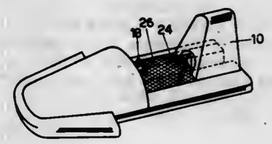
A portable, collapsible tank having an inflatable double walled construction with tie-down means secured thereto.

3,510,143
VEHICLE FLUID SUSPENSION LEVELING SYSTEM WITH AUTOMATIC CONTROL VALVE
Keith H. Carpenter, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 26, 1968, Ser. No. 747,914
Int. Cl. B60g *17/00*
U.S. Cl. 280—6 5 Claims



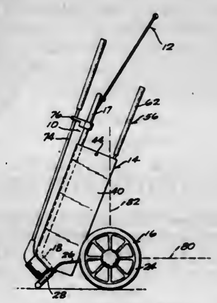
A vehicle fluid suspension system incorporating a control valve assembly sensing suspension height changes and automatically maintaining a desired vehicle height. The control valve accomplishes the feature by incorporating means varying the compression of separate springs urging inlet and exhaust valves open and closed, respectively. These valves are located within the control valve assembly and are biased by the springs with varying spring rates according to prevailing suspension heights. In a high vehicle position, the spring forces are relatively slight and the inlet valve is closed while the exhaust valve is slightly open to vent the system; in a normal position the springs are more compressed to increase the spring forces and both valves are closed; and in a low position, the springs are most extensively compressed tightly urging the exhaust valve closed while rapidly opening the inlet valve which simultaneously energizes a source supplying pressure fluid to the system until the normal height is obtained. The exhaust valve functions as a backpressure regulator maintaining a desired system pressure, a pressure relief valve preventing excessive system pressure, and a system maintaining valve biased closed with a relatively greater spring force progressively in the high, normal, and low suspension height positions.

3,510,144
SLED FOR SNOW AND ICE
Antonio Casadei, 4 York Road, Kowloom Tong-Kowloom, Hong Kong
Filed Mar. 11, 1968, Ser. No. 712,036
Int. Cl. B62b *13/08, 13/16*
U.S. Cl. 280—21 9 Claims



A sled for transportation on ice and snow which has a flat airtight flexible body containing pressurized gas and having longitudinal vertical partitions forming intercommunicating tubular chambers. This body is composed of three envelopes, two of which are located in front and in the rear, while the third forms a seat back for the driver.

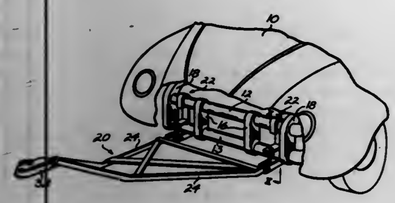
3,510,145
GOLF CLUB CARRIER
Henry P. Yokers, Menomonee Falls, Wis., assignor to Sit 'N Rest Golf, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 8, 1968, Ser. No. 719,323
Int. Cl. A63b *55/08*
U.S. Cl. 280—47.19 11 Claims



A golf club carrier comprising a substantially rectangular frame member having a pair of wheel assemblies mounted thereon which extend toward the rear of the

carrier. A club receiving container is permanently mounted on the frame and extends toward the rear thereof. The container is comprised of a golf iron receiving compartment in the rear portion thereof and a storage compartment (for jackets, shoes, balls, etc.) in the front portion thereof. The golf iron compartment is adapted to receive golf irons therein with the heads thereof supported at the bottom of the compartment and with the shafts extending outwardly from the open top of the compartment to permit easy removal and insertion thereof. The frame member has an offset portion at the lower end thereof which provides a space for mounting a plurality of golf wood supporting pockets which are fastened to the bottom panel of the storage compartment. The golf wood pockets extend downwardly and rearwardly under the container and are adapted to receive the heads of golf woods with the toes thereof pointed downwardly and rearwardly with respect to the container. With the wood heads "tucked under" the container, the adjacent frame portions provide a protective bumper to prevent denting and scratching of the wood club heads. The heads of the woods and irons are positioned below the level of the center points of the wheels to provide a low center of gravity for improved stability both when the carrier is at rest as well as when it is being pulled along the ground in use.

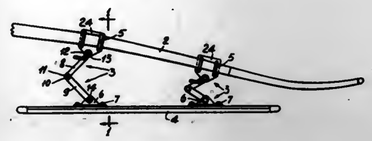
3,510,146
VEHICLE TOW BAR
Edward R. Hartman, 336 Grand St., Springport, Mich. 49284
Filed Mar. 6, 1968, Ser. No. 710,869
Int. Cl. B60d *1/00*
U.S. Cl. 280—491 8 Claims



A tow bar structure for vehicles having a pair of parallel chassis members vertically spaced from each other which extend transversely across the front end of the vehicle. The tow bar structure includes clamp members adapted to be mounted upon the chassis members in a positive manner, yet are quickly releasable from the chassis members, and such clamps are attachable to a tow bar tongue adapted to be connected to the towing vehicle. The tow bar structure is characterized by its ease of installation and positive manner of connection to the towed vehicle.

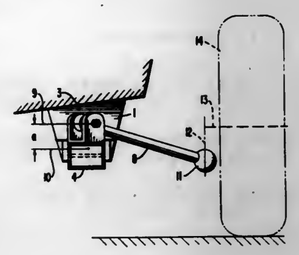
3,510,147
SULKY DEVICE FOR MAINTAINING A HORSE AT A CORRECT ATTITUDE WITH RESPECT TO SAID SULKY
Guido Malvicini and Riccardo Malvicini, both of Via Monterosa, 16, Milan, Italy
Filed June 6, 1968, Ser. No. 734,995
Claims priority, application Italy, July 6, 1967, 18,067/67
Int. Cl. B62c *1/08*
U.S. Cl. 280—63 8 Claims

A sulky device for maintaining a horse at a correct attitude with respect to said sulky, comprising at one or each of the sulky shafts one or more adjustable supports, and a bar carried by the latter which is adapted to rest against a horse's side, each adjustable support comprising a plate provided with a U bolt rendering it fast with the sulky shaft, a bracket fast with the bar; a rod respectively pivoted at an end to said plate and at the other end to said bar; each pivoting being formed of a bolt and nut, al-



lowing said rod to be locked at the desired position, each rod of the support being formed of two pairs of parallel bars angularly connected to one another by a bolt and nut allowing said angle to be varied and said pairs of bars to be locked at the preselected respective position.

3,510,148
WHEEL SUSPENSION, ESPECIALLY FOR MOTOR VEHICLES
Karl Wilfert, Gerlingen-Waldstadt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Apr. 18, 1968, Ser. No. 722,346
Claims priority, application Germany, Apr. 22, 1967, D 52,899
Int. Cl. B60g *3/18*
U.S. Cl. 280—96.2 14 Claims

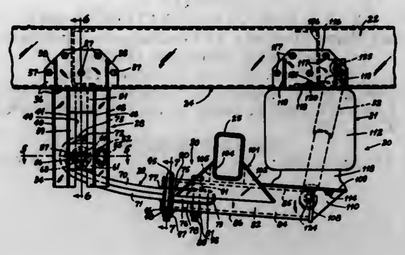


A wheel suspension, especially for motor vehicles, in which the wheel carriers are pivotally guided by load-absorbing, superposed guide members, the lower guide members of which are supported on a torsion-rigid element that itself is rotatably supported against spring action at the vehicle superstructure or at the body whereby the horizontal straight line through the point of rotation of the guide members has a vertical spacing from the axis of rotation of the torsion-rigid element.

3,510,149
ADJUSTABLE AIR SUSPENSION
John E. Raidel, Rte. 9, Box 400–M, Springfield, Mo. 65804
Filed Oct. 4, 1967, Ser. No. 672,817
Int. Cl. B60g *9/00*
U.S. Cl. 280—124 6 Claims

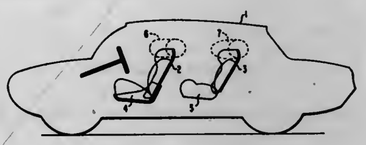
A vehicle suspension assembly adjustable for different positions of the vehicle axle. The adjustability is provided

by a mount that supports one end of the suspension assembly and is slidable on a hanger assembly to adjust the position of the suspension assembly. Also, certain parts



of the suspension assembly are invertible for accommodating substantial variations in axle location. Adjustable eccentrics in the slidable mount permit alignment of the axle.

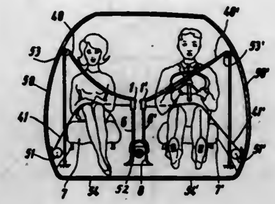
3,510,150
INFLATABLE CUSHION INSTALLATION FOR INCREASING THE SAFETY OF VEHICLE PASSENGERS
Karl Wilfert, Gerlingen-Waldstadt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Sept. 15, 1967, Ser. No. 668,103
Claims priority, application Germany, Sept. 15, 1966, D 51,102
Int. Cl. B60r *21/00*
U.S. Cl. 280—150 10 Claims



An installation for enhancing the safety of the passengers in passenger motor vehicles which are equipped with pneumatically effective paddings and which includes protective elements, preferably inflatable only during danger, arranged to the rear and to the sides of the heads of the vehicle passengers and approximately matched to the shape of their heads whereby the protective elements are secured at relatively fixed parts of the motor vehicle on the inside of the passenger space. Additional, preferably inflatable devices may be provided also along the side walls and below the instrument panel to further protect the passengers against accidents.

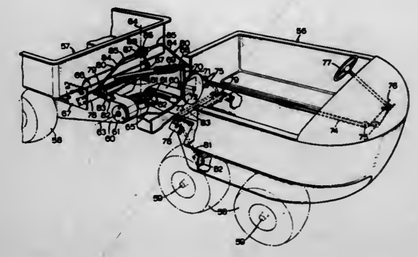
3,510,151
LATCH FOR A THREE-POINT SAFETY BELT FOR MOTOR VEHICLES
Per Olaf Weman, Hamburg-Garstedt, Germany, assignor to Sigmatex AG, Basel, Switzerland, a firm
Filed Dec. 1, 1967, Ser. No. 687,354
Int. Cl. B60r *21/10*; A62b *35/00*
U.S. Cl. 280—150 11 Claims

This invention provides a latch in which a loop to be formed by the user between the lap-strap section and the shoulder-strap section of a three-point safety belt is engageable. One end of the safety belt is passed through a reel on the doorpost and descends to a solid anchoring on the floor panel and the other end is mounted in a belt winder on the side wall adjacent the floor panel. The latch



is mounted on a steel strip fastened to the motor vehicle floor panel and comprises a pivotable spring-loaded shackle for engaging the loop of the safety belt and a spring-loaded locking lever for locking said shackle.

3,510,152
ARTICULATED VEHICLES
Alfred G. Fisher, Oakville, Ontario, Canada, assignor, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 8, 1967, Ser. No. 689,122
Int. Cl. B60d *1/00*
U.S. Cl. 280—484 8 Claims

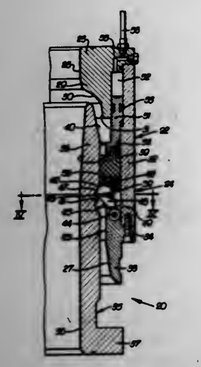


An articulated vehicle comprising two bodies articulatedly connected together for relative pivoting, pitching and rolling motions by a universal joint is provided with spring means which permit free relative pivoting steering motion, but which oppose relative pitching and/or rolling motions from a predetermined median position.

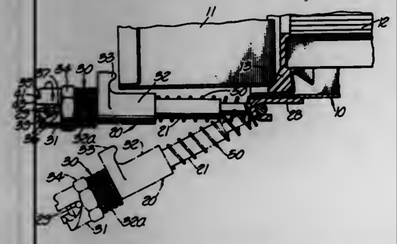
3,510,153
UNIVERSAL CONNECTING JOINT
James M. Newton, Anaheim, Calif., assignor to Shaffer Tool Works, Brea, Calif., a corporation of California
Filed Oct. 14, 1968, Ser. No. 767,139
Int. Cl. F16l *55/00*
U.S. Cl. 285—18 12 Claims

A flexible, quick-release universal connecting joint construction for use with fluid conducting members to permit disalignment of such members, the construction including inner and outer housings, the outer housing having a chamber for receiving the inner housing and permitting disalignment of the inner housing with respect

to the outer housing. The outer housing has provision for positively limiting axial movement of the inner housing with respect to the outer housing without restricting angular movement between such housings.

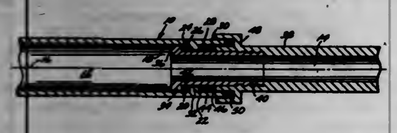


3,510,154
ROTARY CAM FASTENER
Sander D. Sheff, Los Angeles, Calif., assignor to Farr Company, El Segundo, Calif., a corporation of California
Filed Sept. 17, 1968, Ser. No. 760,157
Int. Cl. F16l 55/00; A44b 21/00; E05c 5/00
U.S. Cl. 285—39 17 Claims



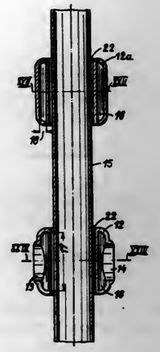
A cam actuated fastener apparatus to seal together in an air-tight fashion filter housings which are separated by a flexible gasket. The fastener is pivotably mounted on one of the filter housings and is attachable to the other filter housing. The axially moving parts of the fastener are mounted on a shaft and remain in fixed assembly when the fastener is in an open position.

3,510,155
SWIVEL FITTING
Edgar M. Jacobus, 2892 Salmon Drive, Los Alamitos, Calif. 90720
Filed Mar. 4, 1968, Ser. No. 710,144
Int. Cl. F16l 17/00, 27/00
U.S. Cl. 285—98 9 Claims



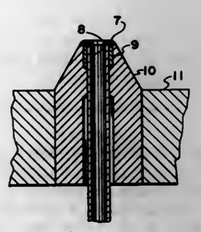
A swivel fitting having relatively rotable portions defining a fluid leakage path within which are disposed a pair of axially spaced seals to prevent leakage across the leakage path and to align the rotatable portions for minimizing frictional resistance to their relative rotation.

3,510,156
DEVICE FOR TRANSMITTING FLOWS
Karl Heinz Markowz, 18 Guttentag-Loben-Strasse, 5657 Haan, Rhineland, Germany
Filed Mar. 27, 1968, Ser. No. 716,635
Claims priority, application Germany, Apr. 1, 1967, 1,600,511; Feb. 5, 1968, M 61,290; Mar. 9, 1968, M 61,620
Int. Cl. F16l 41/00
U.S. Cl. 285—132 3 Claims



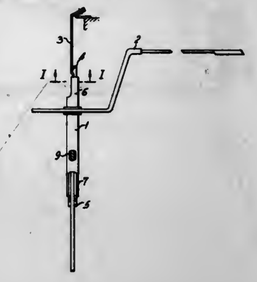
A device for providing intersection and continuous flow of currents which are conducted separately in pipes and which extend across each other without changing their levels is characterized by a ring enclosing a straight pipe and provided with connecting openings for a second pipe, the ring having curved side edges which form an annular hollow space around the straight pipe and which are firmly connected therewith by soldering, gluing or welding.

3,510,157
SEAL FOR HYDROGEN DIFFUSION APPARATUS
Leonard R. Rubin, Union, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed June 30, 1967, Ser. No. 650,432
Int. Cl. F16l 13/02
U.S. Cl. 285—286 4 Claims



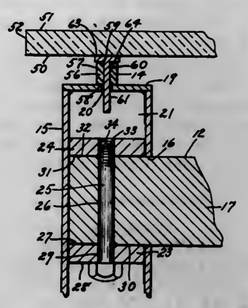
This disclosure relates to a seal for securing thin palladium tubing to hydrogen diffusion apparatus. The seal is provided by welding the tubing to a metal insert having a fluxless braze portion as an integral part thereof.

3,510,158
MOVING SYSTEM OF A PRECISION GEAR
Viktor Ivanovich Efimenko, Ul. Vystavochnaya 3, kv. 17, and Vladimir Fedorovich Tynchenko, Mekhanicheskaya 18, kv. 37, both of Krasnodar, U.S.S.R.
Filed Jan. 12, 1968, Ser. No. 697,366
Int. Cl. F16d 1/08
U.S. Cl. 287—52.07 3 Claims



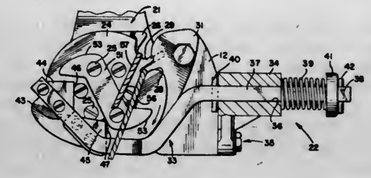
A moving system of an electrical measuring instrument, comprises a supporting spindle coupled to a moving element, the spindle being essentially a hollow tubular structure and having specially profiled ends. A brace extends the whole length of the spindle and is disposed centrally with respect to the latter, due to the profiled ends, for securing the moving portion in stationary supports. The brace is secured to the spindle by means of wedges located inside the tubular spindle, each wedge having a longitudinal projection which in combination with the profile of the spindle secures the brace in place. The wedge may be provided with a cross projection to separate the brace inner portion from the outer one which is subject to twisting during spindle turning and the spindle may have one or more holes to provide access to the brace inner portion to enable securing the brace to the spindle.

3,510,159
HOLLOW LEG JOINT CONSTRUCTION
Otto Waag, 4 Poplar Place, Bay Shore, N.Y. 11706, and David Rosen, Forrest Hills, N.Y.; said Rosen assignor to said Waag
Filed July 16, 1968, Ser. No. 745,151
Int. Cl. E04g 7/00
U.S. Cl. 287—56 5 Claims



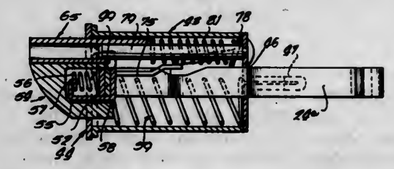
A hollow metallic leg joint construction for interconnecting a horizontally disposed frame member therewith, including a longitudinally disposed opening in the hollow leg penetrated by the frame member, a pair of clamping members disposed within the hollow bore formed by the leg member on either side of the opening, threaded means for tightening the clamping members upon the frame member to immobilize the same, at least one of said clamping members being maintained immobile with respect to the leg after the threaded means is tightened. In one embodiment, the clamping members are resiliently expandible upon tightening, to accommodate normal commercial manufacturing tolerances.

3,510,160
TWINE-KNIFE
James H. Bornzin, La Grange, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,493
Int. Cl. B65h 69/04
U.S. Cl. 289—14 2 Claims



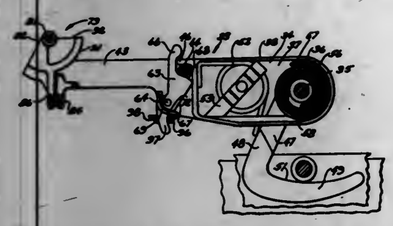
A baler knotter having a rotary hook assembly, a cord holder assembly and a knife assembly, said knife assembly being movable in a cutting stroke to sever twine following completion of the knot.

3,510,161
LATCH BOLT ASSEMBLY WITH COLLAPSIBLE RETRACTOR
William B. Wilson, La Habra, Calif., assignor to Keystone Consolidated Industries, Inc., Rockford, Ill., a corporation of Delaware
Original application Aug. 10, 1962, Ser. No. 216,264. Divided and this application Apr. 18, 1966, Ser. No. 612,057
Int. Cl. E05c 1/16
U.S. Cl. 292—169 5 Claims



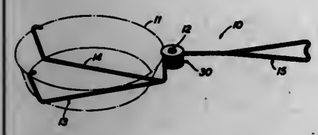
A latch bolt assembly having a reciprocable latch bolt in a latch housing with a collapsible bolt retractor operatively connected to the latch bolt and actuated by a rollback on a tube assembly rotated by a knob. The assembly also includes a reciprocable dead bolt and a generally U-shaped locking bracket staked to the latch bolt and closely conforming to the bolt retractor; the arms of the bolt retractor having inclined camming surfaces on the edges thereof and the arms of the locking bracket provided with shoulders generally aligned with the camming surfaces of the bolt retractor. The dead bolt is provided with a bifurcated portion forming camming projections which cooperate with inclined legs of a locking lever; the inclined legs cooperating with the shoulders on the locking bracket to prevent unauthorized retraction of the latch bolt when the dead bolt is tracted.

3,510,162
SELF-ADJUSTING LOCK
Vernon C. Smith, Ashley, and John W. Binns, Marion, Ohio, assignors to Overhead Door Corporation, Marion, Ohio, a corporation of Indiana
Filed Dec. 14, 1967, Ser. No. 690,605
Int. Cl. E05c 3/04, 19/12
U.S. Cl. 292—241 11 Claims



A lock structure for an upwardly acting door of a truck van wherein a latch bolt and a manually engageable actuating member are pivotally mounted upon the door for movement around an axis substantially perpendicular to the plane of the door when it is in the closed position. The latch bolt has an elongated, arcuate hook portion adapted to extend below the lower edge of the door for engagement with a roller mounted in the truck bed. First resilient means urges the latch bolt to move with respect to the actuating member into the locking position, and second resilient means urges the actuating member away from a selected position holding the latch bolt in the locking position. Keeper means releasably holds the actuating member in said selected position.

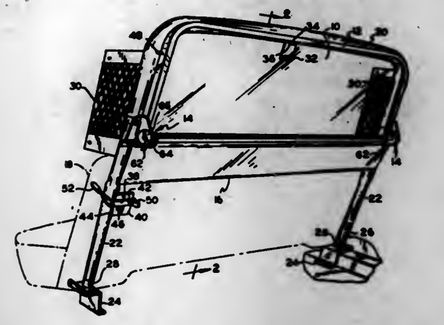
3,510,163
HANDLE DEVICE FOR PANS
Ernest D. Malone, 525 Jackson Drive, Vidor, Tex. 77662, and Robert W. Smith, 2041 Carolina, Port Arthur, Tex. 77640
Filed Apr. 17, 1968, Ser. No. 722,084
Int. Cl. A47j 45/00
U.S. Cl. 294—29 3 Claims



A collapsible handle device for use with handleless pans (e.g., disposable aluminum pie pans). The device includes a pair of pan-holding arm members and a handle member pivotally mounted on a central bolt member. Locking means are provided for retaining the arm members and the handle member in an open position when the device is in use.

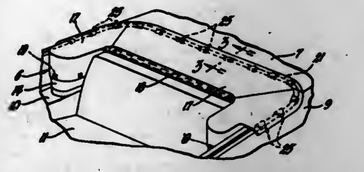
3,510,164
AUTOMOBILE PARTITION APPARATUS PIVOTED ON GUARDPLATE
John R. Setina, Rte. 5, Box 522, Olympia, Wash. 98501
Filed Sept. 11, 1968, Ser. No. 758,947
Int. Cl. B62d 33/04
U.S. Cl. 296—24 10 Claims

An automobile partition apparatus for shielding the front seat area is described in which the partition is pivotally mounted on a guardplate member secured between the leg portions of a roll bar and extending across the width of the automobile along the rear of the front seat backrest. The partition apparatus includes a spring biased pivot mechanism which, when a latch is released, automatically pivots the partition from a lowered position behind the backrest to a raised position between the top of such backrest and the roof of the automobile. The guardplate member extends downward substantially parallel to



the front seat backrest a sufficient distance to enable the partition apparatus to be employed in automobiles of different seat backrest heights and allows back and forth seat adjustments while still protecting the driver of a police car, taxicab or other vehicle from passengers riding in the rear seat.

3,510,165
TOP BOOT INSTALLATION
Edwin M. Adams, Mount Clemens, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 23, 1968, Ser. No. 723,494
Int. Cl. B60j 7/00
U.S. Cl. 296—136 1 Claim

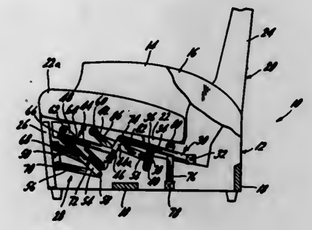


An improved arrangement for retaining a convertible top dust boot on the body of a car, involving particularly an improved clip to connect the dust boot to a belt molding. The clip is broad enough in the direction lengthwise of the molding that it is a close fit notwithstanding the fact that the molding is somewhat narrower where it is curved to fit around the corner of the deck opening. At this point, the margins of the clip engage the inner curve of the molding although the center has clearance because of the curvature. This allows the use of clips of a single size and shape on both straight and curved portions of the molding.

3,510,166
RECLINING CHAIR
Peter S. Fletcher, 200 NW. 15th St., Delray Beach, Fla. 33444
Filed Mar. 22, 1961, Ser. No. 97,523
Int. Cl. A47c 1/02
U.S. Cl. 297—89 11 Claims

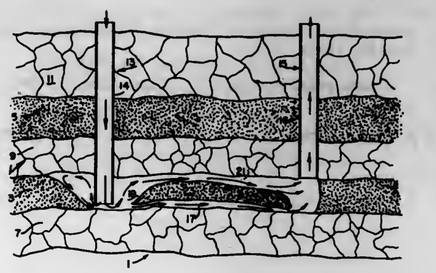
1. A reclining chair comprising a support, body-supporting means including a seat and a back rest, and a linkage for mounting said body-supporting means on said support for movement from a normal sitting position to a

tilted sitting position and from said tilted sitting position to a full reclined position, said linkage being arranged such that a point on a link of said linkage has substantially two curved paths of movement joined together at a junction, and a limiting link operatively connected to said linkage including a connection to said link at said point, said limiting link producing a single arcuate path joining the free ends of said two curved paths, said limiting link in conjunction with said link of said linkage being effective to limit the position of said point at any instant to the



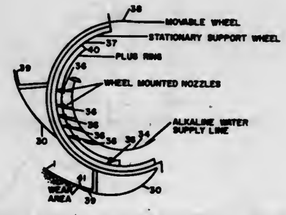
area bounded by said two curved paths and said single arcuate path, said limiting link serving as a limited action sequence means to constrain said linkage to move said body supporting means into a range of positions determined by said area so that said body-supporting means may be moved from said normal sitting position to said tilted sitting position and then to said full reclined position, may be moved from said normal sitting position to said full reclined position directly, and may be selectively positioned in said range of positions.

3,510,167
METHODS OF SOLUTION MINING
Donald W. Carmody, Manistee, Mich., assignor to Hardy Salt Company, St. Louis, Mo., a corporation of Missouri
Filed Aug. 19, 1968, Ser. No. 765,740
Int. Cl. E21b 43/28
U.S. Cl. 299—4 10 Claims



A method of solution mining salt or other soluble minerals is described wherein the salt lies in a plurality of subterranean layers or beds separated by layers of insoluble material. The salt is mined in a lower salt bed by drilling spaced injection and production wells, hydraulically fracturing the salt bed between the wells, forcing a fluid through the injection well to dissolve the salt and form a cavity in that bed, and removing a salt saturated solution through the production well. Either before or after short-circuiting occurs in the cavity in the first salt bed, the injection well casing is milled off or perforated at a second higher salt bed for circulation of the fluid from the injection well to the second salt layer and back to the injection well. The salt is dissolved in the second bed and a salt saturated solution from the second bed is removed through the injection well, the cavity formed in the first bed, and the production well.

3,510,168
METHOD OF MINING BITUMINOUS TAR SANDS
Frederick W. Camp, West Chester, Pa., assignor to Great Canadian Oil Sands Limited, East Toronto, Ontario, Canada, a corporation of Canada
Filed July 3, 1968, Ser. No. 742,359
Int. Cl. E21b 43/28, 47/00
U.S. Cl. 299—5 5 Claims



The specification discloses an improvement to the mining of bituminous tar sands with bucketwheel excavators. Tar sands are mined by moving the excavator cutting teeth across an opposed face of the tar sands deposits to cut a layer of sands from the face. The improvement of the present invention comprises directing a stream of alkaline water at the zone of contact between the excavator teeth and the face.

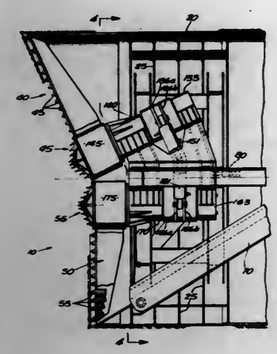
3,510,169
METHOD OF MINING BITUMINOUS TAR SANDS
Albert E. Moss, Edmonton, Alberta, Canada, assignor to Great Canadian Oil Sands Limited, Toronto, Ontario, Canada, a corporation of Canada
No Drawing. Filed July 9, 1968, Ser. No. 743,281
Int. Cl. E02f 7/00
U.S. Cl. 299—7 5 Claims

This specification discloses a method of reducing frost penetration into exposed deposits of bituminous tar sands which comprises depositing a cover of artificially produced snow of initial density greater than 15 pounds per cubic foot onto the exposed deposit, and maintaining the cover of deposited snow until the tar sands are removed from the deposit.

3,510,170
POWER UNIT FOR OSCILLATING TUNNELING MACHINE
Carl A. Wilms, La Habra, Calif., assignor to Smith Industries International, Inc., Santa Fe Springs, Calif., a corporation of California
Filed July 10, 1968, Ser. No. 743,798
Int. Cl. E21d 23/08; E21c 1/10
U.S. Cl. 299—33 18 Claims

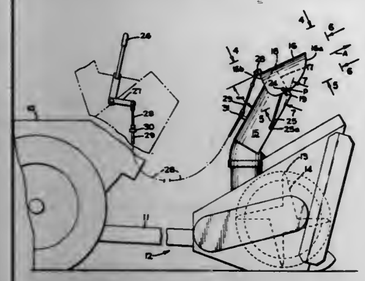
A tunneling machine having a shell, an interior frame structure, and a pair of beams attached to the frame structure for supporting a removable power unit. The power unit, including a drive shaft support frame having longitudinal flanges for supporting it from the beams, upper

and lower drive shafts disposed lengthwise of the machine and rotatably carried on the drive shaft frame, left and right crank arms on each of the drive shafts, an upper pair of hydraulic rams coupled between the crank arms of the upper drive shaft and the flange regions of the drive shaft frame, and a lower pair of hydraulic rams coupled between the crank arms of the lower drive shaft



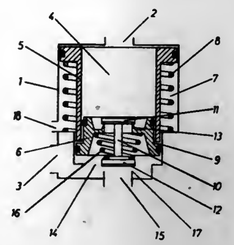
and the flange regions of the drive shaft frame. Pie-shaped upper and lower cutters attached to the forward ends of the upper and lower drive shafts, respectively, to provide an oscillating tunneling machine. The upper drive shaft having its rearward end inclined upwardly so that the upper cutter is inclined forwardly relative to the lower cutter.

3,510,171
ADJUSTABLE BONNET FOR DISCHARGE CHUTE OF SNOW REMOVING MACHINE
Roger J. Bacon, Port Washington, Wis., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Apr. 20, 1967, Ser. No. 632,311
Int. Cl. B65g *53/04*
U.S. Cl. 302—61 3 Claims



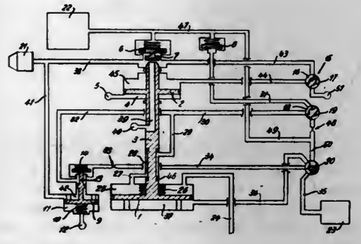
A snow removing machine has a snow discharge chute with a snow guiding bonnet. The bonnet has a pin on each side which is received, respectively, in a slot on each side of the chute. A spring on each side of the chute has one end connected to the pin and the other end connected to the chute continuously to hold the bonnet in engagement with the rear outer edge of the chute. A manual control cable is connected to the rear end of the bonnet to tilt the bonnet about the rear outer edge of the chute.

3,510,172
PRESSURE REGULATING VALVE FOR FLUID PRESSURE OPERATED BRAKE SYSTEMS
Ewald Pekrul, Kappenberg, Germany, assignor to Westinghouse Bremsen- und Apparatebau G.m.b.H., Hannover, Germany
Filed Apr. 24, 1968, Ser. No. 723,689
Int. Cl. B60t *8/26*
U.S. Cl. 303—6 2 Claims



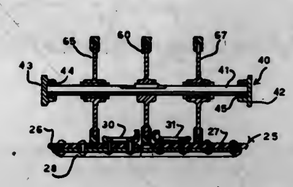
A pressure regulating valve for fluid pressure operated brake systems in which a differential piston subject on the smaller side to a variable control pressure in a control pressure chamber and subject on the larger side to delivered pressure in a delivery chamber operates an exhaust valve communicating the delivery chamber to atmosphere and an inlet valve communicating the control pressure chamber to the delivery pressure chamber to maintain a predetermined proportional relationship of the delivery pressure to the control pressure for low range control pressure, and including a spring-biased coaxially disposed auxiliary piston operable in response to control pressures in a higher range to mechanically couple with the differential piston to increase the effective size of the smaller end of the differential piston thereby effecting an increase in the proportional relationship of delivery pressure to control pressure in the higher control pressure range.

3,510,173
RAILWAY BRAKE CONTROL APPARATUS WITH OPTIONAL GRADUATED OR DIRECT BRAKE RELEASE
Aldo Gnavi and Giacomo Di Bartolomeo, Turin, Italy, assignors to Compagnia Italiana Westinghouse Freni e Segnali, Turin, Italy
Filed June 10, 1968, Ser. No. 735,630
Claims priority, application Italy, June 21, 1967, 52,164/67
Int. Cl. B60t *15/52*
U.S. Cl. 303—36 13 Claims



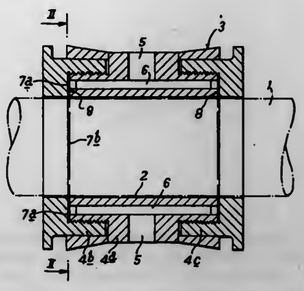
A railway car brake control valve device selectively conditionable to operate either as a direct release type brake control valve device or as a graduated release type brake control valve device whereby a railway car provided with this brake control valve device may be hauled in a freight train the cars of which are provided with direct release type brake control valve devices or in a passenger train the cars of which are provided with graduated release type brake control valve devices.

3,510,174
ENDLESS TRACK VEHICLE
Robert M. Lamb, 915 Oswego St., Liverpool, N.Y. 13088
Filed Jan. 24, 1968, Ser. No. 700,069
Int. Cl. B62d *55/16*; B62m *27/00*
U.S. Cl. 305—27 9 Claims



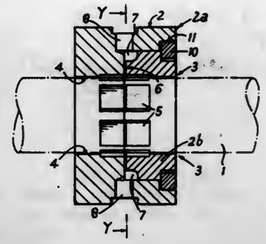
A snowmobile in which a resilient material, endless track is provided with two adjacent centrally positioned rows of wear resistant guide plates. The rear idler assembly has a central track guide wheel running between the plates without contacting the track material to avoid wear and tear. A track tension support wheel is provided on each side of the plates. The idler assembly is of large diameter to aid in self cleaning. The bogie wheel assemblies have similar track guide wheels.

3,510,175
FLUID BEARING ASSEMBLY
William C. Dee, Bournemouth, England, assignor to Gilbert C. Davis, Johannesburg, Transvaal, Republic of South Africa
Filed June 13, 1966, Ser. No. 557,231
Claims priority, application Great Britain, June 18, 1965, 25,840/65
Int. Cl. F16c *17/16*
U.S. Cl. 308—9 2 Claims



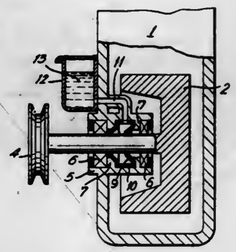
Fluid bearing devices are disclosed in which two or more grooved members are held together at grooved interfaces to form slots feeding bearing fluid to an axial bearing gap. The slots are separated from each other by identical symmetrical spacers and supply fluid to the gaps in a normal direction.

3,510,176
ROTARY HYDROSTATIC BEARING
Colin William Dee, Bournemouth, England, assignor to Aerostatic Limited, Poole, England, a corporation of Great Britain
Filed Mar. 4, 1968, Ser. No. 710,258
Claims priority, application Great Britain, Mar. 6, 1967, 10,538/67
Int. Cl. F16c *17/16*
U.S. Cl. 308—9 6 Claims



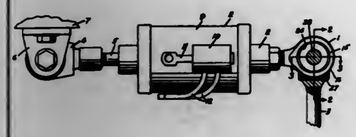
A hydrostatic bearing having one member rotating relative to another member and the other member having a plurality of circumferentially spaced elongated slot openings and recesses located at the ends of the openings.

3,510,177
SEAL FOR A ROTARY SHAFT
Yoshihiro Shimula, Tokyo, Japan, assignor to Rigaku Denki Company Limited, Tokyo, Japan
Filed Aug. 22, 1967, Ser. No. 662,529
Int. Cl. F16c *1/24, 33/72*; F16d *15/48*
U.S. Cl. 308—36.1 4 Claims



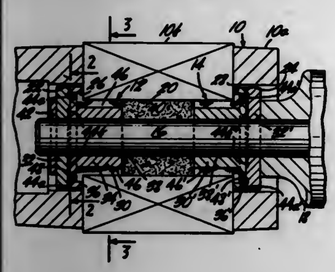
Apparatus is provided for forming an airtight seal around a rotatable shaft inserting into a casing operating under a vacuum. To accommodate the shaft, there is provided a cylindrical passage in which are provided spaced packing means which encircle the shaft and form an annular receptacle to which oil is supplied under approximately atmospheric pressure. The packing elements include portions tapering conically away from the interior of the casing and making tangential contact with the rotatable shaft. Any air which leaks past a packing member along the shaft is evacuated to the conduit system feeding oil to the space between the packing elements and since the oil is under the atmospheric pressure it can leak past one of the packing elements towards the interior of the casing to lubricate the contacts between this packing element and the shaft and as well to lubricate any bearing means which might be employed.

3,510,178
SPHERICAL BEARING WITH INTEGRAL ROTATION LIMITING MEANS
Ronald C. Sowatzke, Canoga Park, Calif., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed June 6, 1968, Ser. No. 735,012
Int. Cl. F16c 9/06, 11/00
U.S. Cl. 308—72 3 Claims



A spherical support bearing for a linear actuator has abutment means on the outer and inner races of the bearing which are engageable to restrict misalignment of the actuator in a plane normal to the motion thereof, but which allow substantially unrestricted rotation and misalignment in other directions.

3,510,179
JOURNAL BEARING SYSTEM
John C. Larson, Woodstock, N.Y., assignor to Rotron Incorporated, Woodstock, N.Y., a corporation of New York
Filed Nov. 15, 1967, Ser. No. 683,185
Int. Cl. F16c 17/16
U.S. Cl. 308—114 1 Claim



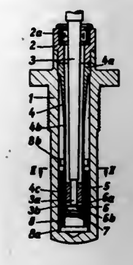
A journal bearing system for mounting a member for rotation on a shaft comprising a bearing surface on the member, preferably constituted by a sleeve bearing affixed to the member, for journaling the member on the shaft and defining a bearing clearance with the shaft, a reservoir formed in the member for a semi-fluid thixotropic lubricant and in communication with the bearing clearance, and a thrust washer fixed on the shaft, the rotating member and the thrust washer having closely adjacent parallel opposed faces located in a plane substantially perpendicular to the axis of the shaft. The thrust washer has a plurality of helical pumping grooves formed in the said face and coacting with the opposed face of the rotatable member to pump lubricant inwardly. Passages in the rotatable member, preferably in the sleeve bearing, communicate a radically outward portion of the reservoir with the pumping grooves in the thrust washer. In operation the lubricant in the reservoir is forced outwardly by centrifugal force upon rotation of the rotatable member and is thereby pressurized to flow through the passages to the inlets of the pumping grooves, and the pumping grooves pump the lubricant under pressure to the bearing clearances.

3,510,180
CENTER PLATE ASSEMBLY
Charles W. Artzer, 631 Freeman St. 66616, and Alexander M. Di Cicco, 1120 W. 31st 66611, both of Topeka, Kans.
Filed July 8, 1968, Ser. No. 743,097
Int. Cl. F16c 17/00
U.S. Cl. 308—137 2 Claims



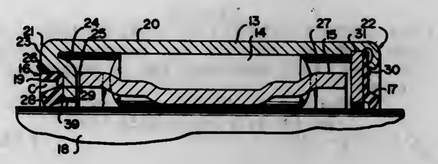
Structure surrounding the king pin of a railway vehicle supporting an end of a car body on a truck bolster and accommodating relative rotation of the truck bolster relative to the vehicle body. The structure insures prolonged lubrication of the center plate assembly and the structural arrangement reduces relative lateral and longitudinal movements of the interfitting plates and reduces shock that would otherwise be transmitted to the bearings wheels and the track.

3,510,181
SPINDLE BEARING FOR A SPINNING OR TWISTING MACHINE
Fritz Stahlecker, Bad Uberkingen, Germany, assignor to Spindelfabrik Suessen, Schurr, Stahlecker & Grill G.m.b.H., Suessen, Wurttemberg, Germany
Filed July 25, 1968, Ser. No. 747,618
Claims priority, application Germany, Aug. 16, 1967, S 111,374
Int. Cl. F16c 35/00
U.S. Cl. 308—152 9 Claims



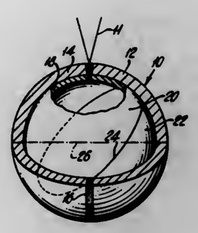
A bearing unit for a spindle consisting of a housing, a collar bearing in the upper end of the housing, a centering tube surrounding the spindle and secured at its upper end to the housing underneath the collar bearing and having a long lower part which is radially movable, and a footstep bearing in the lower part of the housing consisting of at least two separate parts, namely, a bearing plate on which the slightly convex lower end surface of the spindle engages and which takes up the axial pressure of the spindle, and a separate bushing which is mounted in the lower part of the centering tube and is movable with the tube and adapted to take up the radial pressures of the lower end of the spindle.

3,510,182
BEARING SEALS FOR DRAWN CUP BEARINGS
John H. Cowles, Forestville, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Continuation-in-part of application Ser. No. 329,555, Dec. 10, 1963. This application May 27, 1966, Ser. No. 553,553
The portion of the term of the patent subsequent to Feb. 28, 1984, has been disclaimed
Int. Cl. F16c 33/78
U.S. Cl. 308—187.2 9 Claims



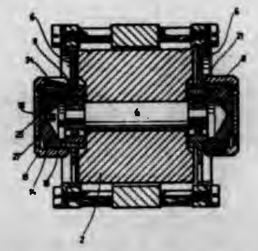
There is disclosed a bearing assembly of the drawn cup outer race type having rollers mounted for rotation within the race and a cup lip extending radially inwardly of at least one end of the cup defining an annular end wall for the cup, there being provided an annular recess in an outer surface of the cup lip, the recess being defined by an annular portion of the cup lip extending axially and inwardly of the cup end wall and an annular portion of the cup lip extending radially inwardly of the cup race, an annular seal being disposed in the lip annular recess and bonded to the lip, the seal including a cylindriform portion lining the inner extremity of the cup lip and an end extension extening endwise and inwardly away from the cylindriform portion to be disposed for resilient engagement with a cooperating shaft.

3,510,183
HOLLOW BEARING BALL
Donald H. Liss, Newington, Conn., assignor to Textron Inc., Providence, R.I., a corporation of Delaware
Filed May 7, 1968, Ser. No. 727,291
Int. Cl. F16c 19/00
U.S. Cl. 308—188 7 Claims



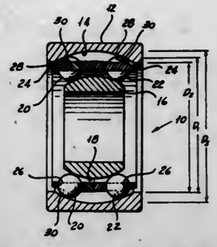
A hollow bearing ball structure is shown wherein an inner shell is provided snugly fitted within the inside wall of an outer shell. The inner shell is formed of two mating sections and prevents the intrusion of weld material from the joining of the outer shell halves, and maintains accurately aligned abutment with the outer shell halves. An electron beam is used to weld the seam formed by the two outer shell halves by fusing the material to a depth at least as great as the thickness of the outer shell but less than the combined thickness of the two shells. Alternatively, the outer shell seam may be bonded by a diffusion-bonding process.

3,510,184
ADJUSTABLE BEARING
Ernst Gruber and Herbert Fuhr, Munich, Germany, assignors to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany
Filed May 16, 1968, Ser. No. 729,574
Claims priority, application Germany, May 20, 1967, B 71,054
Int. Cl. F16c 13/06
U.S. Cl. 308—189 3 Claims



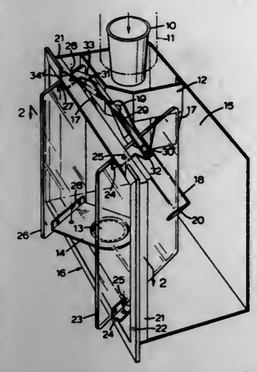
An adjustable bearing is formed of an axially positionable ball bearing disposed within one end of a bushing. A cap member is threaded onto and is adjustably positionable on the other end of the bushing. A pressure member is located within the bushing in contact with the cap member and the ball bearing. By adjusting the cap member, the pressure member in turn axially positions the ball bearing within the bushing. The portion of the pressure member contacting the cap member has a globular shape to afford an approximately punctiform area of contact with the cap member.

3,510,185
SPLIT CAGE FOR SPHERICAL BEARING
Lewis W. McKee, Brookfield, Conn., assignor to The Barden Corporation, Danbury, Conn., a corporation of Connecticut
Filed July 19, 1968, Ser. No. 746,031
Int. Cl. F16c 23/08, 33/38
U.S. Cl. 308—194 14 Claims



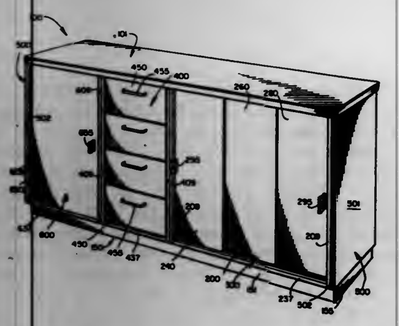
A split cage for a spherical bearing having two rows of balls in which each half of the cage is an annular body of resilient material formed with a plurality of spaced ball pockets and provided with a plurality of generally radially-outwardly-extending retainer lugs disposed, respectively, between the pockets of pairs of adjacent pockets. The outer diameter of the body at the location of one of the lugs is greater than the inside diameter or raceway entry diameter at the ends of the ring and less than the diameter at the base of the outer ring raceway. To assemble the bearing each cage half is oriented with its central axis at an angle to the axis of the raceway and is then squeezed to move one of the lugs into the raceway. The two halves can then be rotated to a position at which they have a common central axis so that the lugs engage the raceway. The inner ring and balls may then be assembled with the cage and outer ring.

3,510,186
DOOR UNIT FOR DISPENSING MACHINES
Howard Diebel, Arthur B. Moyer, and Jay B. S. Moyer, all of Jordan, Ontario, Canada (all of Jordan Station, Ontario, Canada)
Filed Feb. 28, 1968, Ser. No. 708,845
Int. Cl. B65h 3/02; G07f 11/16
U.S. Cl. 312—35 11 Claims



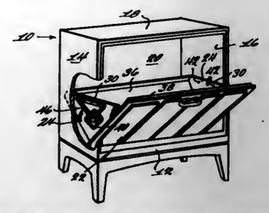
A door unit for a drink dispenser has two separate door members pivoted to the door frame about respective parallel vertical pivot axes; the two members are mechanically interconnected so that as one is pushed open the other also open automatically to permit ready access to the drink dispenser position; one door member as it opens engages a member that is employed to guide the cups to the dispenser position and pushes the guide member out of the way of the purchaser's hand; one door member may carry a plate onto which the drink is dispensed and movement of the door member and the plate moves the drink toward the purchaser's hand.

3,510,187
CABINET SHELF CONSTRUCTION
Kenneth D. Schreyer, Doylestown, Pa., assignor to Lyon Metal Products, Incorporated, Aurora, Ill., a corporation of Illinois
Original application Mar. 29, 1966, Ser. No. 538,423. Divided and this application Jan. 10, 1968, Ser. No. 713,555
Int. Cl. A47b 17/00
U.S. Cl. 312—304 9 Claims



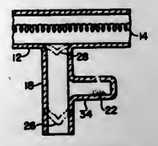
The present invention is directed to a storage cabinet and shelf construction comprising a cabinet including a body having a front opening therein, a front frame positioned at the forward portion of the body and secured thereto and including a pair of vertically extending frame members, each of the frame members having a first fastener element thereon arranged on the rear side thereof, a shelf disposed in the body and extending rearwardly therefrom in cantilever fashion.

3,510,188
DROP FRONT CABINET HAVING TILTABLE BIN
Calvin E. Brown, Altavista, Va., assignor to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Sept. 15, 1967, Ser. No. 668,053
Int. Cl. A47b 88/18; E05d 7/04
U.S. Cl. 312—325 2 Claims



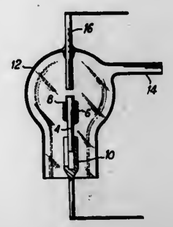
A cabinet having a bin tiltable forwardly and downwardly from the front thereof, the front of at least part of the cabinet being the front of the bin. The bin is attached to the inside faces of two opposed sidewalls of the cabinet by two hinges each of which includes a first elongated hinge plate for pre-attachment to the bin, two elongated arms each having one end pivotally attached to an end of the first hinge plate, the two elongated arms crossing, scissors fashion intermediate their length and being pivotally secured at spaced points to a second hinge plate having at least two elongated holes therethrough and at least an additional circular hole therethrough for securement of the hinge to the cabinet which allows adjustment of the bin with respect to the cabinet during installation.

3,510,189
METHOD OF DOSING INCANDESCIBLE LAMPS WITH HALOGEN
Daniel A. Larson, Cedar Grove, John D. Smith, Caldwell, and Jack Martin, Paramus, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 13, 1967, Ser. No. 682,395
Int. Cl. H01j 9/38, 17/36
U.S. Cl. 316—3 7 Claims



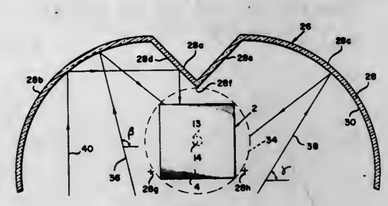
A method of accurately dosing incandescible lamps with a halogen wherein the lamp envelope and an additional hollow-container means which contains a preselected organic halogen compound are evacuated, gas filled, and sealed. The halogen compound is heated and the halogen is evolved to diffuse throughout the lamp envelope. The lamp is then tipped off and separated from the hollow-container means.

3,510,190
METHOD OF TREATING AN ELECTRODE, OF WHICH AT LEAST ONE PORTION CONTAINS THORIUM OXIDE IN ITS SURFACE
André Taxil, Rueil-Malmaison, France, assignor to Claude Paz et Visseaux
Filed Jan. 30, 1967, Ser. No. 612,506
Claims priority, application France, Apr. 18, 1966, 57,986
Int. Cl. H01j 9/04
U.S. Cl. 316—26 9 Claims



The electrode containing thorium oxide is treated with electric arc discharges in an atmosphere containing hydrocarbon under low pressure. Said electrode acts as one of the electrodes for said discharges; the other electrode for these discharges is moved in order to vary the place of the cathode spot on the treated electrode.
Preferably, the treatment subsequently comprises similar discharges but in an inert atmosphere.

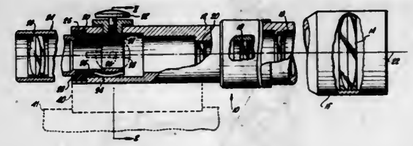
3,510,191
OPTICAL SCANNING SYSTEM
John B. Cannon, Jr., State College, Pa., assignor to HRB-Singer, Inc., State College, Pa., a corporation of Delaware
Filed May 3, 1967, Ser. No. 637,868
Int. Cl. G02b 17/00; G02f 1/34
U.S. Cl. 350—7 6 Claims



An improved optical scanning system including novel reflector means for continuously reflecting incident ray energy within the rotational path of a scanning mirror. The reflector has a generally semicylindrical configuration the longitudinal axis of which is coincident with the axis of rotation of the scanning mirror, said reflector including a longitudinally extending knifelike central portion that converges in the direction of said longitudinal axis.

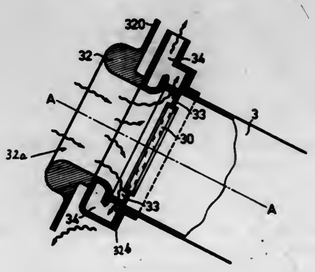
3,510,192
TELESCOPE SIGHT
Alfred A. Akin, Jr., West Covina, and Paul R. Maguire, Los Angeles, Calif., assignors to David P. Bushnell
Continuation-in-part of application Ser. No. 335,728, Jan. 6, 1964. This application Aug. 3, 1965, Ser. No. 477,667
Int. Cl. G02b 27/32
U.S. Cl. 350—10 2 Claims

A riflescope having an objective-lens system which is movably mounted with respect to a supporting barrel. Adjustment of the objective-lens position produces a target-image shift in the focal plane of the lens system and transverse to an optical axis of the riflescope. Windage and



elevation corrections are thereby effected without displacing a reticle in the riflescope, and without disturbing magnification settings if a variable-power optical system is used.

3,510,193
SUPPRESSION OF SCHLIEREN PHENOMENA
Ulrich La Roche, Zurich, Switzerland, assignor to Contraves AG, Zurich, Switzerland
Filed Aug. 15, 1967, Ser. No. 661,173
Claims priority, application Switzerland, June 23, 1967, 11,758/66
Int. Cl. G02b
U.S. Cl. 350—63 8 Claims

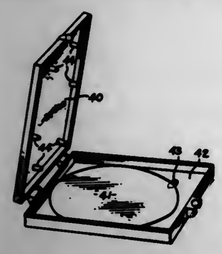


Wall means defines an enclosed space which has a predetermined inner temperature. An observation window is mounted in the wall means exposed to this inner temperature and has a surface which is located outside the space and is exposed to a body of fluid having a different temperature. A nozzle structure is arranged adjacent the exposed surface and defines a fluid channel extending normal to the exposed surface and having an inner end adjacent to the exposed surface, and an annular gap communicating with the fluid channel so that, when suction is applied to the annular gap, fluid will be drawn through the channel in the direction against the exposed surface of the observation window and will thereupon be caused to flow across the observation window in radial direction and toward the marginal zones of the exposed surface.

3,510,194
PARTICLE COUNT MEMBRANE FILTER MOUNT
Robert F. Connelly, 131 Delmar Place, San Gabriel, Calif. 91776
Filed Aug. 9, 1965, Ser. No. 478,356
Int. Cl. G02b 21/34
U.S. Cl. 350—95 4 Claims

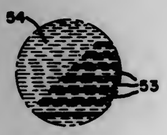
A receptacle for microporous filter membranes used to determine particulate matter in fluids, the receptacle or case having a flat floor to support the filter membrane and a transparent cover spaced from the filter specimen sufficient to prevent particles on the cover from coming

into focus when the specimen is examined through the cover with a microscope, thus permitting the specimen



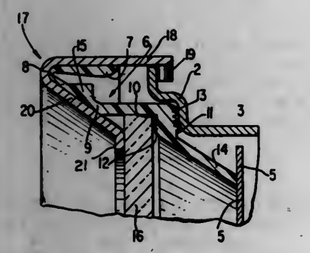
to be reexamined, if desired, without exposure to contamination from the atmosphere.

3,510,195
IMMERSED FIBER OPTICS STRUCTURE
Milton L. Noble, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 30, 1966, Ser. No. 561,863
Int. Cl. G02b 5/16, 5/04, 5/06
U.S. Cl. 350—96 3 Claims



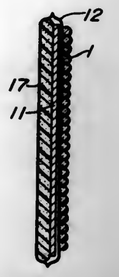
An immersed fiber optics structure having an input face oblique with respect to incident light energy, the fiber core and adjoining immersing substance being a transparent fluid composition of matching index of refraction so as to substantially reduce diffraction and reflection at said input face.

3,510,196
LENS RETAINER WITH SKIRT AND BAYONET TYPE RING
Charles J. Beer, Sellersville, and Harry W. Hoff, Jr., Quakertown, Pa., assignors to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 28, 1967, Ser. No. 619,469
Int. Cl. G02b 27/02, 7/02
U.S. Cl. 350—114 6 Claims



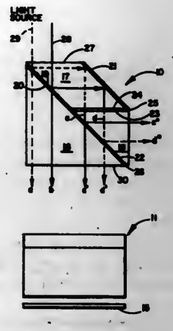
An arrangement for securing a viewing lens to the front of an instrument casing having a dial with indicia, wherein the lens is held in position by a retainer having inwardly extending flanges and having a conical inwardly projecting member to close the space between the lens and the dial of the gauge.

3,510,197
PROJECTION SCREEN
Takeo Seki and Masao Fukumura, Kokubunji-shi, and Hajime Fukke, Tokyo, Japan, assignors to Hitachi, Ltd., Chiyoda-ku, Tokyo, Japan, a corporation of Japan
Filed Nov. 29, 1967, Ser. No. 686,550
Claims priority, application Japan, Dec. 9, 1966, 41/80,356; Dec. 28, 1966, 41/85,337; Sept. 11, 1967, 42/57,947
Int. Cl. G03b 21/56, 21/60
U.S. Cl. 350—117 4 Claims



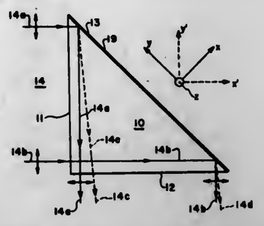
A transparent film air-tightly encloses a reflection sheet with a diffused light reflection surface in such a relationship that the diffused light deflection surface of the sheet touches the film through a microscopic intermediate air layer, and multi-glass rods of circular cylindrical shape having a surface coating of epoxy resin cured by amine respectively are fixed in parallel on one outer surface of the film covering the reflecting surface of the sheet so that a projection screen is obtained.

3,510,198
POLARIZING BEAM-SPLITTER HAVING IMPROVED CONTRAST RATIO
Jackie D. Pace, Fullerton, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed May 17, 1967, Ser. No. 639,243
Int. Cl. G02b 27/28, 5/30
U.S. Cl. 350—157 8 Claims



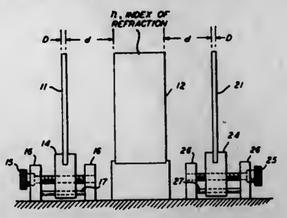
A polarizing beam splitter for providing a preselectively linearly polarized light source. The polarization plane of the cross-polarization component of a source of illumination, ordinarily rejected by a polarizing beam splitter, is rotated substantially 90° and the rotated cross-polarized component is then re-processed by the beam-splitter and combined with the preselectively linearly polarization component of incident light transmitted by the polarizing beam splitter, resulting in minimum light loss and maximum contrast ratio.

3,510,199
ELECTRO-OPTIC LIGHT BEAM DEFLECTOR
Tzuo-Chang Lee, Eden Prairie, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 19, 1967, Ser. No. 668,864
Int. Cl. G02f 3/00
U.S. Cl. 350—160 11 Claims



A light beam deflector utilizing electro-optic (E-O) material having first and second electric field dependent indices of refraction parallel to first and second perpendicular axes within the material. A 45° right triangular prism is the basic structure. An electric field orientates the first axis parallel to the face of the prism upon which a light beam is incident. Light reflective means determines the light beam path within the E-O material. An array to achieve cumulative deflection and a two-dimensional deflection system are also disclosed.

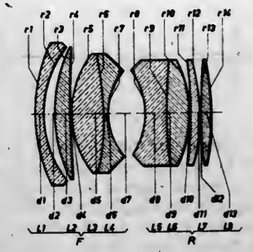
3,510,200
MATCHING TRANSFORMER FOR OPTICAL TRANSMISSION DEVICES
Eugene I. Gordon, Convent Station, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 28, 1966, Ser. No. 530,539
Int. Cl. G01b 27/00
U.S. Cl. 350—163 6 Claims



A matching transformer for infrared radiation is disclosed. The matching transformer employs a partially transmissive, highly conductive reflector that has an appropriate laterally-varying reflectivity pattern, such as a square mesh, and an appropriate spacing from the optical device to be matched.

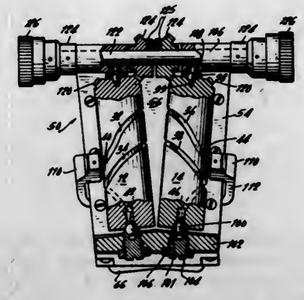
3,510,201
HIGH-SPEED PHOTOGRAPHIC OR CINEMATOGRAPHIC OBJECTIVE
Klaus Elle, Bad Kreuznach, Germany, assignor to Jos. Schneider & Co., Optische Werke Kreuznach, Bad Kreuznach, Germany, a German corporation
Filed Sept. 8, 1967, Ser. No. 666,319
Claims priority, application Germany, Sept. 15, 1966, Sch 39,540
Int. Cl. G02b 9/62
U.S. Cl. 350—176 1 Claim

Optical objective with a front lens group and a rear lens group separated by a diaphragm space, each group consisting of a negative component in the form of a doublet adjacent the diaphragm space and of a positive component remote from that space, each doublet being composed of a biconcave lens next to the diaphragm space and a biconvex lens separated therefrom by a cemented surface which is positively refracting in the case of the front doublet and negatively refracting in the case of the



rear doublet, the positive front component consisting of a meniscus-shaped negative singlet with rearwardly facing concavity followed by a rearwardly concave positive singlet, the positive rear component consisting of a forwardly concave positive singlet followed by a biconvex singlet.

3,510,202
LENS CARRIAGE FOR CONTINUOUSLY VARIABLE MAGNIFICATION STEREOMICROSCOPE
Olin W. Boughton, Williamsville, N.Y., assignor to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed Nov. 13, 1967, Ser. No. 681,968
Int. Cl. G02b 15/00
U.S. Cl. 350—187 4 Claims



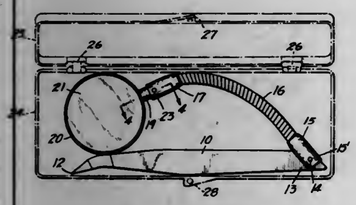
A lens carriage for mounting the lenses of the objective section of a continuously variable magnification stereomicroscope. The objective section has an optical system comprising two identical optical sub-systems. The optical axes of the sub-systems are inclined to each other at an acute angle and a single stationary lens element and two movable lens elements are arranged along each axis. Each of the movable lens elements is held by a lens holder and each holder is fixed to a slide which is mounted for reciprocating movement in a guideway. The displacement of the movable lens elements is controlled by two cam cylinders, each having two camming grooves formed on its periphery. The slide of each lens holder has a follower which rides in one of the camming grooves in the associated one of the cam cylinders. A bevel gear assembly links the cam cylinders to a horizontal control shaft on which a control knob is mounted.

3,510,203
SUPERPOSITIONING IMAGE SLICER
Eric H. Richardson, Apt. 35, 1705 Newton St., Victoria, British Columbia, Canada
Filed Aug. 8, 1967, Ser. No. 659,098
Int. Cl. G02b 17/08
U.S. Cl. 350—200 10 Claims



An optical system for transforming the image of a source of light to facilitate examination having a pair of concave mirrors spaced apart to form a slot between them substantially on the longitudinal axis of the optical system, light from the source passing through the slot and through a slit formed between two concave slit mirrors facing the pair of slot mirrors and spaced therefrom along the optical system's axis. Light which does not pass through the slit will thus strike the slit mirrors, be reflected to the slot mirrors and then be reflected back through the slit. By multiple reflection, substantially all the light passing through the slot may be passed through the slit for examination in subsequent apparatus.

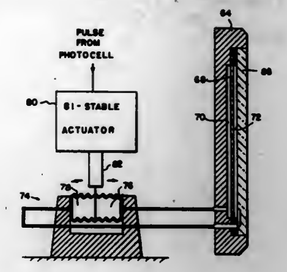
3,510,204
MAGNIFIED TWEEZER DEVICE
Charles W. Jack, Old Chatham, N.Y., assignor to The Executive Line, Inc., Chatham, N.Y., a corporation of New York
Filed Apr. 13, 1967, Ser. No. 630,606
Int. Cl. G02b 7/02
U.S. Cl. 350—244 1 Claim



A tweezer, including a magnifying lens structure, coupled with the tweezer and incorporating a flexible shaft coupling for universal positioning of the lens structure with respect to the operating end of the tweezer and, wherein, the lens structure has a rotatable mounting in connection with the flexible shaft coupling.

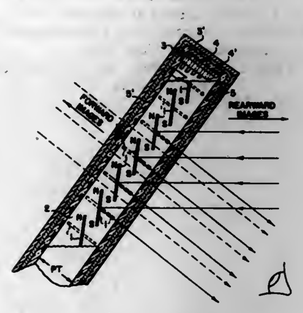
3,510,205
MIRROR APPARATUS WITH AUTOMATIC DIMMING CONTROL
Julius Schiffman, Huntington Woods, and Howard F. Lynn, Livonia, Mich., assignors to Chain Lakes Research Associates, Inc., Detroit, Mich., a corporation of Michigan
Filed Apr. 5, 1967, Ser. No. 628,735
Int. Cl. G02b 17/00, 5/10
U.S. Cl. 350—279 2 Claims

A self-contained automatic dimming apparatus for a mirror mounted on a vehicle. A piezo-electric generator excited by the vibrations of the moving vehicle provides a source of electrical energy to a mercury cell. A photocell circuit connected to the mercury cell, is responsive to a change in the intensity of a light source, to transmit an electrical impulse to an actuator operable to change



the reflectivity of the mirror. Mechanical and hydraulic actuators are disclosed.

3,510,206
TRANSPARENT MIRROR HAVING ELECTRO-MAGNETICALLY ADJUSTABLE REFLECTOR ELEMENTS
Richard D. Smith, 913 N. Liberty St., Arlington, Va. 22205
Filed Mar. 7, 1966, Ser. No. 532,300
Int. Cl. G02b 5/08
U.S. Cl. 350—292 3 Claims

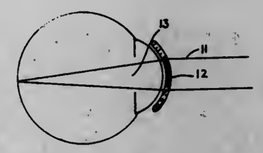


A shutter-like mirror structure contains a plurality of cross-sectionally thin permanent magnet reflector elements supported in substantially parallel relationship by a transparent, elastic, self-supporting material. The sponge-like material, containing the reflector elements, is surrounded by sets of transparent electric coils which can be selectively energized to produce a magnetic field that aligns the magnetic reflector elements to transmit light or to function as a mirror.

3,510,207
METHOD OF FITTING ASPHERIC CONTACT LENSES
Charles W. Neefe, Box 361, Big Spring, Tex. 79720
Filed June 2, 1967, Ser. No. 643,250
Int. Cl. G02c 7/04; A61b 3/00
U.S. Cl. 351—40 1 Claim

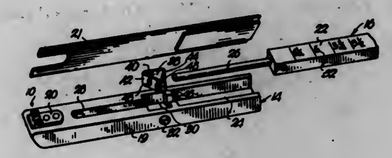
A method of fitting aspheric contact lenses by utilizing a lens having substantially the same cross section as the cornea to which it is applied and which includes an

opaque area located at the center of the lens and dimensioned to occupy half the area of the dilated pupil of the eye. A second lens is also utilized which is comprised of an opaque material with a transparent aperture located at the center thereof and occupying half the area of the dilated pupil. Measurements are taken of the refraction of light at the center of the pupil area and at the periphery of the pupil area by utilizing these two



lenses. The measurements determine the shape of an aspheric contact lens having a smoothly changing curvature between the central and peripheral curvatures thereof such that light entering all portions of the aspheric lens will be focused to a common point on the retina of the eye.

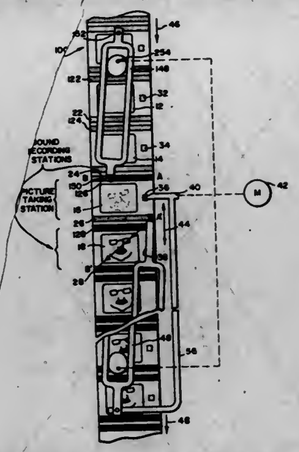
3,510,208
EXTENSIBLE TEMPLES FOR SPECTACLES
Willis T. Watkins, Hickman Mills, Mo., assignor to Parmelee Plastics Company, Kansas City, Mo., a corporation of Missouri
Filed Sept. 24, 1968, Ser. No. 761,990
Int. Cl. G02c 5/20
U.S. Cl. 351—118 2 Claims



An extensible temple for spectacles has two telescoping sections locked against reciprocation by a spring clip. The clip is housed within one of the sections and has gripping elements which may be released by inserting a tool through an opening in the temple piece when it is desired to change the temple length. An alternative form utilizes a clip having leg elements extending through openings in the temple piece which may be moved toward each other to release their grip.

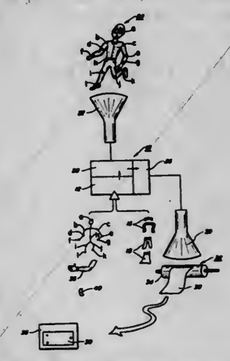
3,510,209
SOUND RECORDING FOR MOTION PICTURE
Milo P. Hnilicka, Jr., Concord, Mass., assignor to National Research Corporation, Newton, Mass., a corporation of Massachusetts
Filed Sept. 8, 1966, Ser. No. 578,009
Int. Cl. G03b 31/02
U.S. Cl. 352—27 6 Claims

Apparatus for recording accompanying sound tracks simultaneously with the recording of motion pictures and during the cyclic transport time of the film. The sound tracks are located between adjacent picture frames and extend transversely of the longitudinal length of the film. An electroluminescent diode light source is mounted on the claw mechanism such that it moves with the claw in a direction longitudinally of the film. The light source moves transversely of the film during the period when the



film is at rest and also during a portion of the time when the film is being moved to the next frame.

3,510,210
COMPUTER PROCESS CHARACTER ANIMATION
Von Haney, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 15, 1967, Ser. No. 690,991
Int. Cl. G03b 15/03, 29/00
U.S. Cl. 352—39 5 Claims

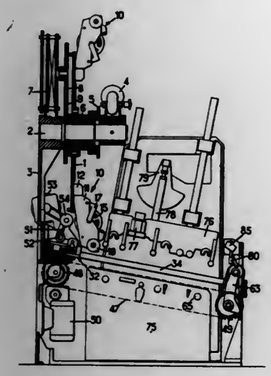


A method of producing animation by providing a computer with the characteristics of an animated character to be reproduced, interfacing a television camera or the like with a computer, having a live actor perform the necessary movements to relate the desired activities, and printing out the computer output in terms of animated cartoon characters is disclosed.

3,510,211
APPARATUS FOR SELECTING AND POSITIONING FILMS
André Lalandre, 5 Rue de la Manutention, Paris, France
Filed July 31, 1967, Ser. No. 657,178
Claims priority, application France, Aug. 3, 1966, 71,988
Int. Cl. G03b 21/04
U.S. Cl. 352—123 5 Claims

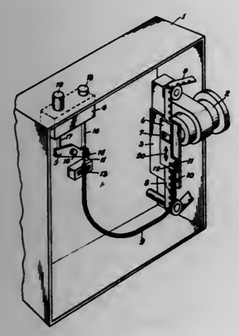
Apparatus for selecting and projecting photographic film includes a rotating turret which carries a plurality of

film supports. Each support consists of a reel and a pair of jaws adapted to receive a film carrying core, and a carriage for moving a selected core away from the turret



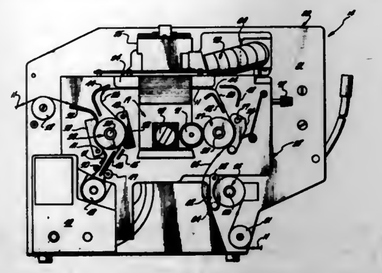
to thread the film through projecting elements, such elements being adapted to separate to permit passage of the carriage therethrough.

3,510,212
FILM PROJECTOR WITH AUTOMATIC CORRECTION OF THE FRAMING OF THE PICTURE
Fritz Krumbein and Dietrich Becker, Stuttgart-Mohringen, Germany, assignors to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany, a German corporation
Filed Nov. 6, 1967, Ser. No. 680,798
Claims priority, application Germany, Nov. 16, 1966, Z 10,917
Int. Cl. G03b 21/46
U.S. Cl. 352—160 5 Claims



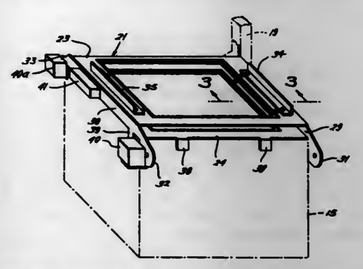
A film projector provided with an adjusting means for correcting the position of the picture in the picture window during the forward and reverse movement of the film. The adjusting means including two push-buttons, one for the forward movement and one for the reverse movement of the film, and at least one Bowden cable operatively connected with said two push buttons and with a slidable picture window mask which is adjustable relative to the picture window of the projector.

3,510,213
MOTION PICTURE PROJECTOR
Patrick J. Cunningham, Fullerton, and Holland H. Freeman, Sierra Madre, Calif., assignors, by mesne assignments, to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 27, 1967, Ser. No. 618,649
Int. Cl. G03b 1/24
U.S. Cl. 352—166 2 Claims



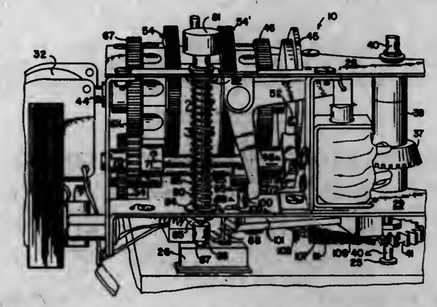
Motion picture film advancing apparatus for successively advancing a motion picture film past a plurality of projection stations positioned along the film path. Each projection station has a film drive sprocket positioned upstream of the projection axis for feeding film into a shuttle loop. A second sprocket is provided upstream of the drive sprocket for feeding film to the drive sprocket at the same rate that the drive sprocket feeds film to the shuttle loop. The shafts of the two sprockets are connected with each other by means of a belt extending between identical pulleys on the two shafts.

3,510,214
ADAPTER ACCESSORY FOR OVERHEAD PROJECTORS
Marvin E. Crow, 407 Hastings Road, Belton, Tex. 76513
Filed Mar. 7, 1967, Ser. No. 621,185
Int. Cl. G03b 21/00, 21/14, 21/28
U.S. Cl. 353—21 13 Claims



An adapter frame for mounting on the illumination base of an overhead projector for presenting for projection various combinations of text sheets and masks so that the operator may follow the text on the adapter and face the audience, while the audience views the projected image on a screen. The masking and text arrangements provide for restricted, intermittent, or progressive projection of the text material. The adapter frame comprises a pair of parallel wall members spaced one above the other, each wall member having an aperture therein forming vertically aligned windows for registry with the display area of the projector. Guide bars are mounted on the upper sides of each of the wall members adjacent the apertures for guiding a masking element on one of the wall members and an indicia-bearing element on the other wall member.

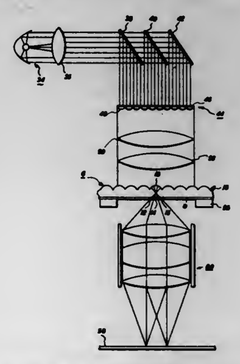
3,510,215
RANDOM ACCESS MEANS FOR SLIDE PROJECTORS
Frank P. Bennett, Northbrook, Ill., assignor to GAF Corporation, a corporation of Delaware
Filed Oct. 2, 1967, Ser. No. 672,214
Int. Cl. G03b 23/02
U.S. Cl. 353—25 14 Claims



The random access accessory is detachably mounted on the top of a slide projector and includes its own motor and drive gear, which gear meshes with the teeth on the tray. The attachment further includes a pair of manually operable selector wheels, each bearing numerals "0" through "9" for selecting any space in the 100 space tray. Each of these wheels carries an arcuate commutator strip having a cutout area. A pair of brushes are carried respectively on a second pair of wheels and mounted such that the brushes are in wiping or sweeping engagement with respective commutator strips. Manual rotation of the first pair of wheels, i.e., the selector wheels, positions the commutator cutouts relative to the brushes. The brushes and commutator strips are in a circuit which is opened when both brushes lie in respective cutout areas; thereby stopping the tray with the selected slide space at the slide transfer station.

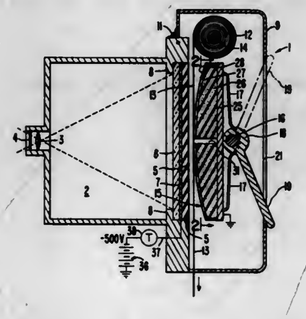
In an alternative embodiment, individual contacts arranged in circular patterns are substituted for the commutator strips. A plurality of push-button operated switches allow the operator to place a selected contact in each pattern of contacts in the circuit.

3,510,216
PROJECTION APPARATUS
Irwin Wagman, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 27, 1966, Ser. No. 605,007
Int. Cl. G03b 21/00, 21/28, 33/00
U.S. Cl. 353—32 3 Claims



Projection apparatus for exposed lenticular photoreceptors wherein collimated white light is subdivided into light of primary colors with dichroic mirrors. This colored light is then focused by the lenticules associated with the film to provide a full color display.

3,510,217
ELECTROPHOTOGRAPHIC APPARATUS EMPLOYING AN ELASTIC PRESSURE PAD FOR PRESSING THE FILM AGAINST THE PHOTOCONDUCTOR
Eugene F. Cirimele, Sunnyvale, and Roy Uhleberg, Mountain View, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Feb. 10, 1967, Ser. No. 615,257
Int. Cl. G03g 15/00; G03b 27/20, 29/00
U.S. Cl. 355—16 7 Claims

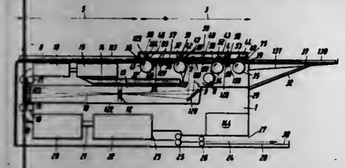


In electrophotographic apparatuses, with a photoconductive plate illuminated by a photon image, an elastic pressure pad holds the recording medium against the plate. The charge retentive surface of an electrographic paper overlays the photoconductive plate. A potential is applied across the photoconductive plate and electrographic paper to deposit an electric charge image corresponding to the photon image on the charge retentive surface of the electrographic paper. The charge image is subsequently developed by conventional methods employing electrographic toner. During deposition of the charge image pattern, the electrographic paper is pressed into nominal contact with the photoconductive plate by means of an elastic pressure pad which has its surface coated with a conductive paint for making electrical contact with a conductive backing of the electrographic paper. The pressure pads are made of sponge rubber and having a thin non-porous skin which is coated with conductive silver paint. The sponge rubber pad portion is cemented to a rigid backing plate. The pads are dome-shaped to squeeze the air out between the paper and the photoconductive plate without trapping the air. The pads are preferably serrated to further prevent trapping of the air bubbles. Alternatively, the soft pressure pad portion may be formed by a flexible plastic or rubber bag filled with a fluid and coated externally with conductive paint.

3,510,218
DOCUMENT AND BOOK SCANNING COPYING APPARATUS
Walter Limberger, Hamburg-Poppenbuttel, Egon Opravil, Hamburg-Bergedorf, and George Cranskens, Wedel in Holstein, Germany, assignors to Lumoprint Zindler KG, Hamburg, Germany
Filed Sept. 20, 1967, Ser. No. 668,997
Claims priority, application Germany, Sept. 26, 1966, L 54,640
Int. Cl. G03b 27/50, 27/70
U.S. Cl. 355—51 14 Claims

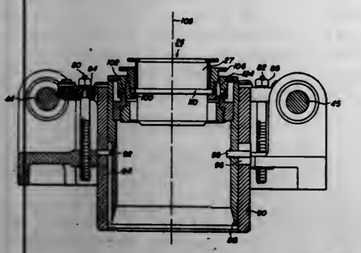
A copying apparatus includes a relatively elongated housing having a substantially horizontal upper surface

formed, nearer to one end than to the other, with a transversely extending exposure slot. An optical system, including a light source, directs light through the exposure slot and reflected light is directed to a copying material guide. A series of transport rollers, each associated with a counter-pressure roller, is provided to extend to either side of the exposure slot. A flanged cover is hinged to the housing for swinging about an axis extending longitudinally of the upper surface of the housing, the counter-pressure rollers are mounted in this cover, and opposite flanges of the cover cooperate with the upper surface of the housing to form a guide for sheet copying material. Intermediate its ends, the housing carries guide surface means for sheet originals offset upwardly from the housing upper surface when the cover is in closed position. This guide surface means may be either opaque and slotted or may be transparent, and the upper surface



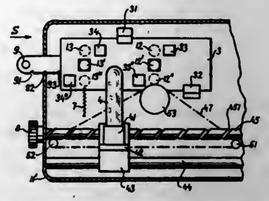
of the guide surface means has a predetermined effective optical spacing from the upper surface of the housing. A transparent support for a book or the like to be copied is slidably guided for movement longitudinally of the upper surface of the housing, and is blocked from such movement when the cover is in the closed position. The upper surface of the transparent support has such predetermined effect optical spacing from the upper surface of the housing. The transparent support has flange means engageable between transport rollers and associated counter-pressure rollers for movement of the transparent support longitudinally past the exposure slot when the cover is raised. Drive means are provided to effect coordinated operation of the transport rollers for the original, whether sheet material or whether mounted on the transparent support, and transport rollers for the copying material moved through the copying material guide.

3,510,219
OPTICAL ALIGNMENT SYSTEM
Robert H. Liva, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 13, 1966, Ser. No. 586,487
Int. Cl. G03b *27/32*
U.S. Cl. 355—55 **7 Claims**



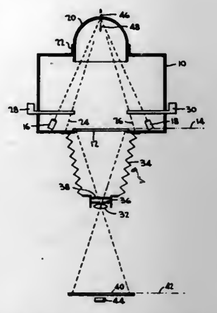
An optical system adjustment apparatus which projects focused and magnified images on a fixed image plane. The position of a platen defining the object plane relative to the image plane is established approximately by jack members at the corners thereof and then precisely by fittings movable relative to the jack members until the object plane is correctly aligned in parallel relation to the image plane. A carriage moves a lens member in reciprocating fashion between object and image planes to project a flowing image onto the image plane. The lens member is adjustable axially relative to the carriage by screw members. In addition an eccentric camming device provides fine focus correction of the lens along the optical axis. Tilt angle between the lens member and optical axis is adjustable by sliding mating curved surfaces formed on a lens holder and the carriage. The surfaces are locked in place by a clamping device when the lens member is properly aligned with the optical axis.

3,510,220
PHOTOGRAPHIC ENLARGER WITH AXIALLY ADJUSTABLE LAMP
Miroslav Bureš, Prerov, Czechoslovakia, assignor to Meopta narodni podnik, Prerov, Czechoslovakia
Filed Dec. 18, 1967, Ser. No. 691,302
Claims priority, application Czechoslovakia, Dec. 19, 1966, 8,095/66
Int. Cl. G03b *27/54*
U.S. Cl. 355—67 **6 Claims**



A projection lamp is axially movable in the lamp housing of an enlarger and coupled with a rotatable indicator disc carrying three scales calibrated with magnifications provided by respective interchangeable lenses for the enlarger. The lamp is properly positioned when the magnification value provided by the inserted lens is illuminated through a corresponding opening in the lamp housing. A selector plate is held by a click stop arrangement in each of three positions in which it blocks respective pairs of the openings and simultaneously permits illumination of the portion of a fixed scale indicating the lens used.

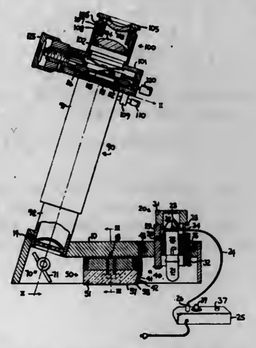
3,510,221
METHOD OF PHOTOGRAPHIC REPRODUCTION
Herbert M. Berman, New York, N.Y., assignor to Opti-Lume Corporation, New York, N.Y., a corporation of New York
Filed Aug. 26, 1968, Ser. No. 755,146
Int. Cl. G03b *27/76*
U.S. Cl. 355—77 **12 Claims**



A method of photographic reproduction in which light of a constant controlled Kelvin temperature from a light

source is reflected onto an adjustable curved screen and from the reflection screen either through a translucent original or reflected off an opaque original. The light next passes through a variable density filter, a lens aperture and a lens to the image plane. The highlight density is measured and the reflector adjusted until the desired highlight density is obtained. The shadow density is measured at the image plane and the filter is varied to correlate the shadow density to the highlight density as that desired and predetermined density range is achieved. A photographic emulsion is positioned at the image plane and exposed for a predetermined time.

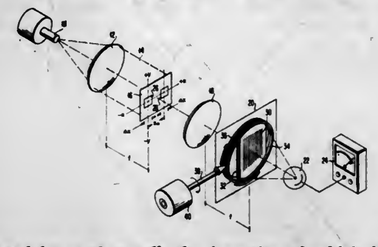
3,510,222
METHOD AND APPARATUS FOR MEASURING OPTICAL PROPERTIES IN THE SURFACE OF MATERIALS
Hugh E. Shaw, Jr., New Kensington, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Filed Dec. 8, 1966, Ser. No. 600,090
Int. Cl. G01b *11/16;* **G01n** *21/40;* **G02b** *7/18*
U.S. Cl. 356—33 **8 Claims**



An instrument for measuring stress in the surface of a birefringent material by critical angle refractometry comprising a light source, aperture plate, prism, and telescope mounted on a common base member. The prism is attached to the base member but spaced therefrom by resilient means positioned between and bearing against the base member and prism. This permits the material contacting surface of the prism to conform to the nominal plane of the surface of the material being examined and the base member to rest on the surface being examined. An aperture plate positioned between the light source and the prism is adjustable to restrict the rays of light incident on the surface being examined to a narrow band of light rays incident at angles approximating and including the critical angle for the prism and material being examined. A split field polarized light analyzer is optically aligned with the objective and eyepiece components of the telescope and in juxtaposition with the focal plane of the eyepiece to simultaneously analyze and present for viewing components of light rays polarized in mutually perpendicular planes by the surface being examined.

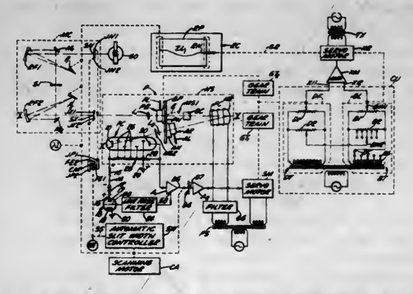
3,510,223
OPTICAL CROSS-CORRELATION AND CONVOLUTION
Adolf W. Lohmann, Los Gatos, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 19, 1967, Ser. No. 646,853
Int. Cl. G02b *27/38;* **G06h** *9/08*
U.S. Cl. 356—71 **11 Claims**

Optical apparatus in which an object and a reference are Fourier transformed through Fraunhofer diffraction and the combined amplitude of their transformation conveyed through the moire pattern formed by two oppositely-rotating diffraction gratings. The resultant light output



is sensed by a photocell, the intensity of which is indicated as maximum if the object and reference are correlated.

3,510,224
SELF-BALANCING SPECTROPOLARIMETER WITH A SERVO LOOP COMPENSATED FOR CHANGES IN VERDET CONSTANT
Paige B. Hooper, Glendora, Calif., assignor, by mesne assignments, to Cary Instruments, Monrovia, Calif., a corporation of California
Filed July 10, 1964, Ser. No. 381,696
Int. Cl. G01n *21/44;* **G01j** *3/42*
U.S. Cl. 356—97 **17 Claims**

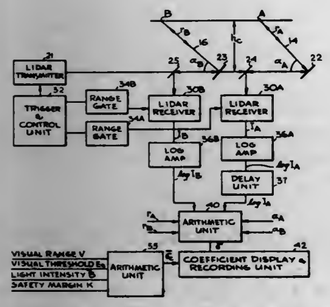


A monochromatic beam of varying wavelength is transmitted through a polarizer where it is plane polarized and is then transmitted through a sample and a Faraday core and then through an analyzer to a photocell. The core of the Faraday cell is subjected to the influence of an oscillating magnetic field which causes the plane of polarization of the beam striking the analyzer to oscillate angularly by an amount proportional to the Verdet constant of the material in the Faraday core. A corresponding alternating current developed in the output of the photocell is applied to a servomotor and gear train to rotate the polarizer toward a position which causes the average position of the oscillating beam to be crossed with the analyzer. In this invention, a common control is employed for scanning the spectrum and for varying the transmission coefficient of the servo loop to stabilize the transfer coefficient of the servo loop. In this way, overshooting and sluggishness of the servo system are prevented.

3,510,225
VISIBILITY INDICATING SYSTEM
Ronald T. H. Collis, Menlo Park, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed May 31, 1966, Ser. No. 553,896
Int. Cl. G01n *23/06*
U.S. Cl. 356—4 **9 Claims**

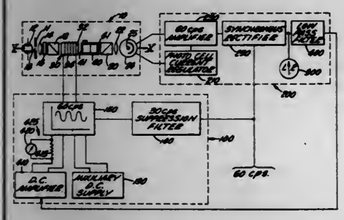
A visibility indicating system in which the mean coefficient of extinction over a critical path from a selected

point at a critical height to the ground, is determined, as a function of the back-scattered returns of light from the critical height along two elevated paths, differing from each other only by a selected angular value. The mean coefficient of extinction, so measured, is compared with a critical coefficient of extinction, derived from the actual range between runway lead-in lights on the ground



and the critical height, the light intensity and a visual threshold level. By comparing the measured mean coefficient of extinction with the derived critical coefficient of extinction value, it can be determined whether a pilot is expected to see the runway and lead-in lights from the critical height below which he is not to proceed in absence of sighting of actual ground.

3,510,226
POLARIMETER WITH REGULATED PHOTOMULTIPLIER TUBE
Henry H. Cary, Pasadena, Calif., assignor, by mesne assignments, to Cary Instruments, Monrovia, Calif., a corporation of California
Continuation of application Ser. No. 381,474, July 9, 1964. This application Feb. 17, 1969, Ser. No. 802,734
Int. Cl. G01n *21/40*
U.S. Cl. 356—117 **13 Claims**



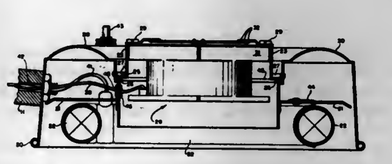
In this polarimeter, the plane of polarization of the beam that has been transmitted through a sample is angularly oscillated by means of a Faraday coil subjected to an alternating magnetic field of fundamental frequency. The gain of the photomultiplier tube that detects the beam is automatically regulated by the average current output of the tube or in accordance with the amplitude of a component other than that of fundamental frequency, in order to provide an output signal which is proportional to the angular displacement of the beam from a reference position substantially independently of the average intensity of the beam.

3,510,227
WRITING INSTRUMENT
Yukio Horie, Tokyo, Japan, assignor to Dai Nihon Bungu Kabushiki Kaisha (also trading as The Japan Stationery Co., Ltd.), Tokyo, Japan, a corporate body of Japan
Filed Mar. 26, 1968, Ser. No. 716,048
Claims priority, application Japan, Apr. 8, 1967, 42/22,110; Oct. 5, 1967, 42/84,500
Int. Cl. B43k *8/00*
U.S. Cl. 401—199 **2 Claims**



A marking pen includes a tubular pen body which holds a core having a tip through which the ink flows. A core for a marking pen includes a bunch of rod-like elements or monofilaments. The bunch is tightly held by a film of plastic resin, preferably formed by heat-shrinking the film around the bundle. The bunch may be formed, fasces-like, around a plastic tube or rod. The bundle may alternatively include felt-like material.

3,510,228
FUME DISPERSING WORK LAMP
Robert L. May, Upton, Mass., assignor to The O. C. White Company, Worcester, Mass.
Filed Apr. 24, 1967, Ser. No. 633,159
Int. Cl. F04d *25/00*
U.S. Cl. 415—121 **6 Claims**

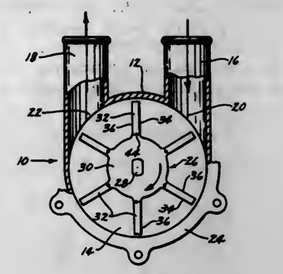


A lamp with an annular light source is provided with an exhaust fan mounted inside the light source. A reflector is mounted behind the light source. The housing of the lamp and fan assembly acts as a baffle to limit recirculation of the exhausted gases. The lamp housing is mounted on movable support arms for ease in adjusting the lamp with respect to the desired illuminating surface.

3,510,229
ONE-WAY PUMP
Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed July 23, 1968, Ser. No. 746,835
Int. Cl. F04b *19/00*; F04d *1/00, 29/02*
U.S. Cl. 415—141 **13 Claims**

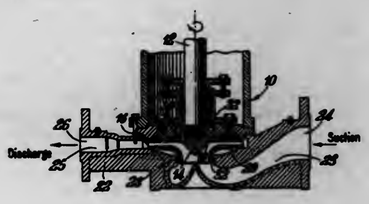
A one-way centrifugal pump utilizing a unitary impeller positioned within a pump chamber for rotation in either a pumping direction or in an opposite non-pumping direction. The impeller includes a central rotor portion and at least one blade, the rotor and blade being connected at a flexible connecting web portion adapted to maintain the blade in a substantially radial pumping position when the impeller is rotated in the pumping direction and to permit the collapse of the blade toward the rotor

when the impeller is rotated in the non-pumping direction against the resistance of fluid in the chamber. The impeller is formed of material of sufficient flexibility to



permit the web portion to bend with relative ease and of sufficient rigidity so that the impeller will operate properly in the pumping position.

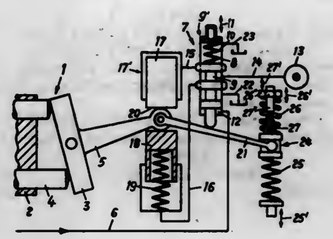
3,510,230
INTERNAL SEALS FOR PUMPS WITH ENCLOSED IMPELLERS
Samuel H. S. Raub, Bay Village, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Apr. 3, 1968, Ser. No. 718,487
Int. Cl. F04d *29/08*; B65d *53/00*
U.S. Cl. 415—173 **7 Claims**



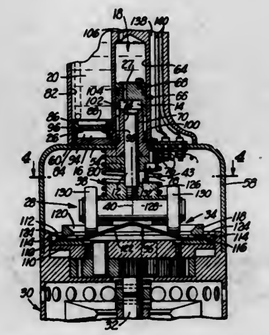
The fluid leakage in a centrifugal pump is reduced by filling substantially all of the clearance space between the hub segment of the rotating impeller and the pump casing with expanded graphite. The expanded graphite may be positioned on the hub and rotated with the impeller or placed on the stationary casing at the wearing surfaces of the pump. The efficiency of the pump is increased due to the increase in discharge head caused by the reduction of fluid leakage.

3,510,231
CONTROL APPARATUS FOR ADJUSTING THE STROKE VOLUME OF A HYDRAULIC PUMP
Gerhard Bobst, Oensingen, Switzerland, assignor to Von Roll AG, Gerlafingen, Switzerland, a corporation of Switzerland
Continuation-in-part of application Ser. No. 574,240, Aug. 22, 1966. This application June 21, 1968, Ser. No. 738,913
Claims priority, application Switzerland, Aug. 27, 1965, 12,088/65; June 14, 1968, 8,851/68
Int. Cl. F04b *1/02, 49/00*; F04d *15/00*
U.S. Cl. 417—218 **8 Claims**

A control apparatus for adjusting the stroke volume of at least one hydraulic unit as a function of the operating pressure. This control apparatus comprises pre-control means which incorporate a pre-control valve unit impinged by the measurement pressure and a first adjustable spring system. Servo means cooperate with the pre-control means, such servo means incorporating at least one servo piston unit impacted by a regulated or dosed quantity of pressurized fluid medium delivered from the pre-control valve unit. The servo piston unit actuates an adjustment element provided for the hydraulic unit. Additionally, a second adjustable spring system acts upon the pre-control means and the operation of which is influenced by the position of the servo means. Also, at least one connecting element is actuated by such servo means. The second adjustable spring system acts upon the pre-control piston means of the pre-control valve unit against the action of the force of the first spring system and through the agency of the connecting element actuated by the servo means.



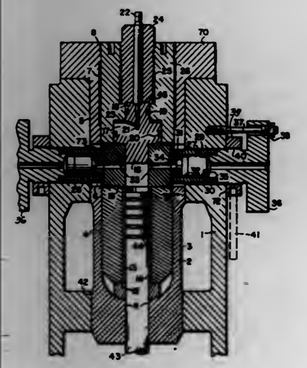
3,510,232
POSITIVE DISPLACEMENT PUMP
Richard J. Reeve, 4117 Vecino, and George I. Noah, 545 Rue Royale, both of Covina, Calif. 91722
Filed Jan. 8, 1968, Ser. No. 696,369
Int. Cl. F04b *9/04, 49/08*
U.S. Cl. 417—415 **4 Claims**



A positive displacement pump having a hollow pump body containing a movable pressure wall, such as a piston, which is driven in a reciprocating pumping motion to pump fluid from a reservoir to a receiver in such a way that the pumping stroke of the pressure wall varies inversely and the driving force on the pressure wall varies directly with the discharge fluid pressure of the pump. The pumping stroke approaches zero and the driving force approaches a maximum at a predetermined discharge

pressure, whereby the pump maintains this maximum fluid pressure automatically at zero fluid demand. A fluid pressure device such as a hydraulic rivet setting tool, utilizing the positive displacement pump to furnish pressurized working fluid for an operating cycle which requires the working fluid at relatively high flow rate and low pressure during the initial portion of the cycle and at low flow rate and high pressure during the final portion of the cycle.

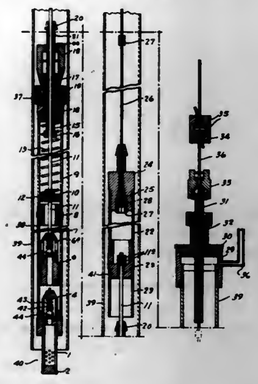
3,510,233
CYLINDER STRUCTURE FOR SINGLE OR MULTI-STAGE PISTON COMPRESSORS
Albert Strebel, Binningen, and Oskar Habegger, Therwil, Switzerland, assignors to Maschinenfabrik Burckhardt AG, Basel, Switzerland
Filed June 3, 1968, Ser. No. 733,950
Claims priority, application Switzerland, June 7, 1967, 8,060/67
Int. Cl. F04b *39/12*
U.S. Cl. 417—454 13 Claims



A cylinder housing contains inner components defining a bore for a piston and passages communicating with suction and delivery connections. The housing has an elastically extensible lower portion and a bottom closure with which the inner components are in abutment. A hydraulic pressure device reacts between an upper closure in the housing and the inner components to urge the latter against the bottom closure, so that the components may be mounted and dismounted in the housing without removal of the suction and delivery connections.

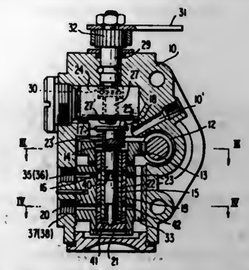
3,510,234
SUBMERSIBLE CABLE PUMPING UNIT
William C. Wolf, 1828 Churchill Way, Oklahoma City, Okla. 73120
Filed Apr. 16, 1968, Ser. No. 721,882
Int. Cl. F04b *47/00, 9/02*
U.S. Cl. 417—450 5 Claims

A reciprocating, cable operated, pump assembly for use in a well casing, or the like, including a working barrel with a reciprocating plunger therein, an annular coupler secured to the upper end of the working barrel and seating an expandible packer ring for spreading engagement with the inner wall of the well casing, a downwardly tapered mandrel above said packing ring adapted to be forced into the packing ring and to spread the ring into engagement with the casing, said mandrel having a downwardly extending, coaxial, release tube passing through said coupler and terminating in a lift nut below the coupler which is adapted, during removal of the pump assembly from the well casing, to lift the mandrel and thereby release the packer ring from engagement with the casing, a driver tube above said mandrel secured at it upper end to a reciprocating cable, the lower end of said driver tube being engageable with said mandrel to drive the mandrel downwardly and spread the packer ring during setting of the pump assembly, a pump rod extending upwardly from said plunger through said coupler at the upper end of the working barrel and said mandrel and into said driver tube, means on said driver



tube slidably receiving the upper end of said plunger rod and providing a coupling with said rod for lifting movements of the plunger during reciprocation thereof, and a compression spring seated between said coupler and a holding member fixed to said plunger rod to bias the plunger rod downwardly, whereby the packer ring may be released by pulling the cable up to compress said spring and cause said spring holder to strike the release tube on the mandrel, lifting the mandrel from spreading engagement with said packer ring and releasing the pump assembly to travel freely up and out of the well.

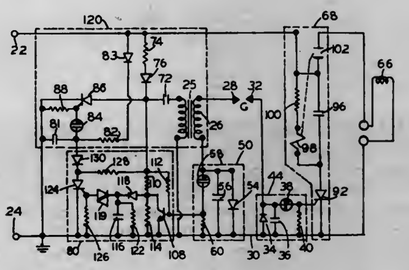
3,510,235
PISTON PUMP
Wolf-Dieter Bensinger, Stuttgart-Riedenberg, and Helmut Dobler, Stuttgart-Mohringen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Sept. 25, 1968, Ser. No. 762,429
Int. Cl. F04b *7/06, 19/22, 49/00*
U.S. Cl. 417—462 16 Claims



A piston pump which includes a fixed pump piston and a reciprocating pump cylinder that simultaneously rotates and thereby controls the inlet and outlet of the

pump; the stroke movements of the pump cylinder are derived from the rotary movement of the cylinder with the aid of a force-locking guidance of a control pin eccentrically secured at the cylinder on a control surface and the control surface having approximately the shape of a cylinder surface.

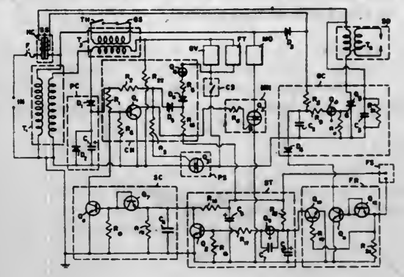
3,510,236
IGNITION CONTROL
William F. Potts, Liverpool, N.Y., assignor to Liberty Combustion Corporation, Syracuse, N.Y., a corporation of New York
Filed Jan. 29, 1968, Ser. No. 701,191
Int. Cl. F23n *5/20*
U.S. Cl. 431—29 11 Claims



Fluid fuel heating control and ignition system having a burner, an electric fuel valve, an alternating current supply, a pair of electrodes forming a fixed spark gap for the burner, an ignition control circuit connected to the power supply, the valve and electrodes and comprising a spark voltage generator with a transformer, the secondary winding of which provides a high voltage of an oscillatory nature consisting of a series of essentially single cycle pulses, one terminal of the secondary winding being connected to one electrode of the pair of electrodes, the other winding terminal being connected to a common ground line, the generator being operative when energized by said source of power, spark occurrence detection means connected between the other electrode and ground, and having an output point whereat a positive pulse of voltage appears relative to common ground each time a spark discharge occurs in the spark gap and no pulse appears if a spark discharge fails to occur in the gap, valve energizing means operatively connected to the power supply, the valve, and the output point of the spark detection means whereby the valve is energized to open only when spark discharges occur at the spark gap, the energizing means energizing the valve each time a spark discharge occurs for a period of time in excess of the normal period between successive spark discharges.

3,510,237
BURNER IGNITION SYSTEM
George J. Granieri, Piscataway, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,587
Int. Cl. F23n *5/08*
U.S. Cl. 431—79 15 Claims

This invention covers a direct burner ignition system for heating or cooling or other air conditioning equipments. The system includes an electrical spark producing device for igniting the incoming fuel, a flame sensor for observing the color of the flame of the ignited fuel, a protective apparatus for responding to the color of the flame and for rendering the system inoperative when the color of the flame is different from a predetermined color (such as blue). If the flame sensor includes a cadmium



sulphide cell, the protective apparatus will respond instantly to said different predetermined color. If a flame outage occurs, re-ignition will be provided within about eight-tenths of a second. The system includes fail-safe features to render the system inoperative due to any failure of the equipment.

3,510,238
TUBULAR UNIFORM TEMPERATURE HEAT SOURCE
Albert Biber, Verona, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 19, 1968, Ser. No. 722,690
Int. Cl. F23d *11/02*
U.S. Cl. 431—116 12 Claims



A uniform temperature heat source utilizing liquid fuel comprising means to reduce the amount of heat imparted to the tubular housing by the combustion products adjacent the flame, and means to gradually increase the amount of heat imparted along the tubular housing away from the flame. The burner is particularly suited for use in thermoelectric generators.

3,510,239
DIRECTIONAL RADIANT HEATERS
Maurice Partiot, 12 Rue du Plateau, St. Antonine, Le Chesnay, Yvelines, France
Continuation of application Ser. No. 430,129, Feb. 3, 1965, which is a continuation-in-part of application Ser. No. 334,842, Dec. 31, 1963. This application Apr. 18, 1966, Ser. No. 549,114
Int. Cl. F23d *13/12*
U.S. Cl. 431—328 20 Claims

6. A radiant gas heater adapted to direct a concentrated beam of radiation in a preferred direction ahead of said burner and comprising in combination:
at least one generally planar foraminous member,

means for conducting a combustible gas mixture to a combustion surface of said foraminous member for combustion adjacent said combustion surface,

said combustion surface being formed in part of surfaces which slope at acute angles relative to a normal to the plane of said foraminous member, said sloping surfaces being disposed to form a lobar radiation intensity pattern having maxima at acute angles to either side of said normal,



mounting means for positioning said member such that said normal forms an acute angle with said preferred direction and one of said two maxima of said lobar radiation pattern generally lies along said preferred direction,

and reflector means positioned to have the radiation along the other of said maxima of said lobar radiation pattern impinge thereon and be reflected outwardly generally in said preferred direction.

3,510,240

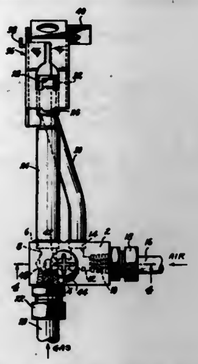
PILOT BURNER

Earl T. Rhinehart, Apison, Tenn., assignor to Magic Chef, Inc., Cleveland, Tenn.

Filed Oct. 25, 1968, Ser. No. 770,771

Int. Cl. F23d *13/24*

U.S. Cl. 431—350 **5 Claims**



A block of metal having two tubes terminating adjacent each other. The block has one passageway for directing gas or gas and primary air to one tube having a pilot burner head at its outer end and another passageway for directing pressurized secondary air along the other tube. The block is formed to provide adjustable communication between the two passageways and the outer ends of the tubes are partially enclosed by a gas and air confining hood.

CHEMICAL

3,510,241

COLORATION OF AROMATIC POLYESTERS

Chi K. Diep, Buffalo, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 16, 1966, Ser. No. 594,662

Int. Cl. D06p *3/12*

U.S. Cl. 8—4 **7 Claims**

Method for dyeing shaped materials of aromatic polyesters, e.g., polyethylene terephthalate fibers and films, with an aqueous dispersion of a 2,2'(azo-di-arylene)-bisbenzothiazole dyestuff by a thermal fixation procedure and the colored product thereof.

3,510,242

WATER INSOLUBLE DIOXAZINE DYESTUFF COMPOSITIONS COMPRISING THREE DIFFERENT DIOXAZINE COMPONENTS

Wilson J. Bryan, Jr., Charlotte, N.C., assignor to Martin-Marietta Corporation, a corporation of Maryland

No Drawing. Filed Jan. 27, 1967, Ser. No. 612,100

Int. Cl. C09b *19/02*

U.S. Cl. 8—35 **2 Claims**

Water insoluble dioxazine dyestuff composition, comprising three distinct dioxazine components, resulting from heating 3,6 - dichloro - 2,5 - bis - (2',5' - dimethoxy-4' - chlorophenylamino) - 1,4 - benzoquinone in nitrobenzene or ortho-dichlorobenzene solvent in the presence of benzoyl chloride. Use of the product for pigment dyeing polystyrene and polyethylene films, and linear polyester textile fibers from dispersion by the thermosol method, in cerise shades, and the properties of the dyeings are also disclosed.

3,510,243

PROCESS FOR THE CONTINUOUS DYEING AND PRINTING OF FIBRE MATERIAL FROM LINEAR, HIGH MOLECULAR ESTERS OF AROMATIC POLYCARBOXYLIC ACIDS WITH POLYFUNCTIONAL ALCOHOLS

Marcel Seuret, St. Kilda, Melbourne, Victoria, Australia, and Willi Leutenegger, Bottmingen, Basel-Land, and Hans E. Wegmuller, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,184

Claims priority, application Switzerland, Dec. 9, 1965, 17,024/65

Int. Cl. C09b *1/00, 5/62*

U.S. Cl. 8—39 **13 Claims**

A process for the continuous dyeing or printing of fiber material from linear, high molecular esters of aromatic polycarboxylic acids with polyfunctional alcohols, is provided. There is applied to the fiber material a solution of (A) a mixture of solvents consisting essentially of

(a) 50 to 99% by weight of a water-insoluble chlorinated hydrocarbon having a boiling point between 50 and 150° C.;

(b) 50 to 1% by weight of a liquid, water-soluble, organic solvent having a boiling point below 220° C., and

(B) a dispersion dyestuff, e.g. anthroquinone.

The resulting dyeing or print on the fiber material is then fixed by subjecting the treated fiber material to a subsequent heat treatment at temperatures from about 130° C. to below the softening point of the fiber material.

3,510,244

DYEING CELLULOSIC FIBERS OR BLENDS THEREOF WITH A CHLORO-PYRIMIDYL REACTIVE DYE AND A RESIN BONDED PIGMENT IN A HYDROXYETHYLCELLULOSE - ETHYL ACRYLATE - METHYLMENTHACRYLATE COPOLYMER OR BUTADIENE STYRENE COPOLYMER DISPERSION

Eric A. Schlaginhaufen, Mahwah, and Andrew W. Goodwin, Woodcliff Lake, N.J., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 319,672, Oct. 29, 1963. This application Jan. 31, 1967, Ser. No. 612,825

Int. Cl. D06p *1/76*

U.S. Cl. 8—62 **1 Claim**

Blended fabrics made of blends of cellulose and polyester fibers are printed with a printing paste composition comprising a color concentrate containing a fiber reactive dyestuff, a resin-bonded pigment and hydroxyethylcellulose, carboxyethylcelluose or an etherified starch as a thickening agent, and an extender comprising water, alkali and the same type of thickening agent as in the color concentrate.

3,510,245

pH 3.9 TO 4.4 IMPREGNATION OF AN ACIDIC VEGETABLE TANNED, FAT-LIQUORED LEATHER WITH A DIMETHYLOL UREA SOLUTION

John Wesley Wolfe, Squantum, Mass., assignor to Pers-Pro-Tan Leathers, Inc., Squantum, Mass.

No Drawing. Filed Feb. 13, 1967, Ser. No. 615,378

Int. Cl. C14c *9/02*

U.S. Cl. 8—94.21 **2 Claims**

A method of producing leather from vegetable tanned hides, in which such hides are water washed to remove substantially all uncombined tannins, fat-liquored, dried, and treated with an aqueous solution of dimethylol urea at a pH above 4.4 long enough to allow substantially complete penetration of the hides by the urea. During treatment the pH of the urea is allowed to fall, so that, after substantially complete penetration, the pH is below 4.4 and the penetrated urea becomes affixed to the hides. The hides are then dried, buffed and cut.

3,510,246

TREATMENT OF CELLULOSIC FIBERS WITH CERTAIN QUATERNARY AMMONIUM COMPOUNDS

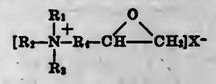
James L. Keen, New Brighton, and Lyle F. Elmquist, North St. Paul, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Feb. 8, 1967, Ser. No. 614,555

Int. Cl. D06m *13/34*

U.S. Cl. 8—116.2 **13 Claims**

Cellulosic fibers are treated with glycidyl quarternaries to improve the softness and/or water repellency thereof, said glycidyl quaternaries having the general formula



3,510,247

MODIFICATION OF CELLULOSIC MATERIALS WITH TERTIARY BIS-ACRYLAMIDES

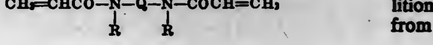
Giuliana C. Tesoro, Dobbs Ferry, N.Y., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 1, 1964, Ser. No. 356,639

Int. Cl. D06m *13/34*

U.S. Cl. 8—116.2 **11 Claims**

Chemical modification of cellulosic materials under conditions of alkaline catalysis with a tertiary bis- acrylamide represented by the structural formula:



wherein Q is a divalent organic radical and R is a lower alkyl group which may, in conjunction with the Q radical, form a heterocyclic group with the nitrogen.

3,510,248

TREATMENT OF CELLULOSIC FIBERS WITH CERTAIN CHLOROAMINES AND CHLOROQUATERNARIES

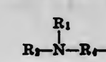
Jean B. Thielen and James L. Keen, New Brighton, and Lyle F. Elmquist, North St. Paul, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Feb. 8, 1967, Ser. No. 614,554

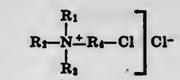
Int. Cl. D06m *13/34*

U.S. Cl. 8—116.2 **12 Claims**

Cellulosic fibers are treated with chloroamines and chloroquaternaries to improve the softness and/or water repellency thereof, said chloramines and chloroquaternaries having the general formulae



and



3,510,249

PRECURE PROCESS

Myrtle J. Spangler, Danville, Va., assignor to Dan River Mills, Incorporated, Danville, Va., a corporation of Virginia

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,497

Int. Cl. D06m *13/12*

U.S. Cl. 8—116.3 **8 Claims**

Process of producing crease-resistant textiles such as sensitized textiles for use in the manufacture of durable press articles including the steps of impregnating a cellulosic textile with a crease-proofing nitrogen-containing compound, heating the impregnated textile to dry and set it in the absence of a curing catalyst for said crease-proofing compound, impregnating the resulting dried and set textile with a curing catalyst for said crease-proofing compound and drying the resulting catalyst impregnated textile to a condition suitable for shipment, storage and/or handling in the manufacture of articles therefrom whereby the resulting catalyst-impregnated textile is characterized by a greatly reduced formaldehyde odor.

3,510,250

PROCESS FOR TEXTILE TREATMENT

John William Case and John Shaw, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Apr. 10, 1967, Ser. No. 629,517

Claims priority, application Great Britain, Apr. 18, 1966, 16,904/66

Int. Cl. D06l *1/02*

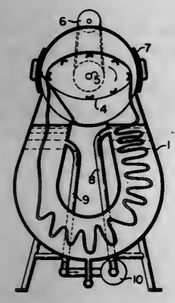
U.S. Cl. 8—139.1 **6 Claims**

Woven textiles are treated in continuous lengths and open widths by immersion in boiling dry-cleaning solvents by passing the fabric through the boiling solvents and the zone of ebullition in the solvents so that the edges of the fabric are not contacted by the zone of ebullition and hence the tendency of the fabric emerging from the process to be creased is significantly mitigated.

3,510,251
METHOD AND APPARATUS FOR TREATING TEXTILE MATERIAL WITH LIQUID

Osamu Fujii, Toyonaka-shi, and Mitsuyasu Miyamoto, Amagasaki-shi, Japan, assignors to Hisaka Works, Ltd., Osaka, Japan, a Japanese company

Filed July 28, 1967, Ser. No. 656,882
Claims priority, application Japan, July 30, 1966, 41/50,271; Apr. 22, 1967, 42/25,954, 42/25,955
Int. Cl. D06c *1/00*
U.S. Cl. 8—152 24 Claims

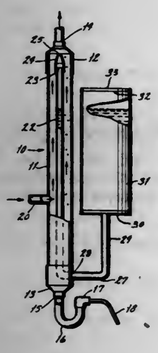


An improved method and apparatus for treating textile materials with suitable liquids in a treating tank having a substantially U or J shaped passage, material circulating apparatus, liquid recycling apparatus which also provides a jet stream formed in a curtain around the material for assisting the movement of the material through the tank, material speed controlling apparatus, apparatus for bombarding the material with the liquid, and apparatus for controlling the level of the liquid in the tank.

3,510,252
VAPOR-TYPE HUMIDIFIER-DEODORIZER FOR WARM AIR HEATING SYSTEMS

Gilbert H. Reich, 1082 E. Linden, Richmond Heights, Mo. 63117

Filed Feb. 28, 1967, Ser. No. 619,342
Int. Cl. A61l *9/02*
U.S. Cl. 21—74 4 Claims

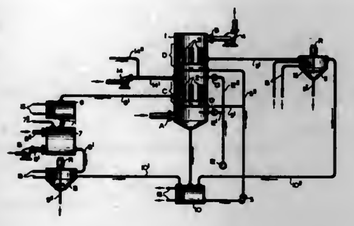


"Dry" steam is supplied to a warm air heating duct by an electrically heated steam generator into the side of a vertical cylindrical precipitation chamber enclosing a heat-conductive standpipe from an external reservoir of deodorizing liquid. The slowed flow of the steam within the chamber permits precipitates, including not only moisture but also water-treating chemicals, to drop to a bottom outlet of the chamber, where a water trap prevents any outflow of steam. Relatively dry steam rises from the top outlet of the chamber into the heating duct, carrying intermixed deodorizing vapor from the open upper end of the heated standpipe.

3,510,253
METHOD OF REMOVING SULFUR DIOXIDE FROM GASES

Volker Fattinger and Walter Jäger, Wiesbaden, and Gerd Petersen, Wiesbaden-Sonnenberg, Germany, assignors to Hugo Petersen, Wiesbaden, Germany

Filed Dec. 6, 1965, Ser. No. 511,612
Claims priority, application Germany, Dec. 19, 1964, P 35,726; Apr. 28, 1965, P 36,656
Int. Cl. C01b *17/60*
U.S. Cl. 23—2 21 Claims



Process of removing SO_2 from gas flows containing minor amounts of SO_2. Gaseous ammonia is added to the gas flow and a liquid containing ammonium sulfite, ammonium bisulfite and/or ammonium sulfate is injected into the gas flow to form $(NH_4)_2SO_3$ mist. The gas flow is then conveyed to a mechanical separating zone in which the gas flow and the injected liquid are brought into intimate contact with each other to separate the mist and the injected liquid from the gas flow. The process causes essentially quantitative removal of SO_2. According to a preferred embodiment, the ammonia and liquid enriched gas flow is divided in the mechanical separating zone into a plurality of part flows of less than 5 mm. thickness. The process is particularly suitable for the purification of SO_2-containing waste gases and effectively facilitates air pollution control.

3,510,254
PREPARATION OF CARBONATED ZIRCONIUM HYDRATE IN READILY FILTERABLE FORM, FROM ZIRCONYL CHLORIDE

Russell N. Bell, Ardsley, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

Filed Sept. 11, 1967, Ser. No. 666,800
Int. Cl. C22b *59/00*
U.S. Cl. 23—22 3 Claims

A process for manufacturing the carbonated hydrate from a metal selected from the group consisting of zirconium and hafnium consisting of reacting the metal oxychloride with a sulfate donor under conditions that form the metal sulfate. This reaction product is further reacted with a carbonate doning material to form the corresponding hydrous carbonate which material retains the same shape as the original composition.

3,510,255
RECOVERY OF SODIUM ALUMINATE FROM DAWSONITE

Robert N. Hall, Boulder, and Frank C. Haas, Arvada, Colo., assignors to The Oil Shale Corporation, New York, N.Y., a corporation of Nevada

No Drawing. Filed May 25, 1967, Ser. No. 641,166
Int. Cl. C01f *7/08*
U.S. Cl. 23—52 10 Claims

A process for recovering a water-soluble sodium aluminate from a dawsonite-bearing matrix which involves roasting the dawsonite-bearing matrix at an elevated temperature of about 1000–1400° F. to form a blend of sodium aluminate and spent residue; and leaching the blend at low temperature and atmospheric pressure with a leach liquor, which is water, or an aqueous soda ash solution, to extract the sodium aluminate therefrom.

3,510,256
ALKALI TREATMENT OF CHROMIUM ORES

Heinrich Schäfer, Cologne-Flittard, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 10, 1967, Ser. No. 651,978
Claims priority, application Germany, July 12, 1966, F 49,674
Int. Cl. C01g *37/14*
U.S. Cl. 23—56 13 Claims

Process for the production of sodium-chromate from chromium-containing material, e.g., chromium ore, under oxidizing conditions with sodium hydroxide, e.g., in a rotary tube furnace, in which the chromium-containing material optionally containing the usual additions, e.g., dolomite, iron oxide and/or recycled treatment residue previously recovered from the process, is heated to a temperature of between about 800 and 1200° C. by oxygen rich combustion gases and wherein liquified sodium hydroxide is sprayed onto the chromium containing material at a point during the heating when the chromium containing material is at a temperature of above 500° C. and below 1200° C., preferably of between 600 and 1000° C., and continuing the heating, and thereafter recovering the sodium-chromate by dissolving and separating from the insoluble residue and with the treatment optionally being carried out in a single stage or at least two or three repeated stages.

3,510,257
PROCESS OF SEPARATING RUBIDIUM FROM ALKALI METAL IMPURITIES

Marshal C. Farquhar and John A. Hill, Trona, Calif., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 604,573, Dec. 27, 1966. This application Dec. 19, 1968, Ser. No. 785,330
Int. Cl. C01d *11/04*; C01g *1/08*
U.S. Cl. 23—89 11 Claims

A process for separating rubidium values from a mixture of rubidium and at least one impurity selected from the group consisting of lithium, sodium, potassium and cesium which comprises converting said mixture to a solution in which the rubidium and said impurity are present as salts selected from the group consisting of nitrates and chlorides, and concentrating said salt solution to precipitate crystals comprising a rubidium salt separate from the major portion of said impurity which remains in said solution. A rubidium salt substantially free of alkali metal impurities may be produced in this manner.

3,510,258
PROCESS FOR THE MANUFACTURE OF FAUJASITE-TYPE CRYSTALLINE ALUMINOSILICATES

Saul G. Hindin, Mendham, N.J., and Joseph C. Dettling, Forest Hills, N.Y., assignors to Engelhard Industries, Inc.

No Drawing. Filed July 19, 1966, Ser. No. 566,235
Int. Cl. C01b *33/28*
U.S. Cl. 23—113 21 Claims

There is disclosed a method for the manufacture of faujasite-type crystalline aluminosilicates having a silica-to-alumina mole ratio of at least about 2:1. The process involves aging an aqueous mixture of hydrous silica, sodium aluminate and sodium hydroxide. The mixture has designated mole ratios of SiO_2/Al_2O_3, Na_2O/SiO_2 and H_2O/Na_2O. Aging is at a temperature of about 25 to 50° C. for about 5 to 50 hours to form an intermediate product. The intermediate product is combined with a major amount of a separately prepared gel made from an aqueous mixture of sodium silicate and sodium aluminate. The latter mixture has defined mole ratios of SiO_2/Al_2O_3, Na_2O/SiO_2 and H_2O/Na_2O. The combined mixture is aged at a temperature of about 80 to 110° C. to form a crystalline product composed to a major extent of the faujasite-type crystalline aluminosilicate.

3,510,259
SIMULTANEOUS LEACHING OF ZINC AND MANGANESE ORES

Peter Kenneth Everett, Toronto, Ontario, Canada, assignor to Union Carbide Canada Limited, Toronto, Ontario, Canada, a Canadian company

No Drawing. Filed July 13, 1967, Ser. No. 653,016
Int. Cl. C22b *3/00*
U.S. Cl. 23—117 9 Claims

Ores containing zinc sulfide and manganese sulfate are leached simultaneously in sulfuric acid in the presence of a catalyst selected from the group consisting of ionic iron and ionic copper according to the reaction:

$$MnO_2+ZnS+2H_2SO_4 \rightarrow MnSO_4+ZnSO_4 + ZnSO_4+2H_2O+S^o$$

3,510,260
METHOD FOR DETERMINING ACID CONTENT OF OIL SAMPLE

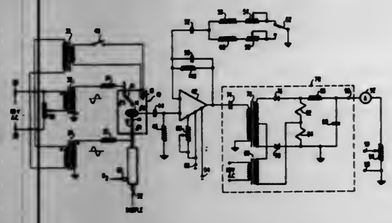
Arthur Altshuler Krawetz, Evanston, and Theodore Tovrog, Chicago, Ill., assignors to Henry Valve Company, Melrose Park, Ill., a corporation of Illinois

No Drawing. Filed July 6, 1965, Ser. No. 469,834
Int. Cl. G01m *31/22, 33/28*
U.S. Cl. 23—230 7 Claims

A method for field testing lubricating oils to determine whether their acid content is greater than a predetermined level. The oil sample to be tested is combined with a predetermined amount of an alkaline solution of known normality, the alkaline solution having a diluent constituent which is substantially immiscible with the oil sample and having the further characteristic of not interfering with the observation of a color change of a color indicator solution. A solvent substantially equally soluble in said oil sample and alkaline solution which permits ready transfer of the acid in the oil sample to the diluent phase of the alkaline solution is combined with the oil sample-alkaline solution mixture. A particularly desirable solvent is composed of 50% toluene, 49.5% isopropanol and 0.5% distilled water (all percentages being based on volume). Other desirable solvents which can be used alone or in conjunction with the above preferred mutual solvent include acetone, methylethyl ketone, methanol, and ethanol, as well as other materials which exhibit a similar affinity for both water and oil. A color indicator, such as phenolphthalein, can be added with the alkaline solution or separately and the color change, if any, determined.

In another embodiment of the method of this invention, the approximate acid number of an oil sample having an acid number of at least a predetermined amount, can be ascertained by stepwise adding controlled amounts of the alkaline solution and mutual solvent to the oil sample. At the end of each of these stepwise additions of alkaline solution to the oil sample, a portion of the separated diluent layer is removed and a color indicator solution added thereto. A like amount of color indicator solution is then added to a standard solution. These method steps are continued until the color obtained in the thus treated diluent phase is identical to that of the thus treated standard solution. The approximate acid number can then be calculated by knowing the number of stepwise additions of alkaline solution which were necessary to produce identical colors in the diluent phase and standard solution.

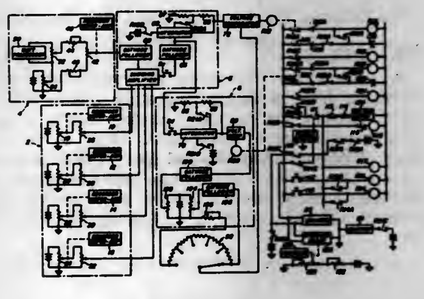
3,510,261
ALTERNATING CURRENT FLAME IONIZATION DETECTOR
Glenn Howard Fertig, Cheswick, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1967, Ser. No. 687,217
Int. Cl. G01n 31/12
U.S. Cl. 23—254 11 Claims



An A.C. flame ionization detector for the examination or analysis of gases, particularly gases obtained by a chromatographic separation. The detector includes three electrodes, two of which have applied thereto A.C. signals 180° out of phase with one another. The amplitudes of the two A.C. signals are adjusted relative to one another such that a zero-output signal appears at the other electrode in absence of a sample gas in the detector; however, when a sample gas is introduced an unbalance will occur providing an A.C. output signal which can be amplified and coupled to a recorder and/or indicator.

3,510,262
CARBON ANALYZING SYSTEM
Joseph Pyanik, Monroeville, and James H. Wilson, Franklin Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Sept. 16, 1966, Ser. No. 579,988
Int. Cl. C21c 7/00; G05b 15/00
U.S. Cl. 23—253 5 Claims

An apparatus for determining the carbon content of a heat of steel in a fuel fired furnace having a means to determine the rate of carbon input via the fuel, and a means to determine the rate of carbon output leaving the furnace via the off gases. A means is provided to integrate with respect to time the difference between the output rate and the input rate to obtain a first analogue signal proportional to the total weight of carbon lost. Another means is provided to obtain a second analogue signal proportional to the metallic charge weight in the furnace. Another means receives the first and second signals and compares them to issue a digital signal proportional to the



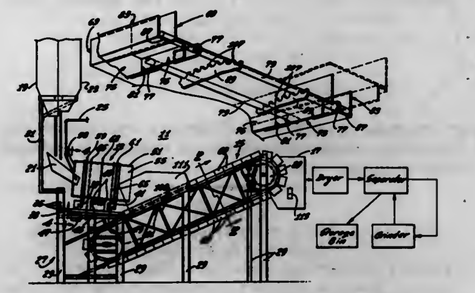
ratio of weight of carbon leaving the furnace to the metallic charge weight which is the same as the percent carbon reduction of the bath.

3,510,263
TEST PAPERS, METHODS FOR CARRYING OUT CHEMICAL ANALYSES AND METHODS FOR MAKING THE TEST PAPERS
Clifford H. Hach, Ames, Iowa, assignor to Hach Chemical Company, Ames, Iowa, a corporation of Iowa
Filed Jan. 5, 1968, Ser. No. 696,037
Int. Cl. G01n 31/16, 31/22; B05c 1/12
U.S. Cl. 23—253 18 Claims



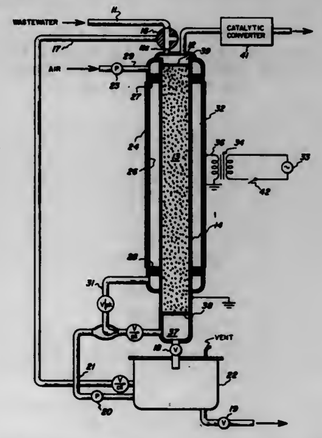
A test paper and method for quantitatively carrying out chemical analyses such as, for example, the chloride determination, on liquid test sources by titrametric methods wherein the test paper includes a bibulous member impregnated with a continuous zone of linearly increasing concentration corresponding to a particular concentration range for the analysis being carried out, e.g. as 0 to 25,000 parts per million for the chloride determination, and further impregnated with an indicator to signal the particular concentration of the test source and methods for making the test paper. In accordance with one aspect, the surface area that the test liquid can contact is maintained at a minimum by coating or covering a large portion of the test paper to control the amount of liquid taken up by the bibulous member and allow use regardless of the solubility of the compounds involved.

3,510,264
APPARATUS FOR PRODUCING PHOSPHATES
James P. Sprigg, 5233 Randolph St., Los Angeles, Calif. 90022
Continuation-in-part of application Ser. No. 252,617, Jan. 21, 1963. This application Oct. 12, 1967, Ser. No. 674,986
Int. Cl. B01j 2/26
U.S. Cl. 23—259.2 3 Claims



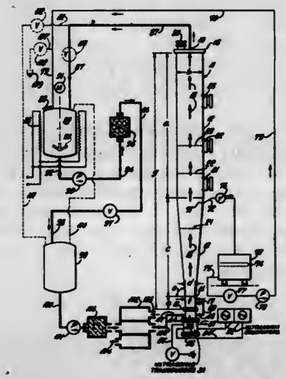
An apparatus for continuously producing phosphate includes a drum mixer which mixes the reactants and causes the mixed reactants to be placed on a conveyor having a plurality of conveyor sections arranged in an end-to-end relationship. The conveyor slowly transports the mixed reactants from the mixer to a dryer where the mixed reactants are broken into granules and dried.

3,510,265
WASTEWATER TREATMENT APPARATUS INCORPORATING ACTIVATED CARBON BED AND REGENERATOR THEREFOR
Masayuki Kawahata, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 1, 1969, Ser. No. 838,067
Int. Cl. B01j; B01j 9/00
U.S. Cl. 23—260 3 Claims



Spaced concentric electrodes comprising an electric discharge reactor surround a centrally-disposed activated carbon column of carbon granules (or powder) through which filtered wastewater is passed. The activated carbon layer removes dissolved organic contaminants from the wastewater by adsorption thereof on the granule surfaces until the carbon becomes saturated and regeneration is required. To carry out the regeneration the flow of wastewater is interrupted and treated wastewater is pumped through the carbon bed, while at the same time (a) air is admitted to the discharge reactor, (b) ozone is produced therein by electric discharge and (c) the air-ozone mixture is passed up through the carbon bed/wash water mass for reaction of the ozone with organic material desorbed from the carbon as well as that organic material still adsorbed on the carbon.

3,510,266
PRODUCTION OF CRYSTALS IN A FLUIDIZED BED WITH ULTRASONIC VIBRATIONS
Michael Midler, Jr., Clark, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
Filed Mar. 29, 1967, Ser. No. 626,749
Int. Cl. B01d 9/02
U.S. Cl. 23—273 36 Claims

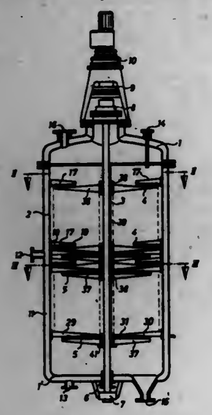


A fluidized bed crystallizer has a relatively long tapered crystallizer column beneath a generally cylindrical column, with product withdrawal at a point below the top of the fluidized bed and above the bottom of the tapered column. The oversize crystals which fall to the bottom of the tapered column against the flow of fluidized liquid are fractured by falling into or near an ultrasonic cavitation zone created there by a transducer driven at an ultrasonic frequency. The resulting crystal breakup produces a relatively small amount of fines. The fractured crystals are carried upward by the high velocity of the fluidizing liquid at the bottom of the tapered column, and serve as new seed on which crystallization takes place, and thus effectively replace the particles withdrawn as product.

3,510,267
POLYCONDENSATION REACTOR
Manfred Dietze, Offenbach am Main, Franz Hauer, Frankfurt am Main, Wolfgang Kraft, Bad Vilbel, and Heinz Kuehne, Oberhoechstadt, Taunus, Germany, assignors to Vickers-Zimmer Aktiengesellschaft Planung und Bau von Industrieanlagen, Germany
Filed Sept. 25, 1967, Ser. No. 670,343
Claims priority, application Germany, Sept. 24, 1966, V 32,011
Int. Cl. B01j 1/00
U.S. Cl. 23—285 10 Claims

A polycondensation reactor, particularly useful for the continuous, multistage polycondensation of polyesters such as polyethylene terephthalate, characterized by a container

or vessel, with its principal axis aligned vertically, provided with a heat-exchange jacket, a feed pipe in the lid and a drain spout in the bottom, and with a vertical shaft pivoted therein. On the shaft are circular ring or annular disks and circular solid disks, disposed in coaxial and horizontal fashion and alternate with one another. The disks have torsional strength. The solid disks are at least



the diameter of the open central sector of the circular ring disks. Stationary strippers rest on the disks in such a manner that the reaction substance is transported over the inner disk edge of the circular ring disks and is transported over the outer disk edge of the solid disks. Stationary mixing combs, product-guiding rings and a product distributor are also provided for each disk to assist in the transport of material.

3,510,268

PREPARATION OF FLAKED PHOSPHOROUS ACID

Richard G. Speed, Fraser, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 446,390, Apr. 1, 1965. This application June 5, 1968, Ser. No. 734,556

Int. Cl. B01j *2/00*

U.S. Cl. 23—293 6 Claims

A process for producing a non-caking flake phosphorus acid product which comprises depositing a layer of molten phosphorous acid on a cool surface, not in excess of about 30° centigrade, maintaining said layer on the surface for a time sufficient to substantially solidify the phosphorous acid in a stable, crystalline form and, thereafter, flaking said phosphorous acid layer.

3,510,269

PREPARATION OF SHAPED ALKALI METAL PERBORATE TETRAHYDRATE

Friedrich Bittner, Bad Soden, Taunus, Edmund Simmersbach, Wiesbaden-Erg. Kries, Sackingen, Franz Ludwig Dahm, Besggen, Gemeinde Karsau, and Artur Schaller, Rheinfelden, Baden, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

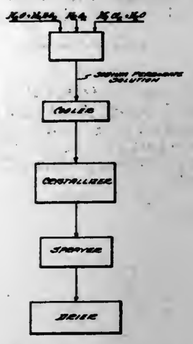
Filed Sept. 19, 1966, Ser. No. 580,164

Claims priority, application Germany, Sept. 17, 1965, D 48,231

Int. Cl. B01d *9/02*; B01b *15/12*

U.S. Cl. 23—302 7 Claims

Alkali metal borate with low bulk density is produced from aqueous perborate solution by a process including the steps of shaping a highly viscous super-saturated aqueous alkali metal perborate solution, inducing partial crystallization of the perborate, permitting the crystallization of the shaped product to go to completion with occlusion



of the water present in the solution and then drying. Preferably, magnesium chloride is added as a stabilizer to the solution.

3,510,270

RECLAMATION OF LITHIUM ALUMINATE TARGET ELEMENTS

Raymond Cooperstein, Kennewick, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Aug. 10, 1967, Ser. No. 661,167

Int. Cl. C01d *11/02*; C01f *7/04*

U.S. Cl. 23—308 2 Claims

Target elements for the production of tritium by neutron irradiation in a nuclear reactor are reclaimed. The target elements comprise sintered pellets of lithium aluminate sealed in aluminum cans. In order to reclaim the pellets, the target elements are heated to a temperature in the range 675°–900° C., thereby melting the aluminum, which is drained away from the pellets without affecting the integrity of the pellets.

3,510,271

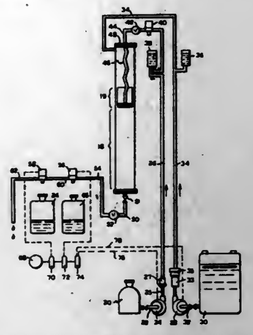
CHROMATOGRAPHIC SEPARATION EMPLOYING A GEL BED

Nils Ingvar Arne Emneus, Uppsala, and Per Gustaf Magnus Flodin, Perstorp, Sweden, assignors to Pharmacia Fine Chemicals Inc., New York, N.Y., a corporation of New York

Original application Apr. 11, 1963, Ser. No. 272,375, now Patent No. 3,265,215, dated Aug. 9, 1966. Divided and this application July 28, 1966, Ser. No. 584,637

Int. Cl. B01d *15/08*

U.S. Cl. 23—312 1 Claim



An improved chromatographic separation process employing a gel bed, the improvement including filling the space above the gel bed with the eluant to a substantial height above said bed, introducing a liquid solution of sample to be chromatographically separated to form a liquid layer at the interface of the gel and eluant, the density of said solution of sample being higher than the density of eluant, and feeding additional eluant to the top of the column and withdrawing a liquid solution of separated products from the bottom of the column.

3,510,272

METHOD FOR PRODUCING CALCIUM AND MAGNESIUM ALUMINUM OXYHYDROXIDES

Horst W. Schmank, Ringgold, Ga., and James M. Holbert, Lookout Mountain, Tenn., assignors to Chattem Chemicals, Division of Chattem Drug & Chemical Company, Chattanooga, Tenn., a corporation of Tennessee

No Drawing. Continuation-in-part of application Ser. No. 442,617, Mar. 25, 1965. This application Feb. 18, 1969, Ser. No. 800,270

Int. Cl. C01f *5/00*; C01q *7/00*; C01h *11/00*

U.S. Cl. 23—315 12 Claims

Method for the preparation of calcium and magnesium aluminum oxyhydroxides which involves the controlled hydrolysis of a mixed calcium or magnesium aluminum alcoholate.

3,510,273

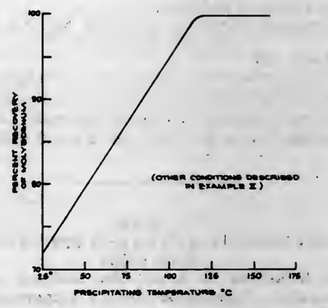
RECOVERY OF MOLYBDENUM, VANADIUM AND URANIUM FROM SOLUTIONS OF CORRESPONDING SALTS

Edward F. Fitzhugh, Jr., Cleveland Heights, Ohio, and Don C. Seidel, Golden, Colo., assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed Apr. 6, 1967, Ser. No. 628,914

Int. Cl. C01g *43/02*, *31/00*, *39/00*

U.S. Cl. 23—321 14 Claims



This invention comprises a method for the recovery of molybdenum, vanadium and/or uranium from aqueous solutions containing one or more of the corresponding salts. These metals are recovered in an oxidic form, namely an oxide or hydroxide, by the addition of metallic iron to the solution under controlled conditions of temperature, pH, and amount of iron.

3,510,274

SYNTHESIS OF NEW THORIUM COMPOUNDS

Fritz Hulliger, Zurich, Switzerland, assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Apr. 9, 1968, Ser. No. 719,845

Int. Cl. C01f *15/00*

U.S. Cl. 23—345 10 Claims

New thorium compounds of the formula ThXZ, in which X is selected from the group consisting of sulfur, selenium and tellurium, and Z phosphorus, arsenic, antimony and bismuth are prepared in microcrystalline form by sintering powders of the constituent elements at temperatures up to 650°–900° C. The products are diamagnetic or weakly paramagnetic, show metallic conductivity, and have low thermoelectric powers.

3,510,275

METAL FIBER COMPOSITES

Arthur D. Schwope, 2501 Guilford Road, Cleveland Heights, Ohio 44118; Robert W. Jech, 1598 Woodward Ave., Lakewood, Ohio 44107; and Edward P. Weber, 6943 York Road, Parma, Ohio 44130

Continuation-in-part of applications Ser. No. 822,838, June 25, 1959, and Ser. No. 315,564, Oct. 11, 1963. This application Sept. 18, 1967, Ser. No. 672,415

Int. Cl. B22f *7/00*; B23p *17/00*

U.S. Cl. 29—182.2 7 Claims

A composite metal structure of a powder metal matrix and a plurality of discrete metal fibers of a different metal distributed through said powder matrix. The matrix metal in powder form being combined, pressed, solid state sintered and worked to produce the composite. The fibers being composed of a metallic material having suitable characteristics for imparting an increase in strength to the composite over the strength of the matrix and arranged in the matrix with their major axes oriented substantially in a single direction.

3,510,276

SINTERED TITANIUM CARBIDE BODIES

Walther Dawihl, Illingen, and Emil A. Klingler and Erhard Dorre, Plochingen, Germany, assignors to Feldmuhle Aktiengesellschaft, Duesseldorf, Germany

No Drawing. Filed Mar. 20, 1969, Ser. No. 809,043

Claims priority, application Germany, Mar. 23, 1968, 1,758,043

Int. Cl. B22f *3/00*, *3/10*

U.S. Cl. 29—182.8 5 Claims

Sintered titanium carbide bodies containing a metal of the iron group (atomic numbers 26 to 28) for better toughness and resistance to thermal shock are less porous, and therefore mechanically stronger and even more resistant to sudden temperature changes if the metal phase is an alloy of the metal of the iron group with titanium or zirconium, further improvement being had by admixtures of chromium, molybdenum, or tungsten to the alloy.

3,510,277

METALLIC ARTICLE

Walther Schmidt, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Original application Feb. 26, 1962, Ser. No. 175,893, now Patent No. 3,247,557, dated Apr. 26, 1966. Divided and this application Apr. 22, 1966, Ser. No. 546,135

Int. Cl. B22b *15/20*; B22d *19/00*

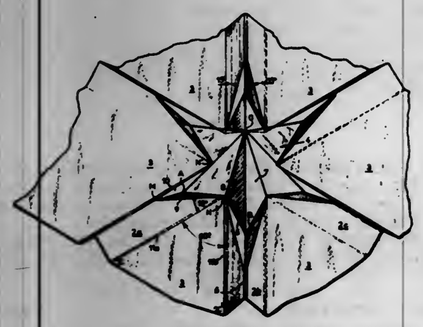
U.S. Cl. 29—183.5 6 Claims



1. A composite article of manufacture comprising discrete aluminum or aluminum alloy metal particles coarser

than 100 mesh in size disposed within a matrix of aluminum or aluminum alloy metal in the as-cast condition, said particles exhibiting fine dendritic cell size typical of cast particles of that particle size, and the metallurgical structure of the matrix adjacent said particles being characterized by fine grain size attributable to rapid cooling through heat exchange between said particles and the adjacent portions of the matrix.

3,510,278
WALL CORNER CONSTRUCTION
Jean Allemanne, Saint-Cloud, France, assignor to Technigaz, Paris, France, a corporation of France
Filed Jan. 3, 1966, Ser. No. 518,111
Claims priority, application France, Jan. 5, 1965, 918, Patent 1,459,749
Int. Cl. B22f 5/00
U.S. Cl. 29—183 10 Claims



A flexible sheet having two or three series of parallel corrugations, said series being orientated in uniformly distributed angular directions whereby the zones of intersection contain one corrugation of each series, each such zone of intersection of *n* corrugations having the shape of a 2*n*-pointed star-shaped pyramid projecting from the same side of the sheet as the corrugations, such that the pyramid crests and troughs regularly alternate with one another, whereas said crests or troughs lie together with respective crests of the *n* corrugations at the zone of intersection in a plane normal to the initial sheet surface.

3,510,279
SELF-LUBRICATING SURFACE LAYER ON METAL PART SUBJECT TO FRICTION
John Birger Burman, Linkoping, Sweden, assignor to Saab Aktiebolag, Linkoping, Sweden, a corporation of Sweden
No Drawing. Filed July 10, 1967, Ser. No. 652,030
Claims priority, application Sweden, July 26, 1966, 10,149/66
Int. Cl. B32b 15/04
U.S. Cl. 29—195 3 Claims

One of a pair of metal parts that are to be subjected to sliding or rubbing contact with one another is first electroplated with a layer of silver having a depth of 5 to 10 micro-meters, and the silver is then sulphured to a depth of 1 to 2 micro-meters to provide a silver sulphide self-lubricating surface layer. Sulphiding is preferably accomplished by activating the silver with 10% H_2O_2 for 15 to 30 seconds, then, without rinsing, exposing for about 10 minutes to a 10% solution of $(NH_4)_2S$ at room temperature. Fretting corrosion is prevented where the metal parts are connected in fixed relation to one another.

3,510,280
DIFFUSION BOND FOR REFRACTORY METALS
Harold Weston Hagadorn, Lima, Ohio, and Donald R. Kerstetter, Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Original application Dec. 11, 1964, Ser. No. 417,574, now Patent No. 3,431,631, dated Mar. 11, 1969. Divided and this application Aug. 14, 1968, Ser. No. 752,582
Int. Cl. B32b 15/02
U.S. Cl. 29—196 5 Claims



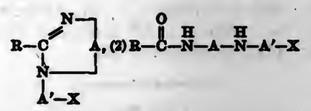
A metallic composite consists of a refractory metal, such as tungsten or molybdenum, diffusion bonded by iron to a second metal such as molybdenum or nickel-plated steel. The refractory metal is initially surrounded by a sintered iron sheath which, on heating in contact with the second metal, melts and forms a diffusion bond between the two metals.

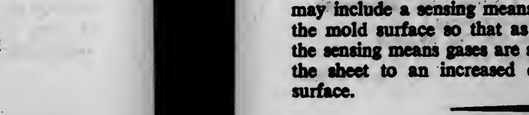
3,510,281
JET FUEL COMPOSITION
Herbert E. Vermillion and George W. Eckert, Wappingers Falls, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 17, 1964, Ser. No. 397,325
Int. Cl. C10l 1/26
U.S. Cl. 44—58 5 Claims

Jet fuel composition comprising a mixture of hydrocarbons boiling from 90 to 500° F. containing an effective anti-wear amount of a phosphate ester in which the ester groups have a total of from 6 to 10 carbon atoms.

3,510,282
NAPHTHENYL-ACYLATED POLYAMINES AND USES
William E. Seffens, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 11, 1967, Ser. No. 659,875
Int. Cl. C10l 1/22, 1/18
U.S. Cl. 44—63 1 Claim

Acylated polyamines such as compounds of the formulae:

I) 

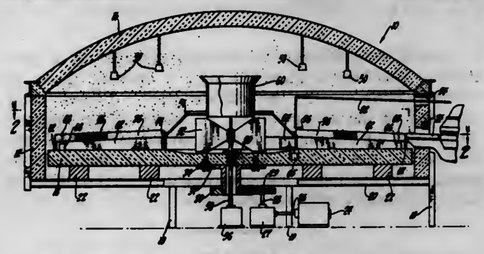
(2) 

(3) salts of (1) and (2), and (4) mixtures of (1) and (2) and/or (3); where R is a naphthenyl moiety, A and A' are alkylene moieties (straight chain or branched), and X is a polar moiety such as, for example, hydroxy, amino, carboxyl-containing, etc.; and to hydrocarbon fuels in the gasoline range containing said compounds. These fuels possess anti-icing, anti-fouling and corrosion inhibiting properties.

3,510,283
LOW DENSITY ABRASIVE CONTAINING AN EPOXY-NOVOLAK RESIN BOND
Jon P. McGarran, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Dec. 29, 1965, Ser. No. 517,475
Int. Cl. B24b 1/00; C08h 17/12
U.S. Cl. 51—295 6 Claims

Abrasive structures in which abrasive grains are adhered to a support, especially low density fibrous abrasive wheels, have improved performance when made with an adhesive which is the hardened reaction product of substantially molar equivalent amounts of (1) polyphenolic polyglycidyl ether and (2) a novolak derived from phenols at least mono-ortho-substituted by an alkenyl group.

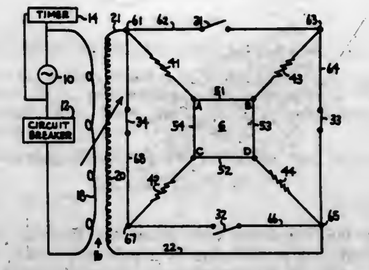
3,510,284
METHOD AND APPARATUS FOR RESHAPING GLASS SHEETS ON A BENDING MOLD
Harold A. McMaster, Woodville, and Norman C. Nitschke, Perrysburg, Ohio, assignors to Permaglass Inc., Woodville, Ohio, a corporation of Ohio
Filed May 24, 1965, Ser. No. 458,277
Int. Cl. C03b 23/02
U.S. Cl. 65—25 19 Claims



A glass treating furnace having a circular housing with a floor rotatably supported within the housing. A plurality of molds each having a concave upper surface disposed in a circle on the floor with each mold slanting downwardly in a radially outwardly direction. Gases are supplied to the concave surfaces of the molds as sheets of glass disposed thereover are heated and sag under the force of gravity into the mold. The apparatus may be operated to support a major portion but not all of the weight of a sheet on gases after it has conformed to the curvature of the concave surface with the flow of gases being sufficiently increased thereafter to support the sheet at a higher distance above the mold surface. Alternatively, the apparatus may be operated so as to supply gases over the concave surface as the sheet approaches the surface to increase the velocity of the flow of gases over the mold surface with the gas flow being thereafter increased sufficiently to support the sheet at an increased distance over the mold surface. As another alternative, the apparatus may include a sensing means over the central portion of the mold surface so that as the glass sags and contacts the sensing means gases are supplied to support and raise the sheet to an increased distance above the concave surface.

3,510,285
FUSING GLASS SHEETS BY ELECTRIC HEAT
Donald Wayne Murray, Cheswick, Pa., and Robert W. Wheeler, Lincoln, Ill., assignors to PPG Industries, Inc., a corporation of Pennsylvania
Filed Apr. 11, 1967, Ser. No. 630,047
Int. Cl. C03b 25/00, 29/00; H05b 3/00
U.S. Cl. 65—40 5 Claims

Electrically working glass to fuse the marginal edge portion of one glass sheet to that of another glass sheet to form a double glazed unit by heating the sheets to a temperature near the strain point of the glass and intensifying the heating in the marginal edge portion of the one sheet to make its marginal edge portion more electroconductive than the remainder of the sheet. A



novel circuit applies voltage from an alternating current voltage source alternately to alternate pairs of opposite side edges of the glass sheet margin while alternately excluding current flow from the remaining side edges until the marginal edge portion is substantially uniformly heated to welding temperature.

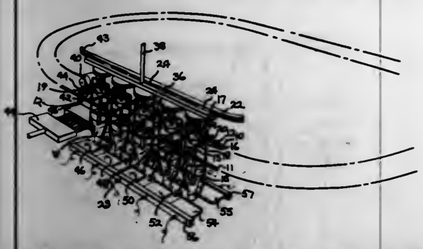
3,510,286
METHOD AND APPARATUS FOR BENDING AND TEMPERING GLASS SHEETS
James H. Cypher, New Kensington, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Filed Aug. 12, 1966, Ser. No. 572,043
Int. Cl. C03b 23/02, 27/00
U.S. Cl. 65—104 8 Claims

An outline shaping surface is supported in an oblique plane by a carriage. The outline shaping surface has an upper shaping rail having at least one notch in it. A pair of tongs suspended from the carriage hangs freely within the notch. A glass sheet is partially supported by the tongs near its upper edge, and the lower edge of the glass engages the lower portion of the outline mold to support the glass in a second oblique plane. During heating, the glass sags by gravity toward the outline mold and increases its contact with the mold. Then the glass is pressed between a pair of complementary shaping members having shaping surface conforming to that of the outline mold while the glass is closely adjacent to the mold. The shaping members have a notched upper edge in alignment with the notches in the outline mold. The members are retracted and the glass sheet, while supported on the outline shaping surface, is tempered.

3,510,287
MOIL SEVERING METHOD AND APPARATUS
James E. Panczner, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Illinois
Filed Jan. 3, 1967, Ser. No. 606,979
Int. Cl. C03b 33/08
U.S. Cl. 65—113 14 Claims

The invention disclosed provides a method and apparatus for handling hollow glassware through a thermal severing device. The glassware is brought to and through the severing device in a horizontal, linear path. The thermal unit for severing an end moil or trim portion of the glassware from the article is arranged in an elongated or linear array parallel with the linear path for the glassware. The glassware is supported by a chuck at its base or end opposite the moil portion, gripped and

carried inverted through the linear thermal unit at the desired elevation to define the moil cut-off line annularly of the glassware. The article is rotated axially while it is simultaneously advanced through the thermal unit. A severed moil section of the ware results upon sufficient narrow-band heating of the rotated ware and the severed



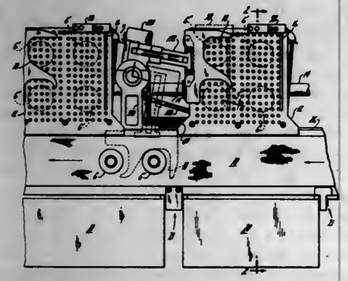
glass falls vertically and below the thermal unit. The thermal unit embodiment is a pair of parallel, opposed, sharp edge blade electrodes energized by high voltage, high frequency electrical source means. Air directed to the moil cut-off line prevents an ionized air layer from forming due to air breakdown in the electrical arc.

3,510,288

GLASSWARE HANDLING APPARATUS FOR USE WITH A GLASSWARE FORMING MACHINE TO DEPOSIT NEWLY FORMED WARE ON A TAKE-AWAY CONVEYOR

George E. Rowe, Wethersfield, and Alexander H. Rydlewicz, Manchester, Conn., assignors to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed Feb. 8, 1967, Ser. No. 614,738
Int. Cl. C03b *35/00*
U.S. Cl. 65—167 6 Claims



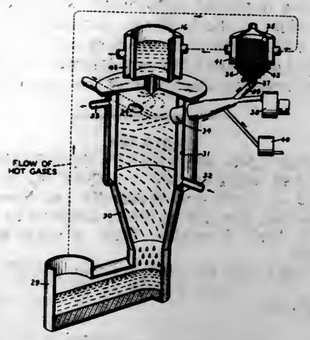
A ware handling apparatus including a perforated double deadplate, with a pressurized plenum chamber therebelow, is located adjacent a glassware forming machine section, and at the rear edge of a take-away conveyor so that newly formed ware can be received at a first deadplate station. A slide valve at the first station allows air under pressure to be exhausted through the perforated deadplate. A reciprocable bar extends across the deadplate and is movable to advance the ware from the first station to a second deadplate station where a second slide valve allows air from the plenum chamber to be directed onto the ware for further cooling. An oscillatable rotary pushout device moves the ware from the second station onto the take-away conveyor in timed relation with movement of the bar. A shelf is hingedly connected to the front edge of the take-away conveyor and serves to hold ware or a workman's tools when in its normal horizontal position, or functions as a heat shield when raised to its vertical position to permit a workman to make minor adjustments or repairs to the machine section without shutting down the entire machine.

3,510,289

CYCLONE TYPE GLASS FURNACE

Marcel Boivent, Villejuif, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

Original application Aug. 17, 1964, Ser. No. 389,881, now Patent No. 3,443,921, dated May 13, 1969. Divided and this application Oct. 31, 1968, Ser. No. 772,083
Claims priority, application France, Aug. 22, 1963, 945,369
Int. Cl. C03b *3/00*
U.S. Cl. 65—335 12 Claims



A method of making glass comprising melting a low-melting part of the glass, forming a cyclonic flame at melting temperature, introducing finely divided solid materials of the batch into the periphery of the cyclonic flame, and introducing the molten materials into the central part of the cyclonic flame as a stream, thereby subjecting it to disruption and centrifugal dispersion through the finely divided solids in the flame.

3,510,290

2,3-EPITHIOPROPYL N,N-DIALKYLTHIOLCARBAMATES AND USE AS HERBICIDES

William Carter Doyle, Jr., Shawnee Mission, Kans., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Mar. 24, 1967, Ser. No. 625,603
Int. Cl. A01n *9/12*; C07d *59/00*; C07c *155/02*
U.S. Cl. 71—90 4 Claims

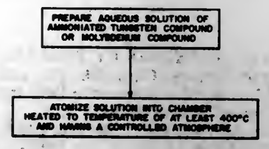
By a method of synthesis based on a secondary amine, carbon disulfide and epichlorohydrin there are produced 2,3-epithiopropyl N,N-dialkylthiolcarbamates which are used as selective herebicides, particularly in pre-emergent control of grasses such as brome and volunteer oats.

3,510,291

VAPOR PHASE CONVERSION OF MOLYBDENUM OR TUNGSTEN COMPOUND TO FORM THE OXIDE OR METAL

Walton E. Brush, Pompton Plains, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 10, 1966, Ser. No. 593,526
Int. Cl. B22f *9/00*
U.S. Cl. 75—.5 6 Claims



Process for rapidly forming finely divided tungsten or molybdenum oxide or metal which comprises preparing

an aqueous solution of ammoniated tungsten compound or ammoniated molybdenum compound, and atomizing the solution into a chamber having a predetermined atmosphere and which is heated to and maintained at a temperature of at least about 400° C.

3,510,292

PROCESS FOR MAKING METAL/METAL OXIDE COMPOSITIONS

John F. Hardy, Andover, and Merrill E. Jordan, Walpole, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 400,590, Sept. 30, 1964. This application Jan. 11, 1967, Ser. No. 608,509
Int. Cl. B22f
U.S. Cl. 75—.5 19 Claims

The present invention relates to a process for producing metal/metal oxide powder mixtures useful for applications in the powder metallurgy arts.

Said process is characterized broadly by the steps of:

(A) providing a slurry comprising

(1) a liquid medium having dissolved therein

(a) a metal compound the corresponding oxide(s) of which can be readily converted to the corresponding free metal by carbon reduction, and

(b) a metal compound the corresponding oxide(s) of which cannot be readily converted to the corresponding free metal by carbon reduction, and

(2) carbon black

(B) spray drying said slurry, and

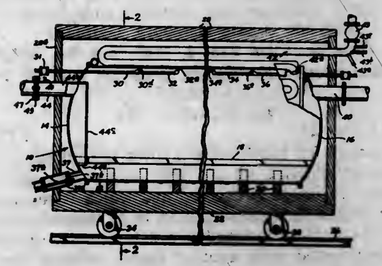
(C) heat treating the dried product under appropriate conditions to result in conversion of the metal compound of Group *a* to the free metal and conversion of the metal compound of Group *b* to the metal oxide(s).

3,510,293

MANUFACTURE INCLUDING PURIFICATION OF REACTIVE METALS

Henry Gordon Poole and Allen Detham Abraham, Albany, Oreg., assignors to Oregon Metallurgical Corporation, Albany, Oreg., a corporation of Oregon

Filed July 26, 1966, Ser. No. 567,877
Int. Cl. C22b *5/04*, *53/00*, *61/02*
U.S. Cl. 75—84.4 8 Claims



Method for producing purified reactive metals such as titanium and zirconium where a reactive metal halide is reduced within a retort to form as the direct product of such reduction a porous, horizontally extending bed producing a partition dividing the retort into upper and lower regions. After draining of molten by-product produced by the reduction reaction, final impurities are removed by vaporizing them and introducing an inert gas to said upper region and extracting inert gas from the lower region at a lesser pressure, thus positively to produce a flow of such gas through the bed with such gas carrying such impurities.

3,510,294

CORROSION RESISTANT NICKEL-BASE ALLOY

Clarence G. Bieber, Suffern, N.Y., and Roger A. Covert, Ramsey, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 25, 1966, Ser. No. 567,412
Int. Cl. C22c *19/00*
U.S. Cl. 75—171 10 Claims

A hot workable, cold workable alloy capable of retaining bend and kink ductility in fine cold drawn wire at a tensile strength level of at least about 300,000 pounds per square inch contains about 10% to about 16% molybdenum, about 17% to about 21% chromium, not more than about 0.5% carbon, up to about 2% columbium, up to about 2% tungsten, up to about 3% tantalum, up to about 2% vanadium, up to about 0.25% manganese, up to about 0.5% silicon, not more than 1% copper, not more than 8% iron, up to about 10% cobalt, at least one deoxidizing element from the group consisting of aluminum, titanium and boron, a desulfurizing amount of magnesium, and the balance essentially nickel.

3,510,295

TITANIUM BASE ALLOY

Howard D. Cox, Las Vegas, and Harry W. Rosenberg, Henderson, Nev., assignors to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 10, 1965, Ser. No. 454,682
Int. Cl. C22c *15/00*
U.S. Cl. 75—175.5 4 Claims

Titanium base alloy consisting essentially of about 2.5–7.5% zirconium, 2.5–10% molybdenum, up to 0.5% and preferably 0.25–0.5% beryllium, up to 0.35% in total amount of carbon, oxygen and nitrogen, balance substantially titanium, characterized in being age hardenable and by high resistance to stress corrosion cracking in a chloride environment at elevated temperature.

3,510,296

METAL FABRICATION

Theodore R. Bergstrom, Little Canada, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Original application Aug. 10, 1964, Ser. No. 388,614. Divided and this application Mar. 7, 1967, Ser. No. 644,414
Int. Cl. B22f *3/10*; C22c *1/05*, *33/02*
U.S. Cl. 75—201 2 Claims

Process for making improved metallic articles from powdered metal which consists in forming a green structure of powdered metal and binder containing a sufficient amount of organic binder which is thermally degradable to carbon so that about 0.05 to 0.80 percent of carbon will remain dispersed in the metallic article after firing, and firing the green structure to sinter the metallic particles and convert the binder to carbon. The articles when

made of refractory metals have improved ductility and are dense even when unworked.

3,510,297
PROCESS FOR PRODUCING NEGATIVE TRANSPARENCIES

Clifford E. Herrick, Jr., Los Gatos, and Ulo Vahtra and Meredith David Shattuck, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

No Drawing. Filed May 5, 1966, Ser. No. 547,728
Int. Cl. G03g 13/22, 5/06
U.S. Cl. 96—1 4 Claims

An electrophotographic process for producing negative transparencies, comprising the steps of: forming an electrostatic charge pattern on a photo-sensitive member containing an essentially transparent photoconductive insulating layer and a component capable of responding to treatment with an agent to convert the member from transparent to opaque; developing the electrostatic charge pattern with an essentially transparent barrier material not convertible to opaque when said member is treated with said agent; and treating the photosensitive member with said agent so that, through the coaction of the component and the agent, the areas of the member not developed with said barrier material are converted from transparent to opaque, but the areas of the member developed with barrier material are prevented from such conversion because of the barrier material, thereby forming a negative transparency.

3,510,298
PROCESS OF ACTIVATING PHOTOCONDUCTIVE MATERIAL IN GLASS BINDER

Richard L. Lane, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

No Drawing. Filed May 13, 1966, Ser. No. 549,807
Int. Cl. G03g 5/00
U.S. Cl. 96—1.5 11 Claims

A method of preparing a xerographic glass binder layer which comprises adding an activator material to a mixture of a glass frit and a photoconductive material, followed by coating said mixture onto a supporting substrate and firing to form a photoconductive glass binder layer.

3,510,299
METHOD AND MATERIAL FOR THE PRODUCTION OF CONTINUOUS-TONE ELECTROPHOTOGRAPHIC IMAGES

Clifford E. Herrick, Jr., 19845 Skyline Blvd., Los Gatos, Calif. 91030; John W. Weigl, 534 Washington Drive, West Webster, N.Y. 14580; and Paul Chebiniak, 296 Deyo Hill Road, Johnson City, N.Y. 13790

Continuation-in-part of abandoned application Ser. No. 19,884, Apr. 4, 1960. This application June 26, 1967, Ser. No. 661,156
Int. Cl. G03g 5/08
U.S. Cl. 96—1.7 12 Claims

This document describes the manufacture of a light-sensitive electrophotographic element by mixing sensitized zinc oxide with an insulating black powder and dispersing the resulting mixture in a resin of high dielectric strength. The resultant dispersion is coated in a relatively conducting support. The black electrophotographic element is exposed to an optical image and the latent electrostatic image rendered visible by development using a light-colored toner powder. The resulting image has strikingly improved sensitometric characteristics, as exemplified by excellent continuous-tone rendition.

3,510,300
PROCESS FOR MAKING LATENT DYE SALT IMAGE VISIBLE

Richard A. Fotland, Lyndhurst, and Harry L. Fichter, Jr., Lakewood, Ohio, assignors to Horizons Incorporated, a division of Horizons Research Incorporated, a corporation of Ohio

No Drawing. Filed May 24, 1966, Ser. No. 552,414
Int. Cl. G03c 5/04, 9/00, 1/52
U.S. Cl. 96—27 9 Claims

This disclosure relates to the visible rendition of images which are created by an exposure of suitable compositions to dosages of radiation which are insufficient to produce a visible image. More particularly, it relates to a process for the intensification or optical development of either very faint or invisible, e.g., latent, dye images by blanket exposure of a member such as a light-sensitive film, containing said image to a dose of optical radiation of a suitable wavelength.

3,510,301
SILVER SALT DIFFUSION TRANSFER METHOD

Walter Limberger, Hamburg-Poppenbuettel, Germany, assignor to Lumoprint Zindler K.G., Hamburg, Germany

No Drawing. Filed Nov. 15, 1966, Ser. No. 594,383
Claims priority, application Germany, Nov. 17, 1965, L 52,168
Int. Cl. G03c 5/54
U.S. Cl. 96—29 6 Claims

In a silver salt diffusion transfer method in which an image is formed by exposure on a silver halide emulsion layer carried by a negative material and the exposed negative material is moistened with a liquid for effecting development of the image which is transferred to a receiving material by subjecting the negative material to compression in contact with the receiving material, the invention proposes to moisten uncoated receiving material immediately prior to the contact with the negative material with an aqueous liquid containing reduction nuclei or substances forming reduction nuclei and silver salt solvents. Hexachloroplatinic (IV) acid and/or gold (III) chloride hydrochloride are the preferred substances.

3,510,302
TRANSFER METHOD FOR SILVER SALT DIFFUSION AND LIQUID AGENT FOR USE IN THIS METHOD

Walter Limberger, Alte Landstrasse 248, Hamburg-Poppenbuettel, Germany, and Rudolf Wendt, Waldschneise 39, Harksheide Bezirk, Hamburg, Germany

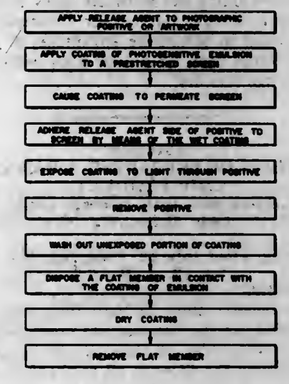
No Drawing. Filed Feb. 2, 1967, Ser. No. 613,452
Claims priority, application Germany, Feb. 10, 1966, L 52,815
Int. Cl. G03c 5/54
U.S. Cl. 96—29 6 Claims

A method for transferring a silver salt diffusion, using a negative material, on the silver halide emulsion layer of which an image is exposed and which is subsequently wetted with a fluid causing it to be developed, and subjected to compression together with a receiving or transfer material, wetted with another liquid, wherein the said other liquid contains, in addition to nuclei-forming substances and a silver salt solvent, also substances known to act as reducing agents in photographic developers or photographic layers and/or containing organic acids capable of acting as reducing agents and/or improving the durability of the solution and of stabilizing the picture.

3,510,303
THIN EMULSION DEPOSITION STENCIL SCREEN AND METHOD

Gonzalus M. Priddy, Durham, and William B. Upchurch, Castalia, N.C., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Dec. 29, 1966, Ser. No. 605,846
Int. Cl. G03c 5/00
U.S. Cl. 96—36.4 13 Claims



exposure method of producing precision stencil screens which permit high print definition are described. The photosensitive emulsion which forms the stencil screen blockage is exposed directly on a prestretched screen after a photographic positive has been adhered to the emulsion in its wet state. The positive is then removed and the emulsion developed. Thereafter, the emulsion is dried while disposed in contact with a flat member.

3,510,304
DRY WORKING BLACK IMAGE COMPOSITIONS COMPRISING ORGANIC HALOGEN COMPOUNDS AND ETHYLENE COMPOUNDS

Harry L. Fichter, Jr., Lakewood, and James M. Lewis, Cleveland, Ohio, assignors to Horizons Incorporated, a division of Horizons Research Incorporated, a corporation of Ohio

No Drawing. Filed Dec. 22, 1966, Ser. No. 603,731
Int. Cl. G03c 5/24
U.S. Cl. 96—48 7 Claims

This application describes a photosensitive composition which prints out directly as a black or near neutral image when exposed photographically and which has a greatly improved speed.

3,510,305
PHOTOGRAPHIC UNSHARP MASKING METHOD INVOLVING THE USE OF A PHOTOCHROMIC BODY

Dwin R. Craig, Falls Church, and John N. Street, Alexandria, Va., assignors to Logetronics, Inc., Alexandria, Va., a corporation of Delaware

Continuation of application Ser. No. 753,942, Aug. 8, 1958. This application Aug. 27, 1964, Ser. No. 392,379
Int. Cl. G03c 5/06
U.S. Cl. 96—44 20 Claims

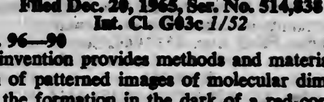
1. An unsharp masking method comprising directing light having a wavelength within a first range from a subject upon a photochromic body responsive to said light to receive and retain a first image of said subject substantially unaffected by light within a second range of wavelengths outside of said first range, and with said subject and first image in substantial registry, directing light within said second range of wavelengths from said subject and first image upon a surface to form a composite masked second image.

3,510,306
DEVELOPING PROCESS FOR COLOR PHOTOGRAPHY

Makoto Yoshida and Mometoshi Tsuda, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

Filed June 8, 1966, Ser. No. 556,238
Claims priority, application Japan, June 9, 1965, 40/33,775
Int. Cl. G03c 7/36
U.S. Cl. 96—55 6 Claims

The invention is directed to an improved color photographic developing process in which a coupler of the formula



is reacted with the oxidation product of an aromatic primary developer. The couplers of this invention are yellow couplers capable of forming yellow dyes, having excellent spectral absorption characteristics for providing ideal yellow images and have good silver removing properties.

3,510,307
PROCESS FOR THE PREPARATION OF A PRINTING PLATE PRESENSITIZED WITH A DIAZONIUM SALT

Henning H. Borchers, Mountainside, N.J., and Hartmut Steppan, Wiesbaden-Dotzheim, and Fritz Uhlig, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany

No Drawing. Filed Dec. 30, 1965, Ser. No. 517,835
Claims priority, application Germany, Jan. 2, 1965, K 54,925
Int. Cl. G03c 1/54
U.S. Cl. 96—75 6 Claims

This invention relates to a light-sensitive coating solution, and to a method of making a presensitized printing plate using the coating solution, the solution comprising at least one light-sensitive diazonium salt, at least one organic polyvalent acid compound selected from the group consisting of organic polyvalent acids and salts thereof, and at least one mineral acid selected from the group consisting of hydrochloric and hydrobromic acids, the light-sensitive diazonium salt and organic polyvalent acid compound being present in the solution in such amounts that a diazonium salt of the organic polyvalent acid would separate from the solution in the absence of the mineral acid.

3,510,308
LIGHT SENSITIVE COMPLEXES OF BENZOINDOLINOSPIROPYRANS AND HALIDES OF GROUP II–B METALS

Peter L. Foris and William J. Becker, Kettering, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Dec. 20, 1965, Ser. No. 514,838
Int. Cl. G03c 1/52
U.S. Cl. 96—90 30 Claims

This invention provides methods and materials for the creation of patterned images of molecular dimension on film by the formation in the dark of a red complex material between a benzoindolinospiropyran and a halide of a Group II–B metal dissolved in the film and the bleaching of the red complex to a pale yellow mixture of the uncomplexed components by incident visible light. Methods for subsequent erasure of the light-generated images, erasure of the images and re-exposure to give new images,

incremental or add-a-frame exposures or erasures, and image-fixing are also provided.

3,510,309
PHENOLIC STABILIZER IN NON-SILVER PHOTOSENSITIVE COMPOSITION
James M. Lewis, Cleveland, Ohio, assignor to Horizons Incorporated, a division of Horizons Research Incorporated, a corporation of Ohio
No Drawing. Filed May 16, 1966, Ser. No. 550,168
Int. Cl. G03c 1/00, 1/72
U.S. Cl. 96—90 8 Claims

The addition of a phenolic compound to non-silver photosensitive compositions which include an organic N→O compound, the phenolic compound appears to act as an infrared stabilizer and prevents the unexposed areas of the film from developing color or fog.

3,510,310
ARTIFICIALLY SWEETENED BEVERAGES AND MIXES THEREOF
Robert G. Breckwoldt, Middletown, N.Y., assignor, by mesne assignments, to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
No Drawing. Filed Feb. 11, 1966, Ser. No. 526,719
Int. Cl. A23l 1/00
U.S. Cl. 99—28 18 Claims

Presweetened beverage mix consisting essentially of N-cyclohexylsulfamic acid, an edible water-soluble amino carboxylic acid, an edible water-soluble organic acidulent. The mix is reconstituted to provide a beverage having texture and mouthfeel similar to a beverage sweetened with sugar.

3,510,311
DRY CARBONATED COLA BEVERAGE COMPOSITION
Robert L. Swaine, Lynnfield, and Donna W. Beusch, Cambridge, Mass., assignors to William C. Clay, Jr., Mount Sterling, Ky.
No Drawing. Filed July 13, 1965, Ser. No. 471,706
Int. Cl. A23l 1/00
U.S. Cl. 99—78 2 Claims

A dry carbonated cola beverage composition comprising a powder which forms a carbonated cola flavored beverage on admixture with water. The composition consists essentially of from 30 to 38 weight percent of sodium bicarbonate, from 39 to 48 weight percent of anhydrous citric acid, from 1.0 to 2.3 weight percent cyclohexylsulfamic acid, from 0.0056 to 0.112 weight percent of disodium inosinate, from 0.0044 to 0.088 weight percent of disodium guanylate, from 4 to 6 weight percent of a mixture of sodium cyclamate and sodium saccharine in stated ratios, from 0.03 to 0.6 weight percent of spray dried cola flavoring, from 0.2 to 0.6 weight percent of spray dried cinnamon, and from 0.4 to 0.8 weight percent of vanilla powder.

3,510,312
PREPARATION OF STABLE CONCENTRATES OF BAKING FLOURS CONTAINING YEASTS
Heinrich Rapprecht, Tennenlohe, uber Erlangen, and Lorenz Popp, Nuremberg-Buch, Germany, assignors to Bast Hefe- und Spirituswerke G.m.b.H., Nuremberg-Buch, Germany, a corporation of Germany
No Drawing. Filed Aug. 25, 1966, Ser. No. 574,908
Claims priority, application Germany, Oct. 5, 1965, B 83,990
Int. Cl. A21d 2/00; A23l 1/10
U.S. Cl. 99—94 7 Claims

Ready-to-use baking mix, and process for its preparation, containing an admixture of fresh yeast and either pre-dried baking flour alone or pre-dried baking flour and pre-dried starch, the mix having an over-all moisture content of 11% to 1% by weight.

3,510,313
METHOD OF PRE-COOKING DRY BEANS
Keith H. Steinkraus, David B. Hand, and Jerome P. Van Buren, Geneva, and Robert L. La Belle, Phelps, N.Y., assignors to Cornell Research Foundation, Inc., Ithaca, N.Y., a corporation of New York
No Drawing. Filed May 10, 1965, Ser. No. 454,658
Int. Cl. A23l 1/20
U.S. Cl. 99—98 3 Claims

Pre-cooked dry beans are prepared by first hydrating dry beans, pre-cooking the hydrated beans in steam, immersing them in a sugar solution for 5 minutes, and then dehydrating them to obtain the advantages of preventing butterflying, baked bean flavor and color without baking, and good storage stability.

3,510,314
METHOD OF PREPARING A BANANA CHIP PRODUCT
Robert F. Lima and Joan Millares Lima, both of 159—34 Riverside Drive, W., New York, N.Y. 10032
No Drawing. Filed July 28, 1966, Ser. No. 568,679
Int. Cl. A23l 1/00
U.S. Cl. 99—100 5 Claims

Preparing banana chips in very thin wafer form in which unpeeled, unripe bananas are cross-sliced in very thin slices, of the order of about 1/64 to 1/32 of an inch, by deep-fat frying the slices in oil at about 375° F. until golden brown in color, deoiling and drying the crisp chips.

3,510,315
EGG PRODUCT
Robert L. Hawley, Webster Groves, Mo., assignor to The Ralston Purina Company, St. Louis, Mo., a corporation of Missouri
No Drawing. Continuation-in-part of application Ser. No. 661,793, Aug. 21, 1967. This application Feb. 10, 1969, Ser. No. 798,144
Int. Cl. A23l 1/32; A23b 5/04, 5/02
U.S. Cl. 99—113 21 Claims

A prepared egg product and a method for making same wherein a solid, cooked egg yolk is surrounded by a solid, cooked egg white, the yolk containing therein a proteolytic enzyme and the egg white containing a water-binding material. The egg product may be frozen and thereafter thawed for consumer use without the previously known disadvantages, particularly, the separation of the moisture in the egg white from the albumen.

3,510,316
NONFAT FROZEN DAIRY DESSERT
Clinton W. Decker, 11023 14th NE., Seattle, Wash. 98125
No Drawing. Continuation-in-part of application Ser. No. 367,881, May 15, 1964. This application Dec. 31, 1964, Ser. No. 422,537
Int. Cl. A23g 5/00
U.S. Cl. 99—136 8 Claims

A nonfat frozen dairy dessert having comparable body, texture and flavor as high butterfat containing frozen dairy dessert of the same total solids content, ice cream, ice milk or sherbet. The solids content normally provided by butterfat is replaced by a combination of increased nonfat milk solids and low dextrose equivalent (D.E.) corn syrup solids. The nonfat milk solids content may range as high as 19% by weight and the corn syrup solids may range as high as 13% by weight. The butterfat content can be held at 0.5% or less and, with the combination of increased nonfat milk solids and corn syrup solids, adverse effect on flavor is avoided. "Sandiness" resulting from crystallization of lactose is prevented by seeding with fine lactose crystals before packaging.

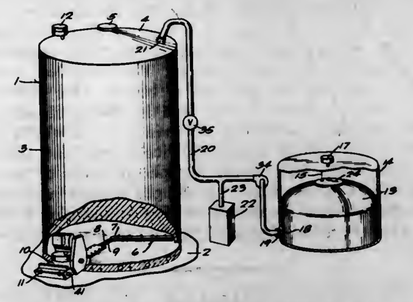
3,510,317
PRESERVATION OF BREAD AND PASTRY
Hans Feraholz, Flschbach, Taunus, Erich Läck, Frankfurt am Main, and Hermann Neu, Neu-Isenburg, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Jan. 10, 1967, Ser. No. 608,266
Claims priority, application Germany, Jan. 20, 1966, F 48,210
Int. Cl. A21d 15/00, 2/14
U.S. Cl. 99—150 6 Claims

Process for preserving bread and pastry by adding to the dough prior to baking a mixed anhydride of (1) sorbic acid, and (2) an aliphatic carboxylic acid with more than 5 carbon atoms in the molecule, or a mixture of the said anhydrides.

3,510,318
METHOD OF SMOKING AND COOKING STOCKINETTE ENCLOSED MEAT
Wilfried A. Kernbach, Rochelle Park, N.J., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
No Drawing. Filed Dec. 1, 1966, Ser. No. 598,210
Int. Cl. A23b 1/04, 3/04
U.S. Cl. 99—229 2 Claims

An improved carrier for meat and meat products during smoking and cooking consisting of a textile fabric stockinette coated with enzyme sufficient to substantially reduce the adherence of the stockinette to the meat.

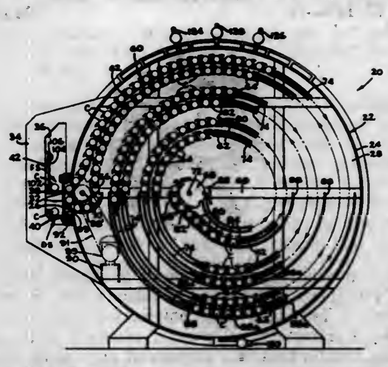
3,510,319
BREATHING SYSTEM FOR A SEALED STORAGE STRUCTURE
Robert W. Whitaker, Wauwatosa, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Mar. 13, 1968, Ser. No. 712,746
Int. Cl. A01f 25/00; A23k 3/00
U.S. Cl. 99—235 18 Claims



The invention relates to a breather system for a sealed storage structure adapted to contain a perishable stored material. The breathing system includes a pressure responsive member, such as a breather bag, located in a protective shelter outside of the storage structure, and the interior of the bag is connected by a conduit to the upper end of the structure. A gas generating unit is connected to the bag and acts to generate an inert gas or a gas of reduced oxygen concentration to fill the bag and the upper end of the structure. The pressure of the gas within the bag and the structure is maintained at a slightly positive pressure with respect to the atmosphere so that any leakage through the structure will be outward to the atmosphere.

Pressure differentials existing between the interior and exterior of the storage structure are balanced by the gas within the bag, and the volume of gas in the bag is available to purge the storage structure after the unloading operation to expel any air that may have entered the structure during unloading.

3,510,320
HEAT TREATMENT APPARATUS
James L. Reimers, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,281
Int. Cl. A23l 3/00
U.S. Cl. 99—365 21 Claims



A cooking and cooling apparatus having at least one housing with closed end walls and at least one elongated slot in the cylindrical wall to permit passage of rows of containers therethrough. Conveyor supporting means are provided in the housing for supporting a conveyor so that a portion of the conveyor will assume a spiral configuration in the housing. Closure means are selectively moved between closed and open positions so that the rows of containers can be fed into the housing, be processed under superatmospheric conditions, and then be discharged from the housing.

3,510,321
SEALANT FOR PIPE JOINTS
Robert L. Turner, 2127 N. Keebler Road, Collinsville, Ill. 62234
No Drawing. Filed Dec. 23, 1968, Ser. No. 786,401
Int. Cl. G09k 3/10
U.S. Cl. 106—33 5 Claims

A sealing compound for pipe joints and the like consisting principally of ferric oxide and glycerine, preferably in the proportion of five parts of ferric oxide powder and two parts of glycerine is nonhardening so that pipes sealed with it can be separated without danger of stripping the threads and the compound, as distinguished from some prior art sealants, can be used in pipes through which oxygen passes.

3,510,322
WATER SETTABLE QUICK SETTING CEMENT COMPOSITION AND A METHOD OF MAKING SAME
Setsuo Higashi, 19—8 Kasumigaokadanchi, Fukuoka-machi, Iruma-gun, Saitama Prefecture, Japan, and Kuneo Taguchi, 1151 Ou-machi, Kamakura, Kanagawa Prefecture, Japan
No Drawing. Continuation-in-part of application Ser. No. 387,978, Aug. 6, 1964. This application Dec. 14, 1967, Ser. No. 690,378
Int. Cl. C09k 3/00
U.S. Cl. 106—35 5 Claims

Quick setting cement, settable by the addition of water alone, produced by combining a mono-metallic metal phosphate which has been molecularly dehydrated to the

acid pyrophosphate form with a compatible metal oxide or silicate to produce a material having a high compressive strength upon setting.

3,510,323
HEAT RESISTANT INORGANIC FOAMS AND THEIR METHOD OF MANUFACTURE
Marco Wismer, Gibsonia, and Joseph F. Bosso, Lower Burrell, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania
Filed Oct. 21, 1965, Ser. No. 500,420
Int. Cl. C04b 21/00, 35/10, 35/48
U.S. Cl. 106—41 24 Claims



This invention relates to novel inorganic foams and their precursors and method of manufacture. Foams are formed by heating a filled polyisocyanurate foam containing a refractory pulverulent, inorganic filler, and a fluxing agent which is a compound of a metal selected from the first and second groups of the Periodic Table, at a temperature and for a time sufficient to substantially consume the organic binder to provide a coherent cellular body and the inorganic refractory particles bonded together. Alternately, the binder may be reduced to a carbonaceous state to provide a refractory material.

3,510,324
GLAZE COMPOSITIONS FOR FAST FIRING
Howard E. Cummings and Ralph Gibson, New Castle, Pa., assignors, by mesne assignments, to Interspace Corporation, Parsippany, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 231,714, Oct. 19, 1962. This application Nov. 23, 1965, Ser. No. 509,378
Int. Cl. C03c 5/02
U.S. Cl. 106—49 4 Claims

The invention here deals with a glaze composition for use in producing a transparent glaze on ceramic bodies where the decoration is under the glaze, and where such glaze is applied preliminarly to a "fast fire" glost firing. The composition requires the presence of compounds based on the oxides of calcium, barium, strontium and aluminium, as well as the presence of a fluoride selected from a group consisting of the alkaline earth fluorides, the alkaline earth silico-fluorides, and potassium fluoride. In more specific aspects, alumina is present in the formula in a small fraction of the amount of silica present. Certain empirical formulae have been determined.

3,510,325
OPTICAL CROWN GLASS
Heinz Brunner, Hermannstein, Kreis Wetzlar, and Norbert Mehnert, Wetzlar (Lahn), Germany, assignors to Fa. Ernst Leitz G.m.b.H., Wetzlar, Germany
Filed Aug. 10, 1965, Ser. No. 478,607
Claims priority, application Germany, Sept. 23, 1964, L 48,849
Int. Cl. C03c 3/08, 3/14
U.S. Cl. 106—54 4 Claims

An optical crown glass may be produced by melting a mixture consisting essentially of 50 to 85% by weight of B_2O_3, SiO_2 and Al_2O_3, 9 to 40 weight percent of bivalent oxides and other metal oxides. The following mixture is illustrative: B_2O_3 amounting to 42–46%, SiO_2 at 0–3 weight percent, Al_2O_3 at 9–16.5 weight percent, the total concentration of these oxides in the mixture being from 55 to 62 weight percent; CaO at 20–25 weight percent, BaO at 0–3 weight percent, ZnO and/or CdO at 0–10 weight percent, the total concentration of bivalent oxides being from 23 to 35 weight percent; and La_2O_3 at 14–16 weight percent, ZrO_2 at 0–10 weight percent, and Ta_2O_5 at 0–5 weight percent.

3,510,326
EXPANSIVE CEMENT AND THE METHOD OF PRODUCING SUCH CEMENT
Minoru Miki, 407–7 4-chome, Setagaya, Setagaya-ku, Tokyo, Japan
Filed Dec. 16, 1966, Ser. No. 602,356
Claims priority, application Japan, Dec. 24, 1965, 40/79,238
Int. Cl. C04b 7/04, 7/32
U.S. Cl. 106—89 8 Claims

An expansive cement containing, as the expansive additive, a material obtained by burning a raw material comprising calcium oxide, aluminum oxide and calcium sulfate in certain proportions and crushing the burnt product to obtain a particular grain size distribution. The expansive cement of this invention expands during the initial curing period and thereafter substantially maintains the originally expanded shape.

3,510,327
STABLE PHOSPHORUS CONTAINING SOLUTIONS
George T. Miller, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Nov. 4, 1968, Ser. No. 773,334
Int. Cl. C08h 17/30; C23f 17/00
U.S. Cl. 106—287 5 Claims

A stable solution of phosphorus and trichloroethylene, which solution contains a stabilizing amount of a stabilizer composition, the stabilizer comprising at least one of a lower aliphatic alcohol, a cycloaliphatic alcohol or an alkyl substituted thiourea. Preferably, the stabilizer composition is a combination of a lower aliphatic or cycloaliphatic alcohol and a polyhydroxy aromatic compound, or an alkyl substituted thiourea. The preferred alcohol in the stabilizer composition is butanol, the preferred polyhydroxy aromatic compound is resorcinol, and the preferred alkyl substituted thiourea is 1,3-diethyl-2-thiourea. The resulting stabilized trichloroethylene solution is substantially free of any phosphorus scum or precipitate, even after heating for prolonged periods, and is suitable for use as a preplating treating composition in processes for the metal plating of plastic and related processes.

3,510,328
ASPHALTIC COMPOSITIONS
Robert B. Crean, Searington, N.Y., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 469,343, July 2, 1965. This application Apr. 4, 1969, Ser. No. 813,729
Int. Cl. C08h 13/00; C09d 3/24
U.S. Cl. 106—273 4 Claims

Asphaltic compositions are provided which are obtained by polymerizing a petroleum asphalt having a specific gravity of at least about 1.1 and a benzene insolubles content of up to 1.3 percent by weight in the presence of at least about 0.6 percent by weight of oxygen based upon the weight of asphalt present and at a temperature in the range from above 850° F. to about 1000° F. to produce a petroleum asphalt of increased specific gravity and having an increased benzene insolubles content not greater than about 25.6 percent by weight.

3,510,329
NEW SULFUR COMPOSITIONS
Donald J. Martin, Zurich, Switzerland, assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 2, 1966, Ser. No. 598,637
Int. Cl. C09d 1/00; C08h 17/48; C07d 87/46
U.S. Cl. 106—287 5 Claims

Impact-resistant sulfur compositions suitable for marking roads which are prepared by reacting a polysulfide plasticizer of the formula:

$$R—S_x—R'$$

wherein R and R' are secondary amines to include aliphatic, alicyclic, aromatic and heterocyclic amines, and x is an integer of from 2 to 10 inclusive; with elemental sulfur in a weight ratio of from 1 to 99 to 1 to 4.

3,510,330
METHOD FOR PROCESSING CLAY AND PRODUCT THEREOF
Gerhardt Talvenheimo, Basking Ridge, and Robert J. Bergmann, Irvington, N.J., assignors, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Edison, N.J., a corporation of Delaware
No Drawing. Filed June 9, 1967, Ser. No. 644,778
Int. Cl. C07c 1/42; C08h 17/06
U.S. Cl. 106—288 10 Claims

The high shear aqueous viscosity of kaolin clay is reduced by pugging the clay intensively in an aqueous solution of urea, preferably in a dilute (e.g., 5% to 10%) solution and without forming a kaolinite-urea intercalation compound. The urea is washed from the pugged clay.

3,510,331
METHOD FOR PROCESSING CLAY AND PRODUCT THEREOF
Gerhardt Talvenheimo, Basking Ridge, and Robert J. Bergmann, Irvington, N.J., assignors, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Edison, N.J., a corporation of Delaware
No Drawing. Filed June 21, 1967, Ser. No. 647,620
Int. Cl. C09c 1/42; C08h 17/06
U.S. Cl. 106—288 11 Claims

The high shear aqueous viscosity of a paper coating grade of kaolin clay is reduced by pugging the clay in an aqueous solution of an organic carboxylic acid, preferably a hydroxy-substituted alkanoic acid such as citric acid, and washing the clay to remove the acid. The novel clay product, which has desirable high shear viscosity properties, is adapted to be formulated with adhesives, especially adhesives of the type which require acidic dispersion media, such as for example, cationic latex adhesives.

3,510,332
PROCESS FOR THE PRODUCTION OF ZIRCONIUM-PRASEODYMIUM YELLOW PIGMENTS
Horst Weber, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 7, 1967, Ser. No. 621,123
Claims priority, application Germany, Mar. 16, 1966, F 48,668
Int. Cl. C09c 1/00
U.S. Cl. 106—299 5 Claims

Process for the production of zirconium-praseodymium yellow pigments from zirconium silicates without separating of sodium silicate, wherein in the first step the zirconium-silicate is decomposed by heating an alkali-zirconium silicate mixture to temperatures of 800–1200° C. or from 800–1100° C., in the second step an aqueous slurry of the decomposed product is formed by mixing the decomposed product with water in a molar ratio of water to zirconium silicate of from about 5:1 to 20:1, and with a praseodymium compound in an amount, sufficient to form said yellow pigments, in a third step a mineral acid is added to said aqueous slurry in an amount, sufficient to neutralize at least 0.5 alkali equivalents, thereby solidifying said aqueous slurry and in a fourth step said solidified mixture is calcined at a temperature of from 850 to 1300° C.

3,510,333
PIGMENT PRODUCT
Ely Gonick, Newark, Del., and William J. McGinnis, Waverly, Tenn., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 347,009, Feb. 24, 1964. This application Oct. 19, 1967, Ser. No. 676,401
Int. Cl. C09c 1/36
U.S. Cl. 106—300 2 Claims

A pigment, especially suited for use in paper, of crystalline rutile particles which are at least 95% TiO_2 and have a median width of less than 0.2 micron, preferably between 0.15 and 0.19 micron and a median length to width ratio of from 1 to 2, and a light scattering coefficient in 4600 A. blue light at least 1.500 times its light scattering coefficient in 6100 A. red light except that when modified by precipitation thereon of up to 15% of optical modifiers (such as titania, silica or alumina, calculated respectively as TiO_2, SiO_2 and Al_2O_3) the pigment has a light scattering coefficient in 4600 A. light at least (1.500–0.6T) times its light scattering coefficient in 6100 A. light where T is the weight fraction of the optical modifier present.

The pigment is prepared by the very rapid vapor phase oxidation of titanium tetrachloride or by hydrolysis of titanium sulfate solutions employing usually high nucleating conditions followed by the known recovery and calcination steps.

3,510,334
PROCESS OF TREATING PIGMENTARY TITANIUM DIOXIDE
Neil C. Goodspeed, Wadsworth, Ohio, assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 370,349, May 26, 1964. This application Dec. 20, 1967, Ser. No. 691,931
Int. Cl. C09c 1/36, 3/00
U.S. Cl. 106—300 16 Claims

Improvement in the pigmentary properties of titanium dioxide, produced by the vapor phase oxidation of titanium tetrahalide, e.g., titanium tetrachloride, is described. It has been found that adding the hydrolyzable metal salt to an aqueous slurry of titanium dioxide that has an alkaline pH of greater than 8.5 and maintaining the pH of the slurry at greater than 8.5 during such addition results in the production of a pigment having improved tinting strength and hiding power.

3,510,335
TITANIUM PIGMENT PRODUCTION
William J. McGinnis, Waverly, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,599
The portion of the term of the patent subsequent to Nov. 12, 1985, has been disclaimed
Int. Cl. C09c 1/36
U.S. Cl. 106—300 8 Claims

A fade-resistant, opacifying co-oxidized TiO_2-Al_2O_3 pigment, with 0.1 to 10% Al_2O_3 content based on the TiO_2 content, having a porous SiO_2 coating, of 1 to 25% SiO_2, based on the TiO_2 obtained upon calcination at 300° C. to 1000° C. of the SiO_2 coated TiO_2-Al_2O_3 pigment material.

3,510,336
REFLEX COPYING METHOD
Murray Figov and Roger Hotter, London, England, assignors to GAF (Great Britain) Limited, London, England
No Drawing. Filed Aug. 2, 1966, Ser. No. 569,605
Claims priority, application Great Britain, Aug. 12, 1965, 34,620/65
Int. Cl. B41m 5/12
U.S. Cl. 117—1.7 10 Claims

Reflex copying process involving exposure of an original bearing an infra-red absorptive image in contact with sheet material having thereon a thermographic coating of a fusible azo coupling component to form a latent image of fused coupling component, dusting of the image with a powdered solid benzene diazonium salt or diazo oxide followed by development and fixing by exposure to radiant heat. The thermographic coating may include a resin to increase the adhesion of the developed image.

3,510,337
METHOD OF PLASMA SPRAYING OF TETRAFLUOROETHYLENE - HEXAFLUOROPROPYLENE COPOLYMER
Albert E. Kaiser, Pittsburgh, Pa., and Robert O. Houghtaling, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Jan. 26, 1967, Ser. No. 611,827
Int. Cl. B28b 7/38
U.S. Cl. 117—5.3 5 Claims

This invention relates to the coating of objects with fluorocarbon resins, and more particularly to a method of plasma spraying a thick coating of tetrafluoroethylene-hexafluoropropylene copolymer onto the surface of a metal article. This method is particularly useful in coating the interior walls of a mold with tetrafluoroethylene-hexafluoropropylene copolymer. The coating serves as a mold release agent since the slippery surface provided by the fluorocarbon resin permits the molded articles to be readily removed from the mold.

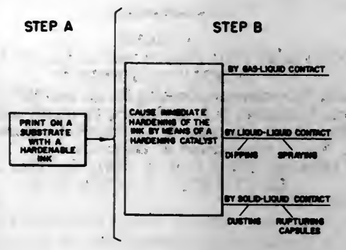
3,510,338
METHOD OF ELECTROSTATIC PRINTING
Arleen S. Varron, Wayne, N.J., assignor to Inmont Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Aug. 6, 1965, Ser. No. 477,959
Int. Cl. G03g 13/00
U.S. Cl. 117—17.5 23 Claims

In a method of powder electrostatic printing wherein the powder particles comprise a dispersion of (1) a continuous resinous phase which comprises at least one member of the group consisting of limed rosin, cyclized rubber, copolymers of alpha-methyl styrene and vinyl toluene, pentaerythritol esters of rosin and polyterpene resins, and a dispersed phase comprising (2) a pigment and (3) particle interpolymers derived from latices.

3,510,339
EPOXY COATED SUBSTRATE AND METHOD OF MAKING THE SAME
Raymond Glen Wile, Dallas, Tex. (1920 Sunnybrook, Irving, Tex. 75060)
No Drawing. Filed Oct. 22, 1968, Ser. No. 778,369
Int. Cl. B44d 1/14; B32b 27/14, 27/38
U.S. Cl. 117—26 10 Claims

A coating system for floors, walls, and the like comprising a first layer of an epoxy resin and a curing agent, an aggregate deposited on said first layer and a second layer deposited over said aggregate and said first layer, said second layer comprised of a polyglycidyl ether of a polyhydric phenol and a curing agent chosen from the group of polyoxypropylenediamines and triamines.

3,510,340
PRINTING PROCESS
Carl B. Blake, Bronx, and George K. L. Tung, Richmond, N.Y., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Oct. 3, 1966, Ser. No. 583,688
Int. Cl. B41m 1/26; B44d 1/02
U.S. Cl. 117—38 11 Claims



A process of printing wherein an ink containing a binder made of an acrylate or methacrylate ester monomer boiling above about 185° C. and a compatible resin is deposited as a layer on a substrate and the deposited layer is contacted with a polymerization catalyst. Advantageously the monomer is selected from the group of acrylate and methacrylate diesters and triesters with di- and polyfunctional alcohols.

3,510,341
METHOD FOR GLOSSING LABELS
Arthur C. Peck, Hazardville, and Alexander J. Usko, Wapping, Conn., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 595,796
Int. Cl. B41m 5/24; B44c 1/097; C23c 7/00
U.S. Cl. 117—46 2 Claims

This invention is directed toward glossing the surface of wax release decals on plastic containers by shock melting the wax without appreciably raising the temperature of the plastic, in order to smooth the wax, followed by immediate shock chilling of the heated surface to maintain the gloss.

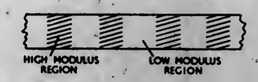
3,510,342
ADHESIVE-REPELLING SURFACE COATINGS
Hans-Werner Demmig and Kurt Reinelt, Duesseldorf-Holthausen, Germany, assignors to Henkel & Cie G.m.b.H., Duesseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Nov. 22, 1966, Ser. No. 596,099
Claims priority, application Germany, Dec. 2, 1965, H 57,847
Int. Cl. C09j 7/04
U.S. Cl. 117—68.5 5 Claims

The present invention relates to surface coatings of low adhesion with respect to pressure-sensitive adhesives containing polyethylene imines acylated with higher fatty acids, to be used on cellulose-containing materials.

3,510,343
DURABLE METAL OXIDE COATED GLASS ARTICLES
Robert G. Twells, New Kensington, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed July 12, 1967, Ser. No. 652,677
Int. Cl. C23d 5/02; B44d 1/08, 1/16
U.S. Cl. 117—70 11 Claims

This invention relates to a durable article comprising a substrate having thereon a low-temperature melting glass enamel coating and a durable, weather-resistant transparent metal oxide coating protecting said enamel. More particularly, this invention relates to an article comprising: (1) a substrate that has a combustion temperature and melting point above about 1000° F.; (2) a low-temperature melting glass enamel adherent upon said substrate; and (3) a durable, weather-resistant, transparent metal oxide coating adherent upon said enamel. This invention especially pertains to lead borosilicate coated glass substrates having a protective metal oxide overcoat.

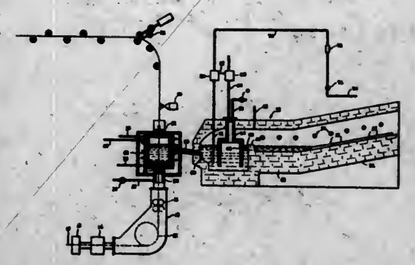
3,510,344
VAPOUR PERMEABLE SHEET MATERIALS
Keith Frederick Dunderdale, Harrogate, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed June 23, 1967, Ser. No. 648,270
Claims priority, application Great Britain, July 11, 1966, 30,976/66
Int. Cl. D04h 1/48; D06n 3/08; B32b 27/40
U.S. Cl. 117—76 4 Claims



A water-vapour permeable poromeric material having a fibrous base and a polymeric coating which has a modulus which varies through its thickness, is made by a method in which several coating layers of different moduli are built up on the fibrous base and then the coating is rendered microporous.

3,510,345
APPARATUS AND METHOD FOR AUTOMATICALLY CONTROLLING THE MOLTEN METAL BATH LEVEL IN A METALLURGICAL PROCESS
Peter R. Marchant, San Francisco, Calif., assignor to General Electric Company, a corporation of New York
Filed Nov. 1, 1967, Ser. No. 679,696
Int. Cl. C23c 1/00
U.S. Cl. 117—114 2 Claims

In the dip-forming process for accreting metal onto a core member passed through a crucible containing a molten bath of metal, a melt of molten metal is continuously supplied to the crucible from a holding chamber. An inverted pressure bell is disposed in the holding chamber, and gas is introduced into the enclosed portion of the bell for exerting pressure on the surface of the molten metal within the bell. A liquid level sensing means is immersed in the molten metal, and gas is continuously introduced through the liquid level sensing means whereby a back pressure is established in the sensing means which is correlated with the level of molten metal in the holding chamber.



3,510,346
THERMALLY STABLE CELLULOSE PRODUCTS
Anthony J. Palumbo, Sharon, and James G. Ford, Sharpsville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 21, 1966, Ser. No. 588,304
Int. Cl. D06m 13/34; D21d 3/00; D21h 1/10
U.S. Cl. 117—154 4 Claims

A thermally stable and durable cellulosic insulation material for use in a transformer in the presence of air and a liquid dielectric, the material may be cellulosic paper, having from about 0.02% to about 10% by weight of at least one nitrogen-containing stabilizer consisting of an amino and cyano substituted organosilane which stabilizer may exist in a monomeric, polymeric, or mixed form.

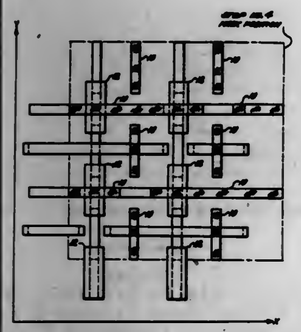
3,510,347
OXIDATION RESISTANT CARBON
Henry H. Strater, Cleveland, Ohio, assignor, by mesne assignments, to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 2, 1964, Ser. No. 394,058
Int. Cl. C01b 25/32, 25/36
U.S. Cl. 117—169 12 Claims

A new composition of matter, calcium aluminum oxyphosphate, has outstanding utility as an oxidation inhibitor for carbon and graphite bodies. The composition is formed by interacting calcium-, aluminum-, and oxyphosphate-containing compounds, e.g. CaO, Al_2O_3, and P_2O_5. A preferred synthesis comprises reacting calcium hydroxide and aluminum hydroxide in an aqueous solution of phosphoric acid. To improve oxidation resistance of carbon or graphite bodies, utilizing the new composition, a portion of the composition is deposited on and preferably into the body, e.g. by spraying or brushing a solution of the composition onto the body, or by allowing the body to soak in such a solution.

3,510,348
DIRECT POSITIVE RECORDING FILM
Dugald A. Brooks, Evan T. Jones, and Richard W. Spayd, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed June 20, 1966, Ser. No. 558,585
Int. Cl. B44d 1/18
U.S. Cl. 117—201 31 Claims

This invention relates to electron-sensitive recording elements and processes of exposing to electrons an electrically conductive element comprising a support and a layer comprising electron-sensitive, direct-positive, fogged silver halide grains.

3,510,349
VACUUM DEPOSITED INTERCONNECTION MATRIX
Richard T. Jones, Bedford, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Nov. 15, 1966, Ser. No. 594,589
Int. Cl. C23c 13/02
U.S. Cl. 117—212 1 Claim



A single apertured mask containing interconnection information is utilized with multiple vacuum depositions to provide a desired interconnection matrix.

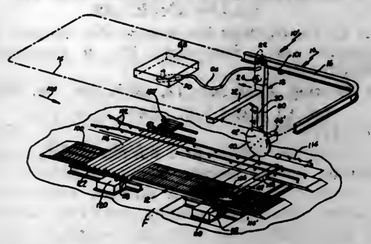
3,510,350
PROCESS FOR CLEANING GEL DEPOSITS FROM POLYMER TRANSFER LINES
James Alexander Priebe, Kingston, Ontario, Canada, assignor, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 28, 1967, Ser. No. 626,707
Claims priority, application Canada, Apr. 6, 1966, 957,497
Int. Cl. B08b 3/00, 9/02; C23g 5/00
U.S. Cl. 134—22 5 Claims

A process for cleaning polymer transfer pipelines and, in particular, removing deposits of degraded polymer from the interior walls of the pipelines without the need for dismantling the pipelines. Steam reacts with the degraded polymer to remove it from the walls of the line.

3,510,351
METHOD FOR ETCHING AND CLEANING OF OBJECTS AND PLANTS, PARTICULARLY TUBE SYSTEMS AND BOILER PLANTS, CONSISTING OF IRON OR STEEL
Paul van Dillen, Vlaardingen, Netherlands, and Eva Vollmer, Hilden, Germany, assignors of one-half each to Siemens Aktiengesellschaft, Berlin, Germany, and Borg Service G.m.b.H., Duesseldorf, Germany, both corporations of Germany
No Drawing. Filed Nov. 26, 1965, Ser. No. 510,105
Claims priority, application Germany, Nov. 27, 1964, B 79,523
Int. Cl. B08b 9/00; C02b 5/06; C23g 1/02
U.S. Cl. 134—22 6 Claims

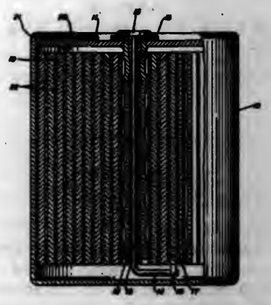
There are used for etching cleaning tubes, boilers and other iron and steel installations synergistic mixtures of at least three organic acids containing substituent hydroxyl or amino groups. Preferably such mixtures contain at least one substituted polyaminoacetic acid, a mixture of glycollic acid, heptagluconic acid, a malonic acid derivation and ethylenediaminetetraacetic acid being particularly effective.

3,510,352
AUTO WASH
Edward R. Neuman, 315 W. 40th St., Holland, Mich. 49423
Filed Oct. 25, 1967, Ser. No. 677,933
Int. Cl. B60s 3/04
U.S. Cl. 134—45 1 Claim



Vehicle washing apparatus employing a recirculatory washer means having a combination of cooperative oscillating nozzles on an inverted L-shaped support, and a revolving disc of jets, preferably in combination with auto wheel revolving means and wheel advancing washing means.

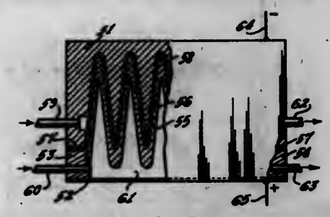
3,510,353
SEALED BATTERY
Edwin J. McHenry, Millington, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed Mar. 29, 1968, Ser. No. 717,270
Int. Cl. H01m 35/16
U.S. Cl. 136—13 7 Claims



The specification describes a hermetic seal design for sealed batteries especially nickel-cadmium batteries employing rolled electrodes. The seal is a metal tube integral with the cover and depending into the cell. The tube contains a plastic sleeve through which the wire contact is threaded. The tube is crimped at several positions along its length and can serve as a mandril around which the electrodes are rolled.

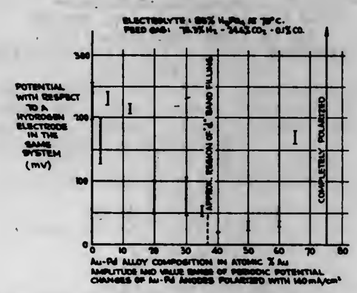
3,510,354
FUEL CELL
Richard A. Hess, Claymont, Del., and James E. McEvoy, Morton, Pa., assignors, by mesne assignments, to Northern Natural Gas Company, Omaha, Nebr., a corporation of Delaware
Filed July 3, 1961, Ser. No. 121,506
Int. Cl. H01m 27/00
U.S. Cl. 136—86 6 Claims

1. A fuel cell comprising a horizontally elongated housing of rectilinear cross section; a vertically zigzag semipermeable membrane extending lengthwise within said housing to partition the same into upper and lower chambers; separate electrode materials within said chambers in intimate contact with the upper and lower surfaces of said membrane and insulated from each other, at least one of said electrode materials comprising a circulating fluid; means within each of said chambers establishing an electro-conductive path between said electrode material and the exterior of said housing; ports at the opposite ends of said chambers for ingress and egress



of fluid media comprising fuel cell reactants; and an external circulating system individual to said fluid electrode material and communicating with the ports of its respective chamber, said circulating system including means for blending reactants into said fluid electrode material and circulating the same, as well as means for removing unwanted reaction products therefrom.

3,510,355
METHOD OF GENERATING ELECTRICITY COMPRISING CONTACTING A Pd/Au ALLOY BLACK ANODE WITH A FUEL CONTAINING CARBON MONOXIDE
Jerry Haskel Fishman, New York, N.Y., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Apr. 20, 1966, Ser. No. 543,841
Int. Cl. H01m 27/00
U.S. Cl. 136—86 7 Claims



An improved fuel cell for the generation of electrical energy and a method of generating electrical energy utilizing a hydrogen-containing fuel having carbon monoxide present as an impurity is described. An electrode is utilized which is resistant to carbon monoxide poisoning comprising an admixture of a hydrophobic polymer and a palladium/gold alloy containing 14 to 64 atomic percent gold.

3,510,356
ELECTROCHEMICAL CELL INCLUDING ELECTRODE HAVING Pd-Pt CATALYST
Peter D. Richman, Park Ridge, N.J., assignor, by mesne assignments, to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed June 30, 1966, Ser. No. 561,970
Int. Cl. H01m 27/00
U.S. Cl. 136—86 6 Claims

Improved performance in electrochemical devices employing catalytic electrodes is obtained by the use, in at least one of the electrodes, of a platinum/palladium catalyst wherein palladium is present in a ratio of from either 5 to 25% or 50 to 85% by weight of the catalyst. Such electrodes possess performance capabilities greater than those of either platinum or palladium alone. The preferred electrode structure comprises a porous conductive metallic support substantially uniformly and completely coated with an admixture of a hydrophobic polymer and the catalyst.

3,510,357
THERMALLY ACTIVATED AMMONIA VAPOR BATTERY
Niels C. Nielsen, Lexington, Ill., assignor to National Union Electric Corporation, Stamford, Conn., a corporation of Delaware
Filed May 5, 1967, Ser. No. 636,371
Int. Cl. H01m 21/08
U.S. Cl. 136—86 8 Claims

A thermally activated ammonia vapor battery assembly comprising one or more cells using any conventional anode and cathode materials as the electrodes, and having in combination therewith an electrolyte element of solid electrically non-conductive, ammonia-absorbing material which becomes ionically conductive when exposed to gaseous ammonia and a nitrogen-containing material which releases gaseous ammonia when heated. The heat requirements for effecting the release of gaseous ammonia in situ in the battery cell assembly are provided by heating in an oven or by including in the battery assembly a quantity of heat-release material.

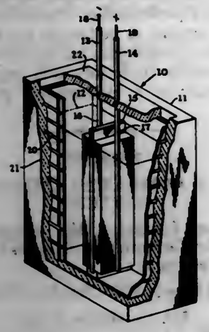
3,510,358
PRIMARY ALKALINE CELL
Fast Khatovich Nabiullin, Mytischinskaya ul. 14-a, kv. 90; Ivan Ivanovich Koval, N-Peschanaya ul. 23/7, kv. 369; Zoya Mikhailovna Bazova, Suschevsky val. 23, kv. 116; and Efim Mikhailovich Gertsik, Mytischinskaya ul. 14-a, kv. 98, all of Moscow, U.S.S.R.; Boris Vasilievich Marfin, Oblast ul., Sovetskaya 16, kv. 6, Balashikha I, Moskovskaya, U.S.S.R.; and Vyacheslav Anatolievich Rabinovich Razumovskaya naberezhnaya 14, kv. 34, Moscow, U.S.S.R.
Filed Nov. 2, 1967, Ser. No. 680,149
Int. Cl. H01m 21/00, 13/06
U.S. Cl. 136—107 1 Claim

A primary alkaline cell comprises a tubular negative electrode with internal current collector disposed within a tubular positive electrode with external current collector, a partition being disposed between the electrodes and functioning as an ion-conducting diaphragm. Washers of electrical insulating material are at the ends of the electrodes and the washers each have at least one annular rib embedded in the ends of the partition to reliably separate the electrodes and prevent short circuit through the diaphragm.

3,510,359
FUSED SALT ELECTROCHEMICAL BATTERY WITH INORGANIC SEPARATOR
Theodore B. Selover, Jr., Shaker Heights, and James L. Benak, Bedford Heights, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 22, 1967, Ser. No. 625,053
Int. Cl. H01m 3/00
U.S. Cl. 136—146 7 Claims

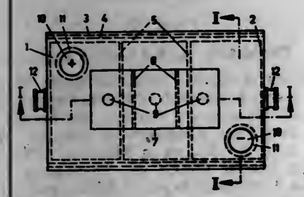
A separator for an electrical energy storage device comprising a material selected from the group consisting

of beryllium oxide (BeO), thorium oxide (ThO_2), magnesium oxide (MgO), lithium aluminate ($LiAlO_3$), boron



nitride (BN), silicon nitride (Si_3N_4), aluminum nitride (AlN) and mixtures thereof.

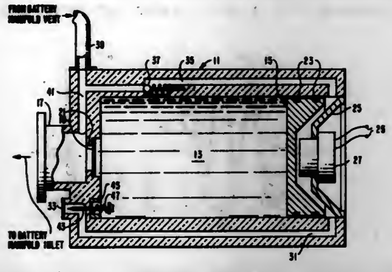
3,510,360
STORAGE BATTERY CASING
Max Stalder, Lugano, Switzerland, assignor to Isabella Forti, Zurich, Switzerland
Filed Mar. 17, 1967, Ser. No. 624,091
Claims priority, application Switzerland, Mar. 17, 1966, 3,850/66, Patent 442,445
Int. Cl. H01m *45/00, 1/00*
U.S. Cl. 136—162 5 Claims



A storage battery casing including a container in which the battery cells are disposed, the container being defined by at least two opposing side walls, there being furthermore two outer walls adjoining the side walls and spaced from the side walls by ribs so that air can circulate between the side walls and the outer walls. A completely encased liquid reservoir provides additional liquid for the cell and maintenance-free service over the life of a battery.

3,510,361
BATTERY ACTIVATOR AND VENTING SYSTEM
Lawrence L. Saunders, Denver, Colo., assignor to Whittaker Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 9, 1967, Ser. No. 673,787
Int. Cl. H01m *11/00*; B67d *5/42*
U.S. Cl. 136—162 11 Claims

The gas operated battery actuator stores activator fluid or electrolyte within a cylindrical container to be expelled into the battery prior to use. Upon actuation, gas pressure generated behind a piston forces it forward to expel a given quantity of activator fluid from the front end of the storage cylinder into a manifold to fill the battery cells. A fluid conduit connects an outlet on the battery manifold to the rear of the cylinder through a valve that remains closed to prevent flow until the desired quantity of activator fluid has been expelled. At that time, a vent on the actuator opens to ambient pressure to release the gas pressure in the empty cylinder behind the piston, and the valve opens allowing compressed gases and excess activator fluid to flow from the battery manifold outlet into the empty cylinder. Thereafter, the valve opens whenever needed to vent any gas generated

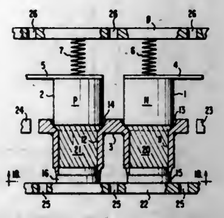


within the battery or activator fluid expelled during battery discharge, thus maintaining the battery interior pressure as desired. The activator fluid expelled flows into and is retained within the cylinder which now serves as a sump, and gases are released through the cylinder and the open vent to the surrounding atmosphere.

ERRATUM

For Class 136—181 see:
Patent No. 3,510,376

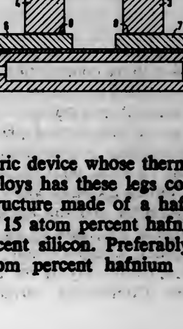
3,510,362
THERMOELECTRIC ASSEMBLY
Telesphore L. Charland and Jackson S. Neal, Baltimore, and Theodore S. Weissmann, Randallstown, Md., assignors, by mesne assignments, to Teledyne, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Oct. 20, 1966, Ser. No. 588,115
Int. Cl. G21h *1/10*; H01v *1/06*
U.S. Cl. 136—202 11 Claims



An electrically conductive fluid is carried within a cavity formed by thermoelectric elements having a circularly bounded face and shoe means having a spherically concave face to insure good thermal and electrical bond therebetween.

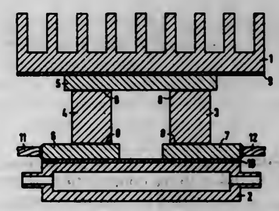
3,510,363
THERMOELECTRIC GENERATOR SUITABLE FOR USE AT ELEVATED TEMPERATURES IN A VACUUM
Seymour H. Winkler, Princeton, N.J., and Rudolph R. Laessig, Sumneytown, Pa., assignors to RCA Corporation, a corporation of Delaware
Filed Nov. 2, 1966, Ser. No. 591,506
Int. Cl. H01v *1/02*
U.S. Cl. 136—205 12 Claims

The operating temperature of a thermoelectric generator is controlled by spaced multiple-foil thermal insulation which when heated slightly oxidizes or corrodes in the atmosphere to form a stable coating, but which coating evaporates or disappears in a vacuum. This results in the reflectivity of the foil and hence the operating temperature of the generator being substantially lower within the atmosphere than it is in a vacuum. Further, the presence between adjacent spaced foils of a normally good insulator material, which in response to excessive tempera-



tures becomes a relatively poor insulator material, limits the maximum temperature of the thermoelectric generator. In addition, a slowly leaking inert gas within the thermal insulation of the generator may be utilized to slowly increase the amount of insulation provided to thereby compensate for a slow decrease which in certain cases takes place in the heating ability of the heat source of the generator. This maintains the operating temperature of the generator more constant than it otherwise would be.

3,510,364
CONTACT STRUCTURE FOR A THERMOELECTRIC DEVICE
Gerhard Oesterhelt, Nuremberg, Eugen Szabó de Bucs, Erlangen, and Alfred Kunert, Nuremberg, Germany, assignors to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Mar. 20, 1968, Ser. No. 714,603
Claims priority, application Germany, Mar. 21, 1967, S 108,937
Int. Cl. H01l *1/12, 9/06*
U.S. Cl. 136—239 5 Claims



A thermoelectric device whose thermocouple legs consist of silicon alloys has these legs contacted and interconnected by structure made of a hafnium-silicon alloy with about 1 to 15 atom percent hafnium and about 99 to 85 atom percent silicon. Preferably the composition contains 7.5 atom percent hafnium and 92.5 percent silicon.

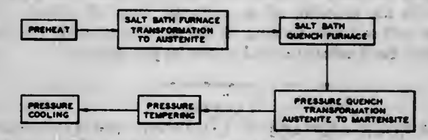
3,510,365
PROCESS OF PRETREATING FERROUS METAL SURFACES BEFORE PHOSPHATIZING
Werner Rausch, Sulzbach, Taunus, Wolfgang Ernst, Frankfurt am Main, and Gerhard Muller, Hanau am Main, Germany, assignors to Hooker Chemical Corporation, a corporation of New York
No Drawing. Filed Nov. 6, 1967, Ser. No. 681,022
Claims priority, application Germany, Nov. 30, 1966, 1,521,089
Int. Cl. C23f *7/10*
U.S. Cl. 148—6.15 14 Claims

A process for forming a finely crystalline, adherent manganese phosphate coating on a ferrous metal surface, wherein the surface to be coated is cleaned with a strong alkaline cleaner or pickled in mineral acid and is, thereafter, treated with an aqueous solution containing finely dispersed manganese-II-orthophosphate, prior to the application of a manganese phosphate coating solution. Desirably, the manganese-II-orthophosphate in the prerinse solution consists, at least partially, of finely divided hureaulite. Additionally, the manganese-II-orthophosphate prerinse composition may also contain alkali metal pyrophosphates, and/or alkaline earth metal pyrophosphates, and/or iron orthophosphate.

3,510,366
METHOD FOR BLACKENING APERTURE MASKS FOR COLORED TV PICTURE TUBES
Norman B. Mears, St. Paul, Minn., assignor to Backbee-Mears Company, St. Paul, Minn., a corporation of Minnesota
No Drawing. Filed Feb. 6, 1967, Ser. No. 613,992
Int. Cl. C23f *7/02*
U.S. Cl. 148—6.35 6 Claims

Thin sheets of cold-rolled steel containing a multitude of tiny apertures are subjected to a nitrogen gas atmosphere at controlled temperatures to a maximum in the order of 1200° F. to form a non-reflective coating on the metal without affecting the size of the tiny apertures.

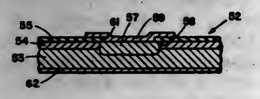
3,510,367
METHOD OF HEAT TREATING FERROUS ALLOY SHEETS
James E. Berger, Rockhill, S.C., assignor to Kent-Moore Corporation, Warren, Mich., a corporation of Michigan
Filed Oct. 20, 1967, Ser. No. 676,764
Int. Cl. C21d *1/78*
U.S. Cl. 148—131 11 Claims



This disclosure relates to a method of heat treating sheets of steel and ferrous alloys, including the steps of: vertically suspending the sheets in a preheat atmosphere; immersing the suspended sheets in a salt bath furnace maintained at a temperature to cause complete transformation of the metal to austenite; quenching the metal by immersing the suspended sheets in a salt bath furnace maintained at a temperature just above the martensite temperature of the metal being treated; pressure quenching the sheets by transferring the sheets to a temperature and presure controlled press, wherein transformation from austenite to martensite occurs at a controlled pressure; and tempering the sheets in the press by raising the temperature in the press and increasing the pressure. The pressure quenching is accomplished

in the press by controlling the temperature of the press to above the temperature of martensite formation, applying pressure to the sheets, and lowering the temperature at a controlled rate to below the temperature of completed martensite structure of the metal being treated. The pressure is then momentarily released, and the sheets are cooled under pressure.

3,510,368
METHOD OF MAKING A SEMICONDUCTOR DEVICE
Clarence D. Hahn, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 29, 1966, Ser. No. 575,641
Int. Cl. H01l 7/36, 7/46
U.S. Cl. 148—175 3 Claims



A diode having a novel reverse breakdown rectifying PN junction and a method of making same. The reverse breakdown rectifying PN junction has a passivated alloy die in which the PN junction comprises solely the interface of the alloy region with the base semiconductor material. The rectifier is made by a method in which a metal is alloyed directly into a body of semiconductor material that has not been previously subjected to a solid state diffusion.

3,510,369
SELECTIVE DIFFUSION MASKING PROCESS
Frederick G. Ernick, Latrobe, and Paul M. Kisiako, Greensburg, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 612,242, Jan. 27, 1967. This application Mar. 18, 1968, Ser. No. 713,917
Int. Cl. H01l 7/44
U.S. Cl. 148—187 9 Claims

This invention provides a selective diffusion masking process which permits the fabrication of planar devices on lapped surfaces of semiconductor materials. The process entails the growing of an epitaxial layer of silicon carbide and selective etching of the same to provide the diffusion mask where desired on the lapped surface.

3,510,370
AQUEOUS EXPLOSIVE COMPOSITION CONTAINING AS A SENSITIZER A CONDENSATION PRODUCT OF ETHYLENE OXIDE WITH A PHENOL OR SATURATED CARBOXYLIC ACID
Norman McLeod Jardine, Highett, Victoria, and Gwyn Harries, Hippocales, Victoria, Australia, assignors to Imperial Chemical Industries of Australia and New Zealand Limited, Melbourne, Victoria, Australia, a corporation of Australia
No Drawing. Filed May 5, 1969, Ser. No. 821,950
Claims priority, application Australia, May 13, 1968, 37,782/68
Int. Cl. C06b 11/00
U.S. Cl. 149—46 7 Claims

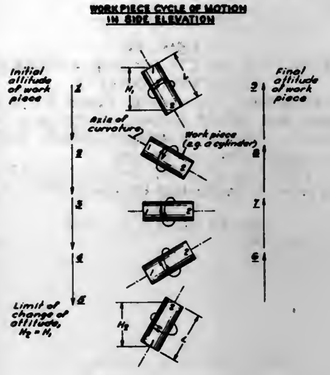
This invention relates to new compositions of matter and in particular it relates to new explosive compositions of matter containing an inorganic oxidizer salt, a fuel, water, and as a sensitizer the condensation product of an alkylene oxide with a phenol or saturated carboxylic acid.

3,510,371
METHOD OF MAKING AN ULTRAVIOLET SENSITIVE TEMPLATE
Gary D. Frankson, Hicksville, N.Y., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Jan. 25, 1967, Ser. No. 611,746
Int. Cl. G02b 1/00; C23f 1/02; B44c 1/22
U.S. Cl. 156—11 2 Claims



A mask for photoprocessing of semiconductor devices. The mask is utilized for the selective exposure of photoresists which are sensitive to ultraviolet radiation. The photomask comprises a glass substrate which is transparent to both visible and ultraviolet radiation, and a silicon monoxide layer deposited on one surface of the glass substrate in accordance with the desired pattern. The silicon monoxide layer is transparent to visible light but opaque to ultraviolet radiation.

3,510,372
METHOD FOR ETCHING CURVED SURFACES
Clayton W. Hoornstra, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 4, 1965, Ser. No. 477,130
Int. Cl. C23f 1/02; B41c 1/18
U.S. Cl. 156—14 11 Claims



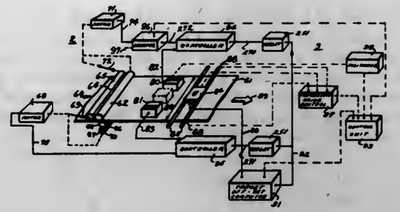
In the powderless etching of curved plates, by impinging thereon a liquid etching composition, distorted shoulders of images are avoided by the improvement of cyclically varying, continuuosly or stepwise, the angle between the axis of curvature of the curved plate and the flight path of impinging etching composition, while rotating the curved plate on its axis, until the desired depth of etch is attained. The cycles may vary from about 0.5 to 30 seconds in duration and the angle values may be selected from a range of extremes of 10 and 170 degrees to 80 and 100 degrees. Discontinuous cyclic change is carried out by alternatively varying the flight path of the etching composition. Continuous variations during the cyclic change are typically obtained by directing the etching composition along an unchanging flight path while oscillating the axis of the curved plate with respect to the source of the etching composition.

3,510,373
METHOD OF MANUFACTURING A HEAT-RESISTANT HIGH VOLTAGE INSULATION FOR ELECTRICAL MACHINES
Werner Moller, Dubendorf, Switzerland, assignor to Oerlikon Engineering Company, a Swiss corporation
No Drawing. Filed June 19, 1967, Ser. No. 647,198
Claims priority, application Switzerland, June 28, 1966, 9,362/66
Int. Cl. H01b 13/08
U.S. Cl. 156—53 8 Claims

A binder-free tape is impregnated with a solvent and an unsaturated polyester resin containing an accelerator. Tape may be stored for six to twelve months. After tape is wrapped around an electrical conductor, it is wetted with a styrene solution containing 0.5 to 10% of a peroxide, and then hardened at room temperature.

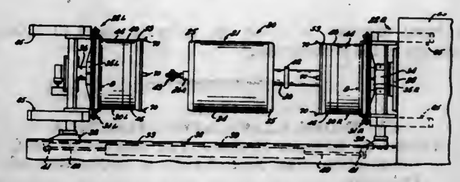
Tape may be glass fiber tape containing mica, or polyester woven tape. Accelerator may be a cobalt complex, such as cobalt octoate, or it may be an amine bonded to the polyester resin. While wetting tape, it may be surrounded by a semipermeable sheet to prevent the polyester resin and the cobalt complex accelerator from dissolving out of wrapping. Semipermeable sheet may be fiber reinforced thermoplastic sheet which swells in styrene.

3,510,374
METHOD AND CONTROL APPARATUS FOR REGULATING APPARATUSES
Charles S. Walker, Lake Mohawk, N.J., assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Apr. 20, 1964, Ser. No. 360,994
Int. Cl. G01
U.S. Cl. 156—64 12 Claims



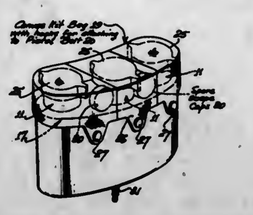
One embodiment of control apparatus in accordance with the present invention comprises a gauge means for indicating a material property at one location in a zone of the material and for indicating the property average at least partially across the material dimension including the zone. A regulating means can be adjusted to substantially uniformly vary the property in the zone. A controller means compares the one location property indication with a target signal and actuates the regulating means to reduce the difference between the target signal and the location property indication to substantially zero. Means is provided for changing the target signal only when the aforementioned difference is substantially zero as a function of the difference between the property average and one target signal representing a desired target property to another target signal to cause the controller means to compare the indicated property with the another target signal that brings the average zone property to the desired target property.

3,510,375
METHOD AND APPARATUS FOR BUILDING TIRES
Thomas Allen Batten, Russellville, Ark., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 216,212, Aug. 10, 1962. This application May 11, 1966, Ser. No. 550,081
Int. Cl. B29h 17/14, 17/16, 17/22
U.S. Cl. 156—132 1 Claim



A method of accurately positioning the bead bundles onto tire fabric in the building of pneumatic tires. The fabric is positioned on a separable drum and thereafter the end portions of the drum are removed. The overhanging fabric is turned under and locked in place along a beveled edge of the central drum by the return of the previously removed end drum portions. The bead bundles are then accurately slid over the end portions of the drum into position on the fabric contemporaneous with rotation of the drum thereby eliminating radial and lateral run-out.

3,510,376
STORAGE AND TRANSPORTING KIT
Edward Freire, El Monte, and Ian MacDonald Douglas, Claremont, Calif., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 493,999
Int. Cl. H01m
U.S. Cl. 136—181 14 Claims



A receptacle device for storing and transporting articles susceptible to damage having at least one chamber in which the article to be protected is retained and sealed.

3,510,377
METHOD AND APPARATUS FOR JOINING AN ELASTIC COVER SHEET TO A CONFIGURED CELLULAR SHEET
Alcide Mora, Varedo, Milan, Italy
Filed Dec. 29, 1965, Ser. No. 517,377
Claims priority, application Italy, Dec. 30, 1964, 27,679/64; Apr. 23, 1965, 9,023/65
Int. Cl. B29c 27/22
U.S. Cl. 156—212 13 Claims

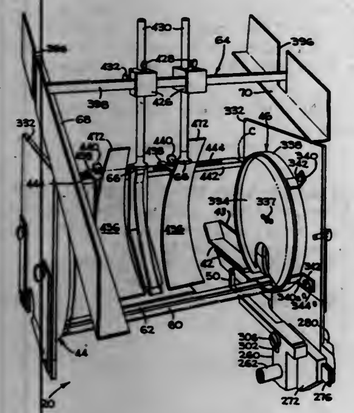
A process and apparatus for coupling a shaped sheet of elastic cellular material to an elastic covering sheet. The shaped sheet of cellular material is compressed between a pair of rotating rolls. The surface of the shaped face of the cellular sheet is melted when pressed between the pair of rolls, thereby forming an adhesive layer. The covering

sheet of elastic material is then applied to the adhesive layer. The cellular sheet and covering sheet are then com-



pressed together to cause the covering sheet to tightly adhere to the cellular sheet.

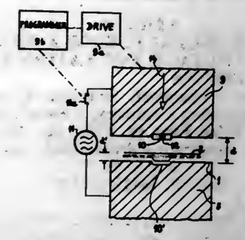
3,510,378
CYLINDER FABRICATING MACHINE
Forrest A. Kramer, Hatboro, Pa., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Mar. 21, 1967, Ser. No. 624,843
Int. Cl. B29d *23/10*
U.S. Cl. 156—218 12 Claims



The top sheet of a stack of blanks is fed to cylinder forming mandrels which are arranged to receive the opposite edges of the blank and form it into a cylinder. Before the cylinder is formed the top surface of the trailing end of the blank has adhesive applied thereto. Upon completion of the cylindrical form the leading end of the blank overlaps the trailing end and they are pressed together, thus joining the overlapped ends. This completes formation of the cylinder which is removed from the machine by moving the mandrels out of contact with the ends of the cylinder.

3,510,379
PROCESS AND APPARATUS FOR THE PRODUCTION OF SLIDE FASTENERS
Helmut Fichsberger, Essen, Germany, assignor to Opti-Holding AG, Glarus, Switzerland, a corporation of Germany
Filed Apr. 20, 1966, Ser. No. 543,974
Claims priority, application Germany, Apr. 23, 1965, O 10,815
Int. Cl. A41h *37/06;* A44b *19/36*
U.S. Cl. 156—221 2 Claims

A method of and apparatus for the formation of slide-fastener stringers with molded end-stop members in which a thermoplastic foil is heated at least to its flow temperature dielectrically in the absence of pressure. Only after such heating is the foil applied under pressure to the stringer and the desired end-stop formations are molded



therein in a series of discrete stages with immobilization of the shaping member between these stages.

3,510,380
LAMINATED FOAM ARTICLES AND METHOD OF MAKING THE SAME
Ernst Bittner, Frankfurt am Main, and Erich Schickedanz, Illereichen-Altenstadt, Germany, assignors to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Feb. 16, 1967, Ser. No. 616,679
Int. Cl. B32b *31/18*
U.S. Cl. 156—251 6 Claims

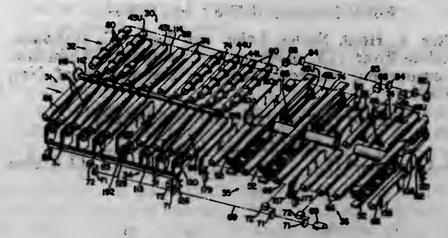


Method and apparatus for heat sealing one or more thermoplastic cover sheets to a base of a synthetic resin foam wherein a continuous web of the foam is advanced through a heating zone where it is combined with one or more cover sheets of thermoplastic material, and the resulting laminate is then heated to a temperature sufficient to soften the thermoplastic sheet material, whereupon the resulting laminate is severed by means of sold cutting dies which heat seal the edges of the sheet to the foam at the time of severing.

3,510,381
APPARATUS AND METHOD FOR MAKING LAMINATED PANEL MEANS
John D. Hollingsworth, Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 11, 1966, Ser. No. 533,604
Int. Cl. B32b *31/00;* B65g *57/00*
U.S. Cl. 156—313 21 Claims

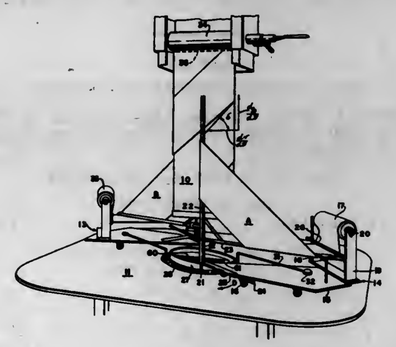
An apparatus and method for making laminated panel means such as honeycomb panels. The apparatus utilizes a single-deck horizontal conveyor cooperating with a double-deck horizontal conveyor arranged adjacent and parallel thereto. A rotary transfer device is used to move a top panel from the single-deck conveyor and hold such top panel means in suspended relation over a laminating position. A lateral transfer device is used to laterally move a bottom panel from the single-deck conveyor to the lower deck of the double-deck conveyor and to said laminating position. A central core is conveyed on the top deck of the double-deck conveyor to the laminating position with such

core being arranged beneath the top panel whereupon the top panel and core are dropped onto the bottom panel at the laminating position to form an associated honey-



comb panel. The conveyors provide substantially rectilinear movement of each panel means and of the completed honeycomb panel essentially in one direction to enable a more efficient materials handling operation.

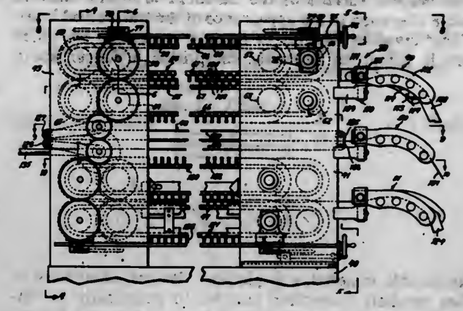
3,510,382
APPARATUS FOR CROSSLAYING FLEXIBLE WEBS
Ronald H. Wideman, Menasha, Jerome W. Riese, Neenah, and Anthony S. Hubin, Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,187
Int. Cl. B31c *3/00;* B65h *19/02, 19/06*
U.S. Cl. 156—425 12 Claims



A machine for spirally winding flexible webs onto a flat mandrel by means of web guides moving about the mandrel and moving toward and away from the central axis of the mandrel so that the velocity of the webs passing around the guides remains constant.

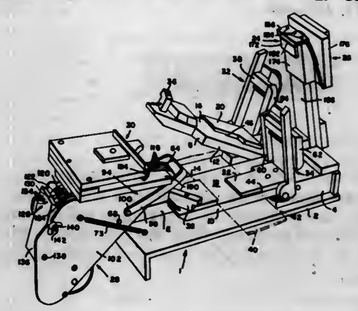
3,510,383
METHOD AND APPARATUS OF CORRUGATING
Joseph T. Yovanovich, Rosemont, Pa., assignor to National Tube and Reel Corporation, Belleville, N.J., a corporation of New Jersey
Filed Nov. 10, 1965, Ser. No. 507,191
Int. Cl. B31f *1/00, 1/20*
U.S. Cl. 156—462 8 Claims

A method and apparatus for corrugating substantially unyielding sheet material, such as paper, wherein a pair of endless bands carry slats movable into and out of interdigitated relation, and wherein adjacent slats of each band move toward each other upon movement into interdigitated relation with the slats of the other band for



gathering the sheet material to be corrugated with a minimum of relative movement between the slats and sheet to effectively eliminate rupture of the sheet.

3,510,384
FILM SPLICING APPARATUS
Norman J. Quarve, 3066 S. Buchanon St., Arlington, Va. 22206
Filed Oct. 31, 1966, Ser. No. 590,820
Int. Cl. B31f *5/06*
U.S. Cl. 156—505 19 Claims



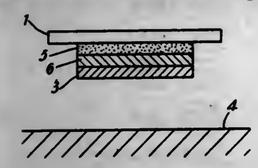
A film splicing device for applying an adhesive tape-type splice to sections of film to be joined wherein the film shearing and splicing tape dispensing means are relatively positioned so that the former provides a table surface on which film sections are retained and positioned after their transverse abutting edges have been trimmed and a predetermined length of tape withdrawn from the latter and deposited longitudinally of the abutting edges.

3,510,385
DRY TRANSFER ASSEMBLY
Alan Lennox Lythgoe and Bernard John Knowles, London, England, assignor to Letraset Limited, London, England, a British company
Filed Aug. 2, 1966, Ser. No. 569,673
Claims priority, application Great Britain, Aug. 3, 1965, 33,174/65
Int. Cl. C09j *7/02;* B32b *7/06*
U.S. Cl. 161—33 10 Claims

Transfer materials are described which comprise a carrier sheet, a plurality of transferable layers applied to the carrier sheet including at least one layer containing indicia, the outermost transferable layer being an adhesive layer and the innermost of the transferable layers being soluble or dispersible in an aqueous medium which has no substantial dissolving or dispersing action on its adjacent

layer. The transferable layers are formulated so that the application of an aqueous medium thereto after transfer to a receptor surface of the transferable layers causes a visible alteration in the appearance of the transferred layer.

This invention relates to transfer materials, by which term is meant an assembly comprising a carrier sheet,



transferable material, e.g. pictures, designs, characters or other symbols (hereafter referred to generically as "indicia") carried on said carrier sheet, and means for releasing the transferable material from the carrier sheet and securing it to a receptor surface. When so transferred it is referred to herein as the "transferred material."

3,510,386

ANTISTATIC CARPET STRUCTURE

Robert E. Gobas and Robert C. Britt, Chattanooga, Tenn., assignors, by mesne assignments, to GAF Corporation, a corporation of Delaware

Filed June 23, 1966, Ser. No. 559,883
Int. Cl. D05c *17/02*
U.S. Cl. 161—66 10 Claims



Antistatic textile products, particularly those having a pile type structure on one side of a woven layer, such as carpets, are produced by applying to one side only (e.g., the woven side rather than the pile side in the case of carpets), an antistatic composition consisting essentially of a mixture of

(a) an organic textile antistatic agent,

(b) a humectant which may be either an ionic humectant, such as glycerin, or a nonionic humectant such as calcium chloride, and

(c) when said humectant is a nonionic humectant, an electrolyte such as calcium chloride or sodium chloride and applying a polymeric backing coating over the antistatic layer, whereby the antistatic layer is disposed between the fibrous textile layer and the polymeric backing layer.

3,510,387

THIN, SUBSTANTIALLY DEFECT-FREE ORGANOPOLYSILOXANE MEMBRANE

Walter L. Robb, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Original application June 24, 1965, Ser. No. 466,698, now Patent No. 3,325,330, dated June 13, 1967. Divided and this application Jan. 9, 1967, Ser. No. 608,099
Int. Cl. B32b *3/10*
U.S. Cl. 161—112 4 Claims



A cured, solid, elastic composite membrane non-porous to gases is formed, which consists essentially of laminations of organopolysiloxane films, the total thickness of the composite membrane being less than about 2 mils.

3,510,388

EMBOSSABLE SHEET MATERIAL

Walter A. Hunt, Spring Lake, and Leroy C. Hofmann, Saddle River, N.J., assignors to Consolidated Aluminum Corporation, Jackson, Tenn., a corporation of New York

Filed Nov. 1, 1965, Ser. No. 505,844
Int. Cl. B32b *15/08*
U.S. Cl. 161—119 13 Claims



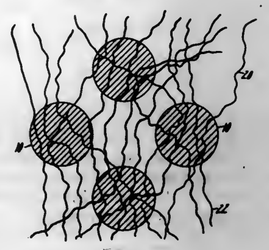
The disclosure relates to a multilayer embossable material which includes a base layer of paper having one surface sufficiently impervious so that when a vinyl compound is disposed thereon, the vinyl compound will form a substantially flat layer to which a sheet of metal foil is subsequently adhered. The embossable multilayer material provides for highly decorative designs to be embossed thereon and be substantially scratch resistant at normal room temperatures. Further, the decorative embossed material is characterized by the fact that the deforming of the metal foil occurs in the vinyl embossing bed without any resultant fracturing of the base paper layer.

3,510,389

SPOT-BONDED NONWOVEN FABRIC

Arthur R. Olson, Walpole, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts

Filed Aug. 3, 1965, Ser. No. 476,870
Int. Cl. D04h *1/04*
U.S. Cl. 161—148 2 Claims



A spot-bonded nonwoven fabric is made by supporting a web of textile-length fibers composed at least in part of thermoretractile fibers on a porous surface such as a screen. On the other surface of the web there is applied a screening member bearing a pattern of apertures, and a stream of heated gas is directed through the screening member and the web, to produce a spot-bonded nonwoven fabric wherein the fibers lying underneath the apertures are bonded to each other and are in a tensioned rectilinear configuration.

3,510,390

NONWOVEN FABRICS AND METHOD FOR MAKING SAME

Johan A. Bjorksten, Fitchburg, and Robert P. Cox, Madison, Wis., and Risto P. Leppala and Luther L. Yaeger, Houston, Tex., assignors, by mesne assignments, to Bjorksten Research Laboratories, Inc., Madison, Wis., a corporation of Wisconsin

No Drawing. Filed Jan. 30, 1967, Ser. No. 612,368
Int. Cl. D04h *1/54, 1/64;* B32b *5/08*
U.S. Cl. 161—150 14 Claims

A nonwoven fabric having a plurality of separate interlaced fiber networks is disclosed such that each fiber network comprises a preselected goup of fibers bonded together at substantially all points of contact with fibers of said group, and substantially free of significant bonding restraint at points of contact with fibers of other networks. Methods are also discloeed in which the fiber group are selectively bonded with solvents, adhesives, and/or heat treatment.

3,510,391

PERLITE BOARD BONDED TO ORGANIC PLASTIC FOAM

Lyle R. Bolster, La Canada, Harland E. Tarbell, Torrance, and Donald W. Mogg, Redondo Beach, Calif., assignors to Grefco, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 15, 1967, Ser. No. 638,629
Int. Cl. B32b *3/26, 5/18*
U.S. Cl. 161—160 10 Claims

A composite thermal insulation board having a U value of 0.2 or less and combining good mechanical properties with excellent flame resistance, has been made by covering at least one surface of a rigid, organic plastic foam layer having a thermal conductivity (K factor) of 0.4 or less and a thickness preferably within the range of ½ to 2 inches, with a perlite board having the following characteristics: K factor, 0.4 or less; thickness, preferably ¾ to 1 inch; perlite content, preferably 50 to 90% by weight; and organic phase content, preferably not more than 30% by weight. The other surface of the organic foam may be covered by any conventional facing as well as by perlite board, or it may remain uncovered.

3,510,392

GLASS NODULES IN CELLULAR POLYURETHANE

Dominic D'Eustachio, Pittsburgh, and Marshall M. Levy, Monroeville, Pa., assignors to Pittsburgh Corning Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of abandoned application Ser. No. 644,403, June 7, 1967, which is a continuation of abandoned application Ser. No. 318,850, Oct. 25, 1963. This application Sept. 16, 1968, Ser. No. 760,040
Int. Cl. B32b *5/16, 27/04, 33/00*
U.S. Cl. 161—162 6 Claims

This disclosure relates to a lightweight structural unit of substantially spherical cellular glass nodules in a continuous matrix of a cellular organic binder. The cellular glass nodules include a core of cellular glassy material formed from a plurality of small uniform cohered bubbles of glass and a relatively thin continuous outer skin of a chemically durable glassy material. The cellular glass nodules are impervious to liquids or gases, have a low density and a low thermal conductivity. The cellular glass nodules are bonded into a unitary structural member by a matrix composite of cellular polyurethane. The nodules are slightly displaced from each other by the polyurethane matrix if each nodule is coated before foaming commences and the structural member has high attenuation for elastic waves and serves as an acoustic absorber.

3,510,393

HOLLOW GLASS ARTICLE

Jerome A. Burgman, Pittsburgh, and Lester L. Margason, Cheswick, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

Continuation of application Ser. No. 462,706, June 9, 1965, which is a division of application Ser. No. 227,420, Oct. 1, 1962. This application Feb. 27, 1967, Ser. No. 618,594
Int. Cl. D02g *3/18*
U.S. Cl. 161—178 1 Claim



A strand of hollow glass fibers produced from a molten bath of glass and grouped together during their manufacture.

3,510,394

PRODUCTION OF WATER-LAID FELTED MINERAL FIBER PANELS INCLUDING USE OF FLOCCULATING AGENT

John E. Cadotte, St. Paul, Minn., assignor to Conwed Corporation, a corporation of Delaware

Continuation-in-part of applications Ser. No. 149,199, Nov. 1, 1961, and Ser. No. 193,299, May 8, 1962. This application Jan. 25, 1965, Ser. No. 427,545
Int. Cl. C04b *33/32;* D21f *11/04*
U.S. Cl. 162—145 2 Claims

2. The method comprising making a slurry consisting essentially of water, 100 parts of feltable fiber of which at least 75% are synthetic mineral fibers, from 10 to 250 parts of water-dispersible particulate ceramic material, and starch grains for binder, flocculating the slurry by adding a surface-active flocculating agent and thereby forming flocs suspended in substantially clear water, the amount of said surface-active agent being in the range from .013 to .073% of the dry weight of the suspended content of the slurry, dewatering the resulting suspension of flocs and thereby forming a wet mat of solids consisting essentially of a felted network of said feltable fibers and distributed in and carried thereby said particulate ceramic material and said starch grains, gelatinizing the starch in the wet mat, and forming a rigid handleable bonded porous dry mat by drying the resulting wet mat.

3,510,395

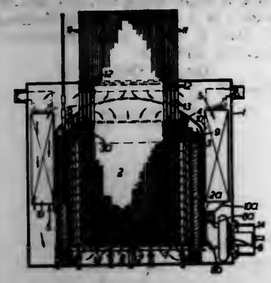
GAS-COOLED NUCLEAR REACTORS

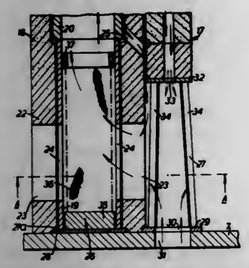
John Charles Bennett, Leatherhead, England, assignor to Atomic Power Constructions Limited, Sutton, Surrey, England, a British company

Filed Dec. 12, 1967, Ser. No. 689,822
Claims priority, application Great Britain, Dec. 14, 1966, 56,978/66
Int. Cl. G21c *19/04*
U.S. Cl. 176—59 8 Claims

A gas-cooled nuclear reactor which includes a pressure

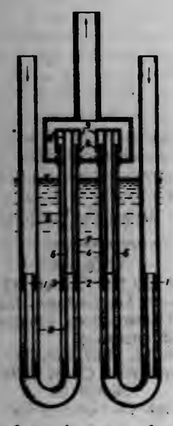
vessel, a biological shield within the pressure vessel, and a plurality of fuel element channels in the core, in which coolant gas passages are provided for the passage of all the coolant gas through the side walls of the fuel element





channels to the interior thereof at positions disposed above the base, the latter closing the lower ends of the channels to provide a shield against radiation downwardly along the channels.

3,510,396
FLOW CONTROL ARRANGEMENT IN A NUCLEAR REACTOR
Eberhard Winkler, Sprendlingen, Hess, and Rudolf Dörfler, Frankfurt am Main, Germany, assignors to Licentia-Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed Feb. 17, 1966, Ser. No. 528,131
Claims priority, application Germany, Feb. 17, 1965, L 49,981
Int. Cl. G21c 7/32
U.S. Cl. 176—61 9 Claims



The flow rate of a primary coolant through the fuel elements of a nuclear reactor is automatically controlled by a simple thermostatic control tube to minimize variations of temperature within the nuclear reactor. The thermostatic control tube acts as a conduit for the primary coolant and, by virtue of its temperature expansions and contractions, it also varies the coolant outlet area and thereby varies the flow rate of the coolant as a function of the coolant temperature.

3,510,397
SPACER FOR THE FUEL RODS OF THE FUEL ELEMENT OF A NUCLEAR REACTOR
Leif Zettervall, Hunden, Sweden, assignor to Aktiebolaget Atomenergi, Stockholm, Sweden, a company of Sweden
Filed Aug. 15, 1967, Ser. No. 660,786
Claims priority, application Sweden, Aug. 15, 1966, 11,052/66
Int. Cl. G21c 3/34, 3/30, 3/32
U.S. Cl. 176—78 3 Claims



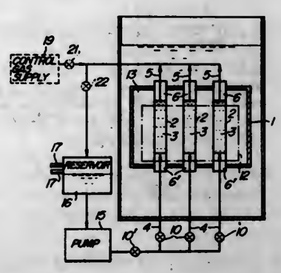
A useful spacer for holding the fuel rods of a nuclear reactor in their desired positions consists of a plurality of annular members fastened to each other, each annular member containing two rigid supports for the fuel rods, said supports consisting of portions of the annular member having been bent inwardly and a resilient support for the fuel rods.

3,510,398
BURNABLE POISON RODS
Phillip M. Wood, 513 Shady Ave., Apt. 22, Pittsburgh, Pa. 15206
Filed June 23, 1967, Ser. No. 648,390
Int. Cl. C03c 3/08; G21c 7/04
U.S. Cl. 176—86 2 Claims



Boron-containing glass in the form of tubes is used in a nuclear reactor as a source of burnable poison. The glass tubes are sandwiched between metallic inner and outer tubes forming a rod with an internal axial void.

3,510,399
CONTROL SYSTEM FOR FAST REACTORS
Shoichi Terazawa and Kotaro Inoue, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan
Continuation-in-part of application Ser. No. 531,845, Mar. 4, 1966. This application Sept. 5, 1967, Ser. No. 665,553
Claims priority, application Japan, Mar. 9, 1965, 40/13,261
Int. Cl. G21c 7/22
U.S. Cl. 176—86 8 Claims



A control system for a fast nuclear reactor comprising a core having a plurality of control tubes. At least a portion of the control tubes are arranged so as to be distributed exterior of the central portion of the core and means are provided for feeding a control material of liquid form to the control tubes. The level of liquid control material in the control tubes is controlled in a manner to assure that under all conditions of operation a space within the control tubes is left void of liquid control material at least within the exteriorly distributed control tubes. As a result spaces within the control tubes located exterior of the central portion of the reactor core are maintained void of liquid control material so as to provide radially extending paths from the central portion of the core which are void of liquid control material.

3,510,400
METHOD FOR OBTAINING SOLANUM ALKALOIDS AND SAPOGENINES FROM PLANT MATERIALS
Bjarte Löken, Santurce, Puerto Rico, and Irving V. Sollins, Rye, N.Y., assignors to Phytogen Products, Inc., Cagnas, Puerto Rico, a corporation of Delaware
No Drawing. Filed Apr. 26, 1966, Ser. No. 545,270
Int. Cl. C12c 11/00; C07c 173/00
U.S. Cl. 195—37 8 Claims
The present invention discloses a procedure for obtaining solanum alkaloids and sapogenins from plant material. The process involves carrying out acid hydrolysis at a pH in the range of pH 1.0–2.5 and at temperatures in the range of 110–145° C. The subsequent recovery is effected by neutralizing the reaction mixture to a pH in the range of pH 5–6 followed by filtration and subsequently extraction of the steroid content from the filter cake by means of a suitable organic solvent. If desired, the aqueous filtrate may be fermented to yield a yeast product and/or alcohol from the sugars and carbohydrates present therein.

3,510,401
PRODUCTION, RECOVERY AND APPLICATION OF ENZYMATICALLY ACTIVE MICROOGANISMS
Eugene H. Wegner, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 12, 1966, Ser. No. 549,472
Int. Cl. C12d 1/00
U.S. Cl. 195—51 9 Claims
Enzymatically active microorganisms adapted to the conversion of hydrocarbons by growth in relatively non-volatile hydrocarbons are substantially freed of such nutrient hydrocarbon by extraction with a relatively volatile hydrocarbon solvent having from 4 to 7 carbon atoms per molecule and residual solvent hydrocarbon is removed by suitable vaporization means without impairing the activity of said microorganisms.

Alicyclic hydrocarbons are oxidized to the corresponding oxidized products in the presence of microorganisms conditioned to hydrocarbons during the growth stage by including a different hydrocarbon as at least part of the nutrient during the growth stage.

The oxidation of hydrocarbons in the presence of microorganisms pre-conditioned to hydrocarbons during the growth cycle can be controlled and the product distribution modified under substantially non-growth conditions by the addition of a fermentable nutrient selected from carbohydrates and carboxylic acids to the oxidation system.

3,510,402
NONDISCRIMINATING PROTEINASE AND THE PRODUCTION THEREOF
William E. Marshall, Fort Snelling, Minn., assignor to The Regents of the University of Minnesota, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 24, 1966, Ser. No. 522,710
Int. Cl. C12d 11/00; C07g 7/02
U.S. Cl. 195—62 5 Claims
A new proteolytic enzyme having extremely broad substrate specificity and great hydrolytic activity against peptide bonds, and method of producing and isolating same from culture broth of *Penicillium notatum*.

3,510,403
CULTIVATION OF HYDROCARBON-CONSUMING MICRO-ORGANISMS
Bernard Maurice Laine and Charles L. Vernet, Lavera, Bouches de Rhone, France, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation
No Drawing. Original application Dec. 16, 1963, Ser. No. 330,528, now Patent No. 3,268,413, dated Aug. 23, 1967. Divided and this application May 17, 1966, Ser. No. 550,601
Claims priority, application Great Britain, Dec. 31, 1962, 49,061/62
Int. Cl. C12b 1/00; C12c 11/08
U.S. Cl. 195—82 5 Claims
An improved process of cultivating a microorganism in the presence of a hydrocarbon feedstock in a fermenter is provided which comprises forming a dispersion of the hydrocarbon feedstock in a liquid medium prior to feeding the feedstock to the fermenter, mixing the dispersion with the microorganism and thereafter feeding the mixture to the fermenter.

3,510,404
DOOR STRUCTURE FOR HORIZONTAL COKE OVENS
Paul Freund, Bochum, Germany, assignor to Dr. C. Otto & Comp. Gesellschaft mit beschränkter Haftung, Bochum, Germany
Filed Aug. 21, 1967, Ser. No. 662,125
Claims priority, application Germany, Aug. 25, 1966, O 11,902
Int. Cl. C01b 25/06
U.S. Cl. 202—248 5 Claims
A door structure for use with a door frame of a horizontal coke oven, in which the door body comprises vertically spaced horizontal locking beams for respectively lockingly engaging hook means connected to the door frame and exerting sealing engagement between the door frame and the door body through sealing strip means extending around the periphery of the door body while lever means are interposed between said locking beams

for equalizing the locking pressure exerted by the locking beams.

Provision of a plurality of vertically extending pressure transferring members respectively associated with the locking beams and operatively connected thereto



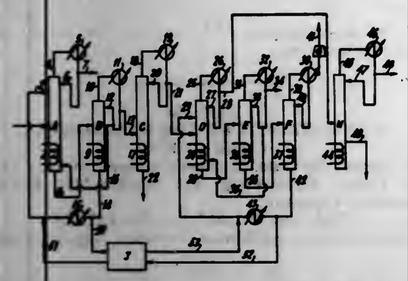
permits having their ends respectively arranged at levels higher and lower than the respective locking beam pertaining thereto and in operative engagement with the door body for conveying thereto the pressure at which the respective locking beams act upon the respective hook means pertaining thereto.

3,510,405

ISOPRENE PURIFICATION PROCESS

Susumu Takao, Kanagawa-ken, and Takeo Koide and Iwaki Mishikai, Toyama-ken, Japan, assignors to The Japanese Geon Co., Ltd., Tokyo, Japan

Filed Nov. 7, 1968, Ser. No. 774,062
Claims priority, application Japan, Nov. 11, 1967, 42/72,223; July 15, 1968, 43/49,067
Int. Cl. B01d *3/00, 3/40;* C07c *7/08*
U.S. Cl. 203—9 16 Claims



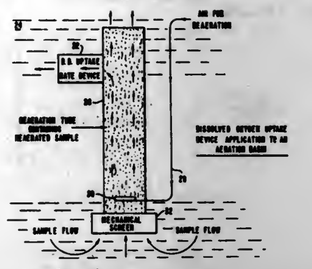
In extractive distillations of C_5 cuts with dimethylformamide solvent to produce pure isoprene, the cyclopentadiene impurity is kept below a few parts per million by controlling the concentration of dimer in the solvent, and avoiding the decomposition of dimer to cyclopentadiene monomer by handling the last stripping zone at reduced pressure to keep below 140° C.

3,510,406

METHOD AND APPARATUS FOR MEASURING RATE OF CONSUMPTION OF DISSOLVED GAS IN A LIQUID

Vernon T. Stack, Jr., Chadds Ford, Pa., assignor to Pennwalt Corporation, a corporation of Pennsylvania

Filed Nov. 17, 1964, Ser. No. 411,755
Int. Cl. G01n *27/54, 27/46*
U.S. Cl. 204—1 12 Claims



The rate of consumption of dissolved oxygen in biological oxidation systems is determined herein by detecting the concentration of dissolved oxygen in a sample at a first time, permitting the biological oxidation processes to proceed alone without permitting access of additional oxygen to the sample, and detecting the concentration of dissolved oxygen in a sample at a later time when oxygen consumption has proceeded substantially but has not reached complete oxygen consumption. The rate may be determined by successively passing samples from a first position to a second position, at a fixed rate, dissolved oxygen probes being located at the two positions. Signals from the probes are compared to provide an indication of rate of oxygen consumption. The signal from the first probe may be stored and then reproduced at a later time corresponding to the transit time of samples passing from the first probe to the second probe.

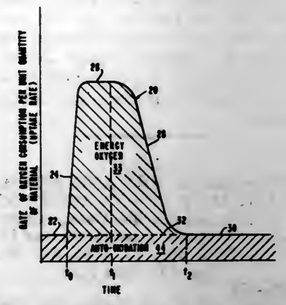
A positive displacement pump may also be employed to serve as a means for forcing samples of the liquid from the first probe to the second probe. The pump involves first and second screws of deformable resilient material, the screw faces of which engage each other in an interference fit.

3,510,407

METHOD OF DETERMINING CONSUMED OXYGEN

Vernon T. Stack, Jr., Chadds Ford, Pa., assignor to Pennwalt Corporation, a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 411,755, Nov. 17, 1964. This application Jan. 22, 1965, Ser. No. 427,296
Int. Cl. B01d *59/40*
U.S. Cl. 204—1 19 Claims



A determination of oxygen consumed in the stabilization of organic material is made by establishing a mixture

of a culture of microorganisms and organic material in which the organic material may be rapidly stabilized within a few hours time, for example, providing the mixture with a sufficient supply of oxygen to ensure the rapid stabilization of the organic material and detecting the rate of oxygen consumption in the mixture. The rate may be detected at a number of times during the rapid stabilization to provide for integration of the rate leading to an indication of total oxygen consumed in stabilization.

3,510,408

PROCESS FOR PRODUCING HIGH SURFACE AREA NICKEL POWDER

James P. Murdock, West Allis, and Dirk Poull, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

No Drawing. Filed Nov. 14, 1967, Ser. No. 682,992
Int. Cl. C22d *1/14, 5/00*
U.S. Cl. 204—10 10 Claims

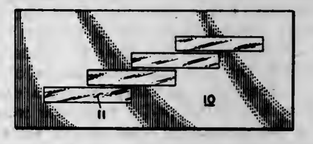
An electrochemical process for producing nickel powders having a surface area in excess of 10 $m.^2/gm.$ utilizing an aqueous electrolyte of ammonium hydroxide with a dissolved nickel salt and effecting an excessively high initial cathode current density of from 10,000 to 100,000 $amps/dm.^2$.

3,510,409

METHOD OF MAKING PRECISION MASKS

Achilles J. Lephakis, Princeton, and Kenneth G. Stephens, Dallas, Tex., assignors to LTV Electrosystems, Inc., Greenville, Tex., a corporation of Delaware

Filed Nov. 3, 1967, Ser. No. 680,507
Int. Cl. C23b *5/64;* C03c *17/06*
U.S. Cl. 204—15 6 Claims



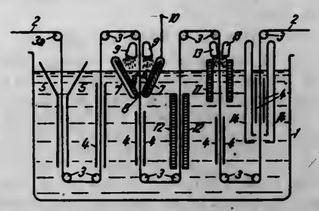
This invention provides a method of making a precision mask for use in forming printed circuits and the like. A transparent, nonconductive plate is coated with a conductive material, the coating is scribed to isolate particular areas from a background area, and the background area is electroplated until it is opaque.

3,510,410

PRODUCTION OF ELECTROLYTIC CONDENSERS

Harry Pierre Rosenthal, Mailand Via Giuseppe Frua 15, Milan, Italy, and Viktor Degenhart, Cologne, Germany (Klingsorstr. 10/43, Munich 61, Germany)

Filed July 5, 1966, Ser. No. 562,753
Claims priority, application Germany, July 16, 1965, B 82,863
Int. Cl. C23b *5/58;* B01k *3/00*
U.S. Cl. 204—28 13 Claims



A method of forming electrodes for electrolytic condensers, comprising the steps of continuously forming, electrolytically by a forming voltage, a forming layer on roughened aluminum foil strips in a forming apparatus including at least one electrolytic bath, reducing during a second half of the forming period the voltage over the previously produced forming layer, for a short period of time, to a fraction of the forming voltage, gradually increasing the voltage again, so that an additional forming current is produced, and continuing the forming until a desired residual current is obtained.

3,510,411

METHOD OF COMPLETELY IMPREGNATING A MEDIUM HARD ANODIZED SURFACE WITH MOLTEN STRAIGHT-CHAIN SATURATED ALIPHATIC COMPOUNDS AND THE PRODUCT THEREOF

Irvin R. Kramer, Baltimore, and Charles E. Burrows, Lutherville, Md., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Apr. 20, 1964, Ser. No. 361,252
Int. Cl. C23f *17/00;* C23b *9/02*
U.S. Cl. 204—38 13 Claims

A method of completely impregnating a medium hard anodized coating with a molten straight-chain saturated aliphatic compound having at least 5 carbon atoms per molecule, and each molecule having a terminal polar group of either an acidic, alcoholic or aminoic nature and the product formed by this process.

3,510,412

NITROUS OXIDE PRODUCTION

Szmuel Raviv and Shimon Malkiely, Beersheva, Israel, assignors to The State of Israel Ministry of Defence, Tel-Aviv, Israel

Filed Aug. 15, 1967, Ser. No. 660,698
Claims priority, application Israel, Sept. 5, 1966, 26,453
Int. Cl. B01k *1/00*
U.S. Cl. 204—103 3 Claims

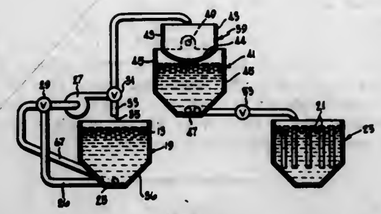
Electrolytic production of nitrous oxide in a circuit comprising an inert anode, a cathode of an electro-negative metal or alloy of the kind that is passivated by nitric acid, the electrolyte of the system being nitric acid. Electrolysis is conducted under conditions at which the cathode does not dissolve and nitrous oxide developes at the cathode.

3,510,413

PROCESS FOR RECOVERY OF SILVER FROM FILM

Eric S. Lindau, P.O. Box 483, Lake Forest, Ill. 60045

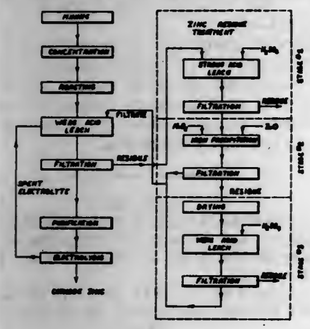
Filed Aug. 10, 1967, Ser. No. 659,799
Int. Cl. C22d *1/12*
U.S. Cl. 204—109 9 Claims



A system in which silver and the base material from photographic or X-ray films is reclaimed and in which large quantities of film are handled in an economical manner. The film is cut into small chips and the chips are disposed in a tank with a warm bath and they are agitated to remove the emulsion from the chip base material. The chips and bath may be pumped to and

from various tanks, and the chips are agitated by pumping some of the chips and bath to a position above the tank and discharging them back into the tank. After removal of the emulsion, the chips may be strained from the bath and the silver in the bath removed by plating the silver out on an electrode in a plating tank.

3,510,414
PROCESS OF RECOVERING METALS FROM ZINC PLANT RESIDUE
Bruno Orlandini and Walter Schmittroth, Kellogg, Idaho, assignors to The Bunker Hill Company, a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,524
Int. Cl. C22d 1/22; C22b 19/02; C01g 9/06
U.S. Cl. 204—119 10 Claims



A three stage process is described for recovering metals particularly zinc, from zinc plant residues. The zinc plant residue, in first stage, is first leached in strong sulphuric acid solution for 6–8 hours at a temperature between 90° C. and 94° C. to dissolve the zinc ferrites and other zinc compounds, and then settled or filtered to produce a first stage residue and solution. The first stage residue may be returned to a smelter for recovery of contained metal values. In the second stage, the clarified solution from the first stage is neutralized by a suitable neutralizing agent such as zinc oxide to reduce the acid concentration to a pH level of 5.0–5.3 to precipitate iron compounds and other impurities. After settling or filtering, a second stage residue and clarified solution are produced. The clarified solution is returned to the normal zinc plant leach tank for recovery of zinc values. The second stage residue is then dried by heating the residue to a temperature between 110° C. and 140° C. In the third stage, the dried residue is leached in a weak sulphuric acid solution to dissolve the contained zinc. The resulting leach pulp is filtered to produce a final low zinc containing residue, and a third stage filtrate which is returned to the normal zinc plant leach circuit.

3,510,415
MIXTURES OF POLYARYLENE POLYETHERS AND ALPHAOLEFIN/ACRYLONITRILE COPOLYMERS
Bruce P. North, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed June 22, 1967, Ser. No. 647,897
Int. Cl. C08f 1/24
U.S. Cl. 204—159.2 9 Claims

Alpha-olefin acrylonitrile copolymers are blended with thermoplastic polyarylene polyethers to yield mixtures characterized by improved notch impact strength.

3,510,416
PROCESS FOR THE DRY CHLORINATION OF POLYVINYL CHLORIDE IN THE PRESENCE OF GASEOUS HYDROGEN
Pietro Vaccari and Attilio Palvarini, Milan, Mario De Vita, Matera, and Pietro Peca, Macchia di Ferrandina, Italy, assignors to Manifattura Ceramica Pozzi S.p.A., Milan, Italy, a company of Italy
No Drawing. Filed July 16, 1969, Ser. No. 842,401
Claims priority, application Italy, July 20, 1968, 19,254/68
Int. Cl. C08f 43/00
U.S. Cl. 204—159.18 6 Claims

A process for the dry chlorination with gaseous chlorine is disclosed wherein the chlorination is carried out in the presence of a predetermined quantity of hydrogen, in order to increase the reaction velocity.

3,510,417
ELECTRODIALYSIS PROCESS FOR SELECTIVELY TRANSFERRING IONS OF THE SAME CHARGE
Yukio Mizutani, Reiichi Yamane, and Toshikatsu Sata, Tokuyama-shi, and Ryuji Izuo, Kudamatsu-shi, Japan, assignors to Tokuyama Soda Kabushiki Kaisha, Tokuyama-shi, Japan, a corporation of Japan
No Drawing. Original application Feb. 20, 1967, Ser. No. 617,077. Divided and this application May 5, 1969, Ser. No. 839,752
Claims priority, application Japan, Feb. 24, 1966, 41/10,759
Int. Cl. B01k 1/00; B01d 13/02
U.S. Cl. 204—180 13 Claims

An electrodialysis process using an ion permeable membrane which can effect the permeation selectively of the ion of smaller valence from among those having the same charge, a method of its manufacture, and also a method that selectively permeates the ion of smaller valence by the use of said membrane according to ordinary electrodialysis method. The said membrane can be obtained by applying an electrolytic substance having a dissociation constant of at least 0.001 and a molecular weight of at least 100 in the dissociated state to the surface of an ordinary ion-exchange membrane in an amount of at least 0.1 mg./dm.^{2}. The method of transferring the ion of smaller valence in one electrolytic solution to another solution comprises separating by means of the membranes of this invention an electrolytic solution containing at least two species of ions of different valence but of the same charge, and passing a direct current in series through said separated solutions and membranes.

3,510,418
ION SELECTIVE MEMBRANE
Yukio Mizutani, Reiichi Yamane, Toshikatsu Sata, Tokuyama-shi, and Ryuji Izuo, Kudamatsu-shi, Japan, assignors to Tokuyama Soda Kabushiki Kaisha, Tokuyama-shi, Japan a corporation of Japan
No Drawing. Filed Feb. 20, 1967, Ser. No. 617,077
Claims priority, application Japan, Feb. 24, 1966, 41/10,759
Int. Cl. B01k 1/00, 3/10; B01d 13/02
U.S. Cl. 204—181 12 Claims

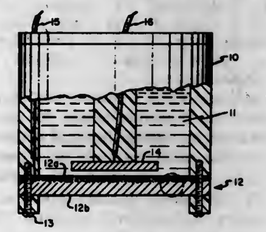
Ion permeable membrane which can effect the permeation selectively of the ion of smaller valence from among those having the same charge, a method of its manufacture, and also a method of selectively permeating the ion of smaller valence by the use of said membrane according to ordinary electrodialysis method. The said membrane can be obtained by applying an electrolytic substance having a dissociation constant of at least 0.001 and a molecular weight of at least 100 in the dissociated state to the surface of an ordinary ion-exchange membrane in an amount of at least 0.1 mg./dm.^{2}. The method of transferring the ion of smaller valence in one electrolytic solution to another solution comprises separating

by means of the membranes of this invention an electrolytic solution containing at least two species of ions of different valence but of the same charge, and passing a direct current in series through said separated solutions and membranes.

3,510,419
PHOTOELECTROPHORETIC IMAGING METHOD
Leonard M. Carreira, Webster, and Vsevolod Tsiagin, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 384,737, July 23, 1964, now Patent No. 3,384,565. This application July 13, 1967, Ser. No. 653,153
Int. Cl. B01k 5/00; G03g 13/22
U.S. Cl. 204—181 12 Claims

An electrophoretic imaging system wherein the imaging layer is a solid dispersion of photosensitive particles in a waxy matrix. Prior to exposure to imagewise actinic electromagnetic radiation the solid matrix in which the photosensitive particles are dispersed is melted allowing particles to migrate in response to an electric field forming a particle migration image.

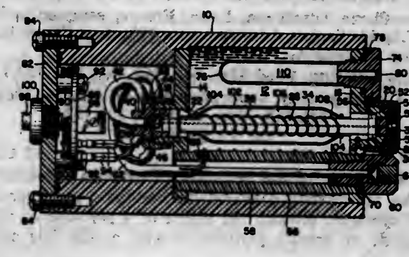
3,510,420
POLAROGRAPHIC CELL WITH COMPOSITE ELECTRODE-DIFFUSION MEDIUM
Frank S. Mills, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 24, 1967, Ser. No. 633,056
Int. Cl. G01n 27/54; B01k 3/04
U.S. Cl. 204—195 8 Claims



A composite electrode-diffusion medium, for use with electrochemical cells particularly of the polarographic oxygen sensing type, consisting of a selectively permeable polytetrafluoroethylene membrane containing a microapertured layer of gold particles.

3,510,421
POLAROGRAPHIC CELL
Arthur E. Gealt, Philadelphia, Pa., assignor to Honeywell, Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 12, 1967, Ser. No. 645,107
Int. Cl. G01n 27/54, 27/46
U.S. Cl. 204—195 5 Claims

A polarographic cell is shown for measuring the amount of dissolved oxygen within a fluid having first and second electrode arranged within a hollow cylindrical housing closed by a cover plate at each end for forming a chamber. The first electrode mounts on the end of a rod extending through the chamber, while the second electrode is helically wound about the rod within the chamber. A cylindrical filter attached at each end to the outer surface of the rod encloses the second helical electrode. Passage of current through the electrolyte within the chamber causes the gradual deterioration of the helical electrode whereby the insoluble particles thus precipitated are trapped by the subchamber formed by the filter. This prevents the particles from entering the electrolyte within the chamber and causing an obstruction in the area of the first electrode. A differential pressure bladder is arranged within the electrolyte having an

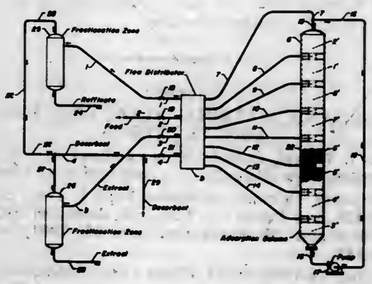


inner enclosure which communicates with the fluid containing the dissolved oxygen. A temperature sensitive resistance element is arranged within the fluid next to the first electrode. A third electrode is arranged within the electrolyte for trapping oxygen initially dissolved therein.

3,510,422
COMPOSITE SILICATE-ZEOLITE CATALYST
Edward L. Cole, Fishkill, Edwin C. Knowles, Poughkeepsie, and Eugene E. Senaul, Beacon, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 11, 1967, Ser. No. 666,940
Int. Cl. C10g 11/02; B01 11/40
U.S. Cl. 208—120 15 Claims

The catalysts are composed of crystalline aluminosilicate zeolites in a lamellar nickel, cobalt or magnesium silicate matrix. The composition is prepared from metal silicate gels having high silica ratios by reacting the gel with a source of alumina and alkali thereby forming the zeolite, in situ, within the gel. The catalytic properties of the composition render it particularly applicable in numerous hydrocarbon conversion processes including hydrocracking, catalytic cracking, hydrofining and isomerization.

3,510,423
OLEFIN SEPARATION PROCESS
Richard W. Neuzil, Downers Grove, and Armand J. De Rosset, Clarendon Hills, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Apr. 5, 1968, Ser. No. 719,089
Int. Cl. C10g 25/04; C07c 11/02
U.S. Cl. 208—310 14 Claims



An isothermal, continuous, simulated moving bed process for the separation of olefins from a paraffin containing

feed mixture. The adsorbent utilized in said process comprises a crystalline aluminosilicate.

3,510,424
DESTRUCTION OF DISSOLVED CYANIDES
Jean-Pierre Zanabrusan, Lyon, France, assignor to L'Air Liquide Societe Anonyme pour l'Etude et l'Exploitation des Procedes George Claude
No Drawing. Filed May 24, 1968, Ser. No. 731,731
Claims priority, application France, Jan. 16, 1968, 136,068; Mar. 14, 1968, 143,792
Int. Cl. C02b 1/34
U.S. Cl. 210—63 12 Claims

A method for the treatment of effluents in which cyanides are directly converted to non-toxic and hydrolyzable cyanates, through the action of a peroxide of the inorganic or organic peroxoacid type, as the free acid or as a salt.

3,510,425
OIL MIST LUBRICATION PROCESS AND NOVEL LUBRICATING OIL COMPOSITION FOR USE THEREIN
Timothy C. Wilson, 5520 5th Ave., Pittsburgh, Pa. 15232
No Drawing. Filed June 23, 1967, Ser. No. 648,233
Int. Cl. C10m 1/48, 1/28; C09k 3/30
U.S. Cl. 252—46.6 6 Claims

Novel mineral lubricating oil compositions are prepared for special use as mist oils. A mineral lubricating oil containing from about 0.05 to about 3.5 wt. percent of a polyester (80,000–150,000 number average molecular weight) of at least one C_{12} to C_{20} alkyl monohydric alcohol esterified with acrylic acid or methacrylic acid is converted into an aerosol, pneumatically transported in that form to a zone to be lubricated, and reclassifying said aerosol in said zone so as to coalesce at least 90% of the oil droplets within said lubrication zone.

3,510,426
LUBRICANTS COMPRISING ALKYL PHOSPHITES AND SULFURIZED OLEFINS
Andrew G. Papay, Woodbury, N.J., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 593,376, Nov. 10, 1966. This application Dec. 10, 1968, Ser. No. 782,732
Int. Cl. C10m 1/48, 1/38, 5/24
U.S. Cl. 252—46.6 3 Claims

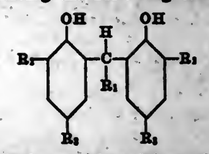
Lubricant compositions are provided which contain a small amount, sufficient to impart extreme pressure properties thereto, of a mixture comprising, in synergistic proportions, an alkyl phosphite and at least one sulfurized olefin selected from the group consisting of sulfurized butylenes and sulfurized dipentene.

3,510,427
ORGANIC MATERIAL STABILIZED WITH BENZYL ETHERS
Calvin J. Worrel, Detroit, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Original application Sept. 1, 1961, Ser. No. 135,418, now Patent No. 3,346,648, dated Oct. 10, 1967. Divided and this application June 15, 1967, Ser. No. 646,185
Int. Cl. C08f 45/58; C10m 1/38; A23d 5/04
U.S. Cl. 252—48.2 20 Claims

Organic material is stabilized by dihydrocarbylhydroxybenzyloxy alkanes including thiobenzyloxy analogs and hydroxy- and mercaptan-substituted alkanes.

3,510,428
LUBRICATING COMPOSITION
William Diddens, Latrobe, Earl E. Fisher, Valencia, and Garnet L. Karner, Monroeville, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Dec. 22, 1967, Ser. No. 692,633
Int. Cl. C10m 1/38; B01j 1/16
U.S. Cl. 252—48.2 7 Claims

An oxidation-resistant composition for lubricating gas-fueled engines comprises (1) a major amount of a mineral lubricating oil; (2) a small amount of a bis(hydroxyphenyl)alkane having the following structural formula:



where R_1 is a substituent selected from the group consisting of hydrogen and alkyl radicals containing from 1 to 3 carbon atoms, R_2 is a substituent selected from the group consisting of secondary and tertiary alkyl radicals containing from 4 to 8 carbon atoms and R_3 is a substituent selected from the group consisting of alkyl radicals containing from 1 to 4 carbon atoms; and (3) a small amount of sulfurized diisobutylene.

3,510,429
VINYLIDENE FLUORIDE POLYMERS AS PROTECTIVE BARRIERS AGAINST INTENSE THERMAL RADIATION
Hyman Isenson, Trenton, N.J., and Francis Frederick Koblitz, Erdenheim, Pa., assignors to Pennwalt Corporation, a corporation of Pennsylvania
No Drawing. Filed June 17, 1966, Ser. No. 558,275
Int. Cl. C04b 43/12; E04b 1/74
U.S. Cl. 252—62 5 Claims

Personnel, materials, structures and equipment are protected from the injurious effects of short-time, concentrated exposure to intense thermal radiation by interposing between the substrate to be protected and the source of the intense thermal radiation a barrier comprised of a layer of vinylidene fluoride polymer containing dispersed therein from about 2 to about 70% by weight of a nonflammable, energy-reflective, light colored pigment.

3,510,430
COMPOSITIONS FOR TREATING ALUMINUM SURFACES
Floyd L. Mickelson and Robert W. Bland, Chicago, Ill., assignors to The Diversey Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed May 22, 1967, Ser. No. 640,370
Int. Cl. C09k 3/00
U.S. Cl. 252—79.1 8 Claims

Provided are compositions and solutions containing ferric sulfate, an alkali metal bisulfate, an alkali metal nitrate and an alkali metal silicofluoride for desmutting aluminum surfaces.

3,510,431
HIGH TEMPERATURE SYNTHETIC ESTER BASE LUBRICANT COMPOSITION BLENDS WITH LIQUID DIESTERS OF DIHYDROXY BIPHENYLS
Tai S. Chao, Homewood, Ill., and Manley Kjonaas, Hammond, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 24, 1967, Ser. No. 662,902
Int. Cl. C10m 3/20
U.S. Cl. 252—57 9 Claims

Esters of certain branched chain fatty acids containing a quaternary carbon atom and dihydroxy biphenyls are

employed as base fluids or blending stock in lubricants. Lubricants containing these esters possess suitable viscosity characteristics and greater thermal and oxidative stability and are of special value in lubricating engines which are subject to high temperatures.

3,510,432
NONCORROSIVE RUST REMOVER
Albert T. Squire, 7 Tamarack Lane, Elmora, N.Y. 12065
No Drawing. Filed Feb. 3, 1966, Ser. No. 524,814
Int. Cl. C11d 7/08, 7/32, 7/26
U.S. Cl. 252—146 6 Claims

This invention relates to a cleaning agent, in the form of a liquid or paste, for removing oxides from oxidized surfaces of metal articles.

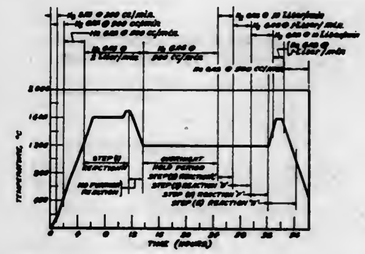
The cleaning agent in the form of a liquid consists of an acidic aqueous solution containing as essential components water, ammonium citrate, sulfuric acid, sodium phosphate and an anti-mold agent. The gel form of the cleaning agent contains the aforementioned components plus a gel imparting agent.

3,510,433
WATER TREATING COMPOSITION AND METHOD
Anthony F. Panowicz, Mount Prospect, Ill., assignor to Wright Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Continuation-in-part of application Ser. No. 409,995, Nov. 9, 1964. This application June 5, 1967, Ser. No. 643,364
Int. Cl. C02b 1/02, 5/10
U.S. Cl. 252—180 13 Claims

A water treating composition particularly adapted for biocidal treatment in industrial water systems wherein only minimal quantities of foam can be tolerated which is composed of a biocide constituent, a defoamer constituent normally immiscible therewith, and a modified cellulose polymer which is present in a quantity sufficient to enable the normally immiscible biocide and defoamer constituents to form an emulsion which remains stable for extended periods of time. The biocide constituent generally includes at least one or more quaternary ammonium compounds and/or organic amines which while exhibiting effective biocidal properties in such industrial water systems tend to produce foam therein. The defoamer constituent generally includes a polysiloxane defoamer and, in a preferred embodiment of the present invention, includes both a polysiloxane defoamer and a second defoamer selected from the group consisting of tris (2-ethylhexyl phosphate and tridecyl alcohol. The modified cellulose polymer is characterized by viscosity producing characteristics such that, when present in an aqueous solution in a concentration of 2% by weight, it produces a viscosity for such solution of at least 25 cps. Preferably, the modified cellulose polymer includes at least one cellulose ether selected from the group consisting of methyl ether cellulose, propylene glycol ether cellulose, hydroxyethyl ether cellulose, hydroxypropyl ether cellulose, and methyl ether propylene glycol ether cellulose. If desired, the modified cellulose polymer can be supplemented with suitable emulsion stabilizers which function to gell and/or thicken the emulsion, such as, for example, the modified galactomannan gums and mineral clays.

The biocide constituent, defoamer constituent and modified cellulose polymer are usually combined with a diluent such as water or a suitable alcohol for providing single stream administration of the composition in an industrial water system to be treated. The relative concentrations of the biocide constituent to the defoamer constituent generally range from approximately one part defoamer for each half part biocide to one part defoamer for each 50 parts of biocide. In the preferred embodiment of the present invention wherein the defoamer constituent consists essentially of the polysiloxane defoamer and a second defoamer selected from the group consisting of tris (2-ethylhexyl) phosphate and tridecyl alcohol, the ratio of the weight concentrations of polysiloxane defoamer to the second defoamer ranges from approximately one part polysiloxane defoamer for each two parts of the second defoamer to one part polysiloxane defoamer for each 200 parts of the second defoamer. Preferably, however, in such compositions the defoamer constituent is composed of approximately one part polysiloxane defoamer for each 20 parts of tris (2-ethylhexyl) phosphate and/or tridecyl alcohol.

3,510,434
METHOD OF PREPARING A NITRIDE NUCLEAR REACTOR FUEL
Edward T. Weber, Kennewick, and Wilbur O. Greenhalgh, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed June 6, 1968, Ser. No. 735,141
Int. Cl. C09k 3/00; C01g 43/00
U.S. Cl. 252—301.1 8 Claims



A process is disclosed for preparing single-phase particles of uranium nitride, plutonium nitride or uranium-plutonium nitride. Very finely divided uranium oxide, plutonium oxide, or a mixture of the two is intimately mixed with finely divided carbon. The mixture is then reacted with flowing nitrogen at a temperature in the range 1500° to 1700° C., until evolution of carbon monoxide ceases, in a reactor made of a refractory material, e.g., tungsten, which is inert to the reactants. The product is then purified by heating with hydrogen at 1000° C. to 1200° C. to remove free carbon, heating with nitrogen at 1000° C. to 1200° C. to displace combined carbon from any carbides or carbonitrides, again heating with hydrogen to remove the carbon thus freed, and heating with an inert gas at a temperature of at least 1500° C. to decompose any higher nitrides, e.g., U_2N_3, which have been formed. The material is then cooled in a flow of inert gas. The uranium-plutonium nitrides are particularly desirable as fast reactor fuels.

3,510,435
METHOD OF PRODUCING OPAQUE ENCAPSULATED MATERIALS
Gloria F. Sirine, Palo Alto, Calif., assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
No Drawing. Filed Nov. 17, 1967, Ser. No. 683,805
Int. Cl. B01j 13/02
U.S. Cl. 252—316 9 Claims

This invention relates to a technique of encapsulating water-insoluble materials by coacervation, wherein an aqueous solution of a negative polymer and a positive polymer is prepared, the water-insoluble material is dispersed in the solution and the system is caused to form a coacervate which encapsulates the particles or droplets

of dispersed material. The dispersed material becomes the internal phase of the capsules. This technique is modified in accordance with the invention to render the capsule walls opaque to protect the internal phase from sunlight or to conceal the internal phase. This is done by incorporating carbon black in the walls of the capsules under conditions such that an adequate amount of carbon black is dispersed in the capsule walls in highly dispersed condition, and such that the walls are made opaque, such being accomplished without interference with the coacervation-encapsulation process and without detriment to the capsule walls.

3,510,436

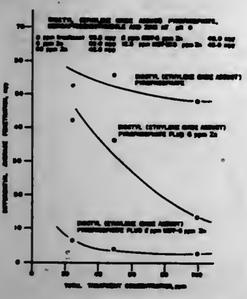
CORROSION INHIBITION IN WATER SYSTEM

Ronald M. Silverstein, Parsippany, N.J., and Chester A. Hulsed, North Hills, and Joseph T. Matey, Levittown, Pa., assignors to Betz Laboratories, Inc., Trevose, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 450,220, Apr. 22, 1965. This application Oct. 31, 1968, Ser. No. 772,354

Int. Cl. C23f 11/08, 11/10, 11/18

U.S. Cl. 252—389 21 Claims



The present disclosure relates to corrosion inhibition in water systems, particularly industrial water systems and especially those in which circulating water is present. According to the present invention, a composition comprising at least one water-soluble, organic derivative of an acid of phosphorus in combination with a water soluble zinc compound and/or mercaptobenzothiazole is added to the system to be treated.

3,510,437

BASIC NITROGEN POLYCONDENSATES AND DYE-RECEPTIVE POLYOLEFIN COMPOSITIONS CONTAINING SUCH POLYCONDENSATES

Alberto Bonvicini and Giuseppe Cantatore, Terni, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

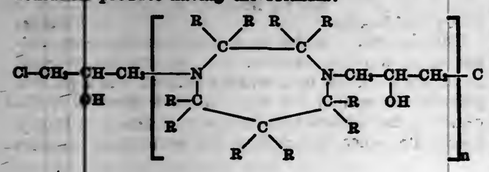
No Drawing. Filed May 22, 1967, Ser. No. 640,336

Claims priority, application Italy, May 27, 1966, 12,363/66

Int. Cl. C08d 33/06

U.S. Cl. 260—2 2 Claims

New basic polycondensates obtained by reacting the condensation product of epichlorohydrin and a heterocyclic seven-membered disecondary diamine, this condensation product having the formula:



wherein R radicals are the same or different radicals selected from the group consisting of hydrogen and alkyl radicals having 1–12 carbon atoms, and n is an integer from 1 through 100, with a polyamine containing primary amino groups of the type

$$R—HN \ldots X \ldots NH_2$$

where R is H, an alkyl group or a residue of a heterocyclic nucleus and X is a residue of a bivalent hydrocarbon, optionally containing S, N, O, etc., for example, hexamethylenediamine, ethylenediamine, diethylenetriamine, tetraethylenepentamine, aminoethylpiperazine N-methylhexamethylenediamine, N-isopropylhexamethylenediamine, 3,3-diaminodipropylether, 3,3'-diaminodiphenylmethane, N,N'-bis-(3-amino-propyl)piperazine, and the like.

Dye-receptive compositions, preferably in the form of textile fibers, comprising 1–25% by weight of the above polycondensate and, correspondingly, 99–75% by weight of a synthetic polymer, e.g., a polyolefin.

3,510,438

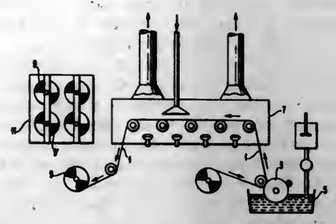
MOISTURE SENSITIVE FILLERS IN POLYMER MATRIX WRITING ELEMENTS

Hugh T. Findlay and William H. Horne, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 635,864, May 3, 1967. This application Aug. 5, 1968, Ser. No. 750,295

Int. Cl. B41m 5/10; C08j 1/14

U.S. Cl. 260—2.5 1 Claim



Polymer matrix writing elements, having high porosity and excellent ink release, include a porous polymer matrix, containing in its pores globules of a fluid transfer ink which is expressable under pressure and at least 10% by weight of a finely divided, particulate, organic, moisture sensitive filler material such as woodflour.

3,510,439

STRUCTURAL ADHESIVES

Thomas F. Kaltenbach, Wayne, and Paul E. Wright, St. Clair Shores, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed Dec. 1, 1967, Ser. No. 687,109

Int. Cl. C08g 45/12

U.S. Cl. 260—18 6 Claims

A single or multipart adhesive formulation having an overall composition including a polyurethane prepolymer formed by the reaction between toluene diisocyanate and a polyalkylene ether or ester glycol and characterized by an isocyanate content of from 4–10%, a low molecular weight liquid epoxy resin, a solid primary diamine and the naphthenate, tallate or octoate salt of manganese, zinc, iron or lead may be rapidly cured by heating to a suitable temperature to form a strong humidity-resistant adhesive bond between members of metal, glass, rubber, synthetic resins and the like.

3,510,440

CORROSION PREVENTING COMPOSITIONS

Robert Edward Campbell, Doncaster, England, assignor to British Ropes Limited, Doncaster, England, a British company

No Drawing. Filed Oct. 18, 1965, Ser. No. 497,478

Claims priority, application Great Britain, Dec. 1, 1964, 48,711

Int. Cl. C09d 5/08

U.S. Cl. 260—23 27 Claims

Thin flakes of platelets of organic or inorganic material are first mixed with smaller sized lead or tin containing particles and milled so as to produce a thin continuous lead or tin containing film completely encapsulating the flakes. The coated flakes then are dispersed in a medium which at room temperaure is viscous and polymerizable and the composition used to coat wire, wire strands or wire ropes to protect the same against corrosion.

3,510,441

VINYL CHLORIDE POLYMERS STABILIZED WITH MIXTURES CONTAINING A METAL SALT, PHOSPHITE, PHENOL AND THIODIPROPIONATE

Elwood E. Huntzinger, Springfield, Pa., assignor to Air Products and Chemicals Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Feb. 4, 1966, Ser. No. 525,100

Int. Cl. C08f 45/58, 45/62

U.S. Cl. 260—23 4 Claims

Conventional polyvinyl chloride skins contacting polyurethane foam tend to discolor when exposed to ultraviolet light, the amine catalyst of the polyurethane apparently migrating into and overcoming the effect of conventional stabilizers. A stabilizer additive including four components, a phosphite ester, a salt of a Group II metal, a hindered phenol, and dilauryl thiodipropionate imparts light stability to the polyvinyl skin contacting the amine-catalyzed polyurethane.

3,510,442

RUBBERY ALKYL ACRYLATE COPOLYMERS

David Calder Chalmers, Sarnia, Ontario, Canada, assignor to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate and politic

No Drawing. Filed Dec. 23, 1966, Ser. No. 604,131

Claims priority, application Canada, Jan. 17, 1966, 949,961

Int. Cl. C08f 15/40

U.S. Cl. 260—23 12 Claims

Solid rubbery copolymers comprise 85 to 99 parts by weight of an alkyl acrylate, either alone or in a mixture with an alkoxyalkyl acrylate or alkylthioalkyl acrylate, 0.1 to 10 parts by weight of a haloalkyl alkenyl compound and 0.1 to 5 parts by weight of an unsaturated monoepoxide compound. Such copolymers have good cure rates and oil-resistance.

3,510,443

FILLED EPIHALOHYDRIN POLYMER

Edwin J. Vandenberg and William D. Willis, Wilmington, Del., assignors to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Apr. 26, 1966, Ser. No. 545,263

Int. Cl. C08g 51/04; C08k 1/08

U.S. Cl. 260—37 9 Claims

A cross-linked, siliceous-filled epihalohydrin homopolymer or copolymer with at least one other exopide is improved by the addition of an epoxy- or halo-substituted silane either before or during compounding. These products have increased modulus and tear strength as well as better flex life and improved elastic recovery.

3,510,444

FILLED EPIHALOHYDRIN POLYMERS

Edwin J. Vandenberg and William D. Willis, Wilmington, Del., assignors to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Apr. 26, 1966, Ser. No. 545,264

Int. Cl. C08g 51/04; C08k 1/08

U.S. Cl. 260—37 10 Claims

A cross-linked, siliceous-filled epihalohydrin homopolymer or copolymer with at least one other epoxide is improved by the addition of an amino- or mercapto-substituted silane either before or during compounding. These products have increased modulus and tear strength as well as better flex life and improved elastic recovery.

3,510,445

FORTIFIED PHENOLIC RESINS

Earl H. Rosenbrock, Auburn, and James D. Doedens, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 1, 1965, Ser. No. 444,804

Int. Cl. C08g 51/04, 5/06

U.S. Cl. 260—38 11 Claims

Fusible phenol-aldehyde resins are fortified with alkoxymethyl diaryl oxides wherein the aryl group is a hydrocarbon of the benzene series and the alkyl group is a hydrocarbon having from 1 to 4 carbons. The fortified resins have improved flexibility and toughness as well as higher resistances to shock, chemical attack and high temperatures.

3,510,446

FIRE-PREVENTIVE STRUCTURAL MATRIX AND PROCESS OF MAKING THE SAME

Hans Jünger and Franz Weissenfels, Siegburg, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany

Continuation-in-part of application Ser. No. 521,497, Jan. 19, 1966. This application May 16, 1968, Ser. No. 729,643

Int. Cl. C08g 51/04

U.S. Cl. 260—38 15 Claims

A fire-spreading preventive structural matrix is formed by (1) wetting a plurality of oxide-containing inorganic particles with a heat stabilizing agent containing a boron or silicon substance capable of forming an enamel-like reaction product with the particles at elevated temperatures, (2) packing the particles in an array so that each particle-to-particle contact site is bridged by the heat stabilizing agent, and (3) filling the interstices between the particles with a synthetic resin binding material to bind the particles in their positions in the array, and thereby fix the configuration of the structural matrix formed therefrom.

3,510,447

UNSATURATED POLYESTERS WITH ITACONIC ACID ESTERS

Pierre Bourguignon, Melle, France, assignor to Les Usines de Melle (Societe Anonyme), Melle, Deux-Sevres, France, a corporation of France

No Drawing. Filed Apr. 27, 1965, Ser. No. 451,333

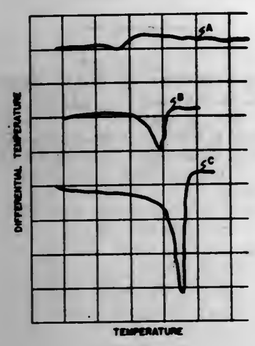
Claims priority, application France, Apr. 29, 1964, 972,895

Int. Cl. C08g 39/06, 51/10

U.S. Cl. 260—40 8 Claims

The disclosure describes polymerizable compositions containing polyenesters, lower alkyl itaconic esters, and glass fibers with the possible addition of vinyl modifiers. The compositions are such that upon curing the index of refraction of the resulting cured polymer is substantially the same as that of the glass fibers.

3,510,448
ETHYLENE/ACRYLATE ESTER COPOLYMERS CONTAINING FILLERS
William H. Byler, Overland Park, and George E. Hann, Leawood, Kans., and Harry D. Anspon, Kansas City, Mo., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 50,882, Aug. 22, 1960. This application May 4, 1964, Ser. No. 364,541
Int. Cl. C08f 45/08, 45/04
U.S. Cl. 260—41 1 Claim



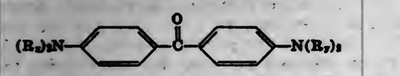
1. A composition consisting essentially of a copolymer of ethylene and ethyl acrylate, and carbon black in an amount of from about 30 percent by weight to about 50 percent by weight based on the weight of said copolymer and said carbon black.

3,510,449
POLYPIVALOLACTONE COMPOSITIONS STABILIZED WITH MERCAPTANS
Syoichi Nagato, Juro Suzuki, and Hiroshi Miki Saitama, Japan, assignors to Daicel Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Dec. 20, 1967, Ser. No. 691,953
Claims priority, application Japan, Dec. 20, 1966, 41/83,359
Int. Cl. C08g 51/58
U.S. Cl. 260—45.7 3 Claims

A high molecular weight polypivalolactone and process of making same in which an aliphatic mercaptan having more than five carbon atoms or an aromatic mercaptan is incorporated in the polypivalolactone in order to protect same against thermal degradation and oxidation.

3,510,450
MELT STABILIZED POLYESTERS CONTAINING AMINOBENZOPHENONES
Mary J. Stewart, Media, and Otto K. Carlson, Marcus Hook, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Feb. 23, 1968, Ser. No. 707,426
Int. Cl. C08g 51/60
U.S. Cl. 260—45.9 6 Claims

A thermal stabilized polyester composition comprising a saturated linear polyester and a thermal stabilizer selected from those represented by the formula

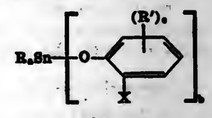


wherein R_x and R_y are lower alkyl radicals having from 1 to 6 carbon atoms.

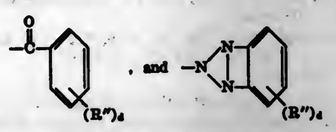
3,510,451
STABILIZED POLYPROPYLENE COMPOSITIONS
Toshio Seki, Osaka-shi, and Kazuharu Suzuki, Kobe-shi, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Nov. 8, 1967, Ser. No. 681,555
Claims priority, application Japan, Nov. 8, 1966, 41/73,032
Int. Cl. C08f 45/58
U.S. Cl. 260—45.75 23 Claims

This invention relates to a heat and light resistant polypropylene composition comprising a polypropylene and, as the stabilizing mixture therefor,

about 0.01% to about 5.0% by weight of the polypropylene of (a), as an ultraviolet absorber, a compound of the formula



wherein R is a radical selected from the group consisting of alkyl of 1–12 carbon atoms, cycloalkyl, aryl, and benzyl, X is selected from the group consisting of residues of the formulae



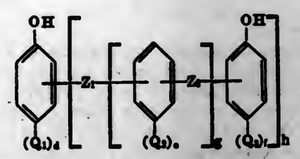
R′ and R″ are each selected from the group consisting of alkyl of 1–12 carbon atoms, alkoxyl of 1–12 carbon atoms, phenyl, and oxygen exhibiting a direct bond to said Sn atom, *a* and *b* are each an integer from 1 to 3, and *c* and *d* are each an integer from 0 to 2;

about 0.01% to about 5.0% by weight of the polypropylene of (b), as an anti-discoloring agent, a compound of the formula

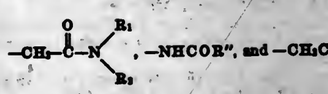
$$(RO)_3P$$

wherein R is selected from the group consisting of hydrogen, alkyl of 1–18 carbon atoms, phenyl, alkaryl, and benzyl;

about 0.01% to about 2.0% by weight of the polypropylene of (c), as antioxidant, a compound of the formula



wherein Q_1, Q_2, and Q_3 are each selected from the group consisting of hydroxyl, alkyl, of 1–12 carbon atoms, alkoxyl of 1–12 carbon atoms, and radicals of the formulae



in which when not less than two radicals of each of Q_1, Q_2, and Q_3 attach to a benzene nucleus, they may be the same or different and R′, R″, R_1, and R_2 are each alkyl of 1–18 carbon atoms, Z_1 and Z_2 are each selected from the group consisting of sulfur, oxygen, and alkylene of 1–4 carbon atoms, *d*, *e*, *f*, and *g* are each an integer 1–3, and *h* is an integer 0–1; and

about 0.01% to about 2.0% by weight of the polypropylene of (d), as a peroxide decomposer, a compound of the formula

$$S(RCOOR')_2$$

wherein R is alkylene of 1–12 carbon atoms, and R′ is alkyl of 1–18 carbon atoms.

3,510,452
ANTISTATIC MATERIALS
Herbert Frotscher, Langenfeld, Rhineland, Manfred Petzold, Duesseldorf-Holthausen, Ulrich Rall, Hilden, Rhineland, and Armin Bolz, Langenfeld, Rhineland, Germany, assignors to Henkel & Cie, G.m.b.H., Duesseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,113
Int. Cl. C08f 11/04
U.S. Cl. 260—46.5 7 Claims

Hardenable, water-soluble or water-dispersible condensation products containing hydrogen atoms bonded to a nitrogen atom and halohydrin ether groups in a ratio of 1:0.6 to 1:1.5 and containing lipophilic polysiloxane radicals which give textile materials a wash-resistant, dry-cleaning-resistant antistatic finish.

3,510,453
POLYMERIC COMPOSITION OF MATTER CONTAINING HYDROXYALKYL - SUBSTITUTED POLYALKYLENEPOLYAMINO IMIDES OF POLYHALOPOLYHYDROMETHANO - NAPHTHALENE DICARBOXYLIC ACIDS
Edward M. Geiser, Downers Grove, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 405,611, Oct. 21, 1964. This application July 19, 1967, Ser. No. 654,374
Int. Cl. C08g 30/14
U.S. Cl. 260—47 16 Claims

Polymeric compositions of matter which are prepared by admixing a polymeric material with a hydroxyalkyl-substituted polyalkyleneamino imide of a polyhalopolyhydromethanonaphthalene dicarboxylic acid will possess desirable physical characteristics including fire retardancy and color stability.

3,510,454
PROCESS FOR THE PRODUCTION OF POLYBENZOXAZINE DIONES
Ludwig Bottenbruch, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany
No Drawing. Continuation-in-part of application Ser. No. 573,182, Aug. 18, 1966. This application Jan. 29, 1969, Ser. No. 795,049
Claims priority, application Germany, Jan. 3, 1966, F 48,089
Int. Cl. C08g 22/08
U.S. Cl. 260—47 7 Claims

Process for the production of high molecular weight film-forming and fiber-forming poly-1,3-benzoxazine-2,4-diones by reacting a di-o-hydroxyaryl dicarboxylic acid aryl ester with an organic diisocyanate under anhydrous conditions in the presence of an organic solvent and a catalyst at temperatures between 20 and 200° C. and directly recovering the poly-1,3-benzoxazine-2,4-diones.

3,510,455
FLUORINATED AMIDO RESIN PREPOLYMERS AND PRODUCTS
Maynard H. Olson, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 609,484
Int. Cl. C08g 9/30, 9/04; B27k 3/34
U.S. Cl. 260—67.6 26 Claims

The invention involves a new class of low molecular weight fluorinated prepolymers which characteristically can be polymerized to continuous, adherent, organic solvent insoluble, amido resin films on polar, solid surfaces. Such prepolymers can be made by reacting together under liquid phase conditions an aldehyde, a fluorinated aliphatic compound, and a nitrogen containing compound Articles so coated have unexpectedly improved properties.

3,510,456
CURABLE URETHANE COMPOSITIONS
Donald R. Carr, Buffalo, and S. Edmund Berger, Tonawanda, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed June 23, 1966, Ser. No. 559,750
Int. Cl. C08g 22/18
U.S. Cl. 260—75 3 Claims

Production of curable urethane compositions having an extended pot-life at elevated temperatures consisting essentially of the reaction product of an isocyanate terminated prepolymer derived from methylene-bis(4-cyclohexylisocyanate) and a chain-extending compound containing groups reactive with said isocyanate.

3,510,457
PROCESS FOR PREPARING FINELY GRANULATED UNSATURATED POLYESTERS
Harald Janssen, Witten-Heven, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
No Drawing. Filed July 25, 1968, Ser. No. 747,439
Claims priority, application Germany, July 27, 1967, D 53,709
Int. Cl. C08g 53/02
U.S. Cl. 260—75 15 Claims

Partially crystalline unsaturated polyesters in finely granulated form produced by condensing fumaric acid and/or maleic acid, or the anhydride thereof, with a symmetrical diprimary diol in the presence of a catalyst effecting conversion of maleic acid units, if present, into fumaric acid units, stirring the melt of polyester into a liquid organic medium and recovering and drying the resultant crystalline slurry. The liquid organic medium used is a non-solvent for the polyester. Examples thereof include methanol, ethanol, acetone and methyl ethyl ketone.

3,510,458
POLYCARBONATES OF PERFLUOROALKYL-TERMINATED ALKYL-1,3-PROPANEDIOLS
Gordon L. Thayer, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 26, 1967, Ser. No. 656,018
Int. Cl. C08g 17/13; C07c 33/10
U.S. Cl. 260—77.5 4 Claims

Polycarbonates prepared by the condensation of perfluoroalkyl-terminated alkyl-1,3-propanediols of the formula $(R_f—R')_nCH_{2-n}(CH_2OH)_2$ and dialkyl carbonates.

The propanediols are prepared from a substituted malonic acid of the formula $(R_f—R')_nCH_{2-n}(COOR)_2$, which is turn is prepared from the basic malonic acid ester and $R_f—R'—Z$.

The polymers are useful as elastomers.

3,510,459

CONVERSION OF HYDROXYLIC POLYMERS TO CARBOXYLIC POLYMERS

John M. Merserean, Cheshire, Conn., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,579

Int. Cl. C08d 5/02; C08f 27/00

U.S. Cl. 260—78.4 5 Claims

Conversion of polymers having hydroxy functionality to ones having carboxy functionality by means of anhydrides and non-hydrogen halogen containing Lewis acids.

3,510,460

OXADIAZINE-4-THIONES AND VULCANIZABLE RUBBER COMPOSITIONS CONTAINING SAME

Elmer A. Fike, Nitro, W. Va., assignor to Security Chemicals, Inc., Nitro, W. Va.

No Drawing. Filed Sept. 21, 1967, Ser. No. 669,389

Int. Cl. C08c 11/54; C08f 27/06; C07d 87/00

U.S. Cl. 260—79.5 12 Claims

This invention relates to oxadiazine-4-thiones and to vulcanizable rubber compositions, containing these oxadiazine-4-thiones which are characterized by excellent cure speed.

3,510,461

TERPENE CONTAINING POLYMERS AND PROCESS THEREFOR

Bernard J. Davis, Biloxi, Miss., assignor to Reichhold Chemicals, Inc., White Plains, N.Y.

No Drawing. Filed May 29, 1968, Ser. No. 732,866

Int. Cl. C08f 15/40

U.S. Cl. 260—80.78 7 Claims

Thermoplastic resins are formed by copolymerization of $C_{10}H_{16}$ terpenes, either in pure form or in mixtures, with alkylidene norbornene in presence of a Friedel-Crafts catalyst at temperatures ranging from about 0°–100° C.

3,510,462

LACTONIZATION OF BUTADIENE-METHACRYLIC ACID COPOLYMERS AND PRODUCT PRODUCED THEREBY

Robert A. Hayes, Cuyahoga Falls, and Stephen P. Boutsicaris, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Oct. 30, 1967, Ser. No. 679,104

Int. Cl. C08d 5/02

U.S. Cl. 260—82.1 12 Claims

This invention comprises a process for converting butadiene-methacrylic acid copolymers to polymeric lactones. Lactonization is promoted by the presence of a mixture of sulfuric acid and a saturated aliphatic carboxylic acid of 2–10 carbon atoms, preferably acetic acid, which effects some esterification along with the lactonization. The lactonization is effected between the repeating unit derived from the methacrylic acid and an adjacent repeating unit derived from butadiene. The carboxylic acid to sulfuric acid ratio is 2–40, preferably about 15–25 volumes of acetic acid per volume of sulfuric acid. The proportion of acid mixture to polymer is such as to give approximately 10–100 ml., preferably about 50 ml. of H_2SO_4 per 100 g. of polymer, or roughly about 15–200 g. of H_2SO_4, preferably about 50–150 g. per 100 g. of polymer.

3,510,463

SUSPENSION ALCOHOLYSIS OF PELLETED ETHYLENE/VINYL ESTER COPOLYMERS

John Edwin Bristol, Niagara Falls, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 605,999, Dec. 30, 1966. This application Nov. 20, 1967, Ser. No. 684,475

Int. Cl. C08f 27/14

U.S. Cl. 260—87.3 11 Claims

Alcoholysis of an alcohol-insoluble copolymer of ethylene and vinyl acetate is accomplished by suspending the copolymer, in pelleted form, in a liquid medium of methanol, alcoholysis catalyst, and alcohol-miscible copolymer swelling agent, such as benzene or methylene chloride.

3,510,464

PROCESS FOR THE PREPARATION OF SAPONIFIED HOMOPOLYMERS OF VINYL ACETATE AND COPOLYMERS AND VINYL ACETATE

Kenji Sato, Kurashiki, Japan, assignor to Kurashiki Rayon Co., Ltd., Kurashiki, Japan, a corporation of Japan

Filed Apr. 5, 1968, Ser. No. 719,079

Int. Cl. C08f 1/88

U.S. Cl. 260—87.3 8 Claims

An improved process for the preparation of entirely or partially saponified polyvinyl acetate or vinyl acetate-ethylene copolymer, by polymerizing vinyl acetate alone or with ethylene in an organic solvent in the presence of a free radical polymerization catalyst, heating the resultant reaction mixture to evaporate the organic solvent, adding at least an equimolar amount of a lower aliphatic saturated alcohol based on the acetic acid radical in the polymer and saponifying the product in the presence of an alkali catalyst, such process being characterized in that the polymerization is performed in tertiary butanol as the organic solvent, until the conversion of vinyl acetate reaches 15–90% by weight, the improvement being the addition of normal or basic cupric acetate to the polymeric mixture prior to recovery of solvent and unreacted vinyl acetate, the normal or basic cupric acetate being added in an amount sufficient to prevent the formation of aldehyde and acetic acid ester side products. Such process has the advantages that the recovered solvent and vinyl acetate are useful without any intervening purification and the saponified polymers have excellent whiteness.

3,510,465

PROCESS FOR POLYMERIZING OLEFINIC HYDROCARBONS

Koohei Nakaguti, Tatuo Ando, Masaaki Hirooka, and Tosimiti Huzita, Niihama-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Nov. 7, 1961, Ser. No. 150,646

Claims priority, application Japan, Nov. 11, 1960, 35/45,292, 35/45,296, 35/45,297

Int. Cl. C08f 1/56, 3/10

U.S. Cl. 260—93.7 9 Claims

In the polymerization of propylene with a catalyst consisting of an alkylaluminum dihalide and titanium trichloride, the addition of a urea compound selected from urea derivatives, thiourea and thiourea derivatives results in the selective production of crystalline polypropylene having a remarkably high stereospecificity.

3,510,466

POLYMERISATION CATALYSTS

Gabriele Lugli, Alessandro Mazzei, and Walter Marconi, Donato Milanese, Italy, assignors to Snam Progetti S.p.A., Milan, Italy, an Italian company

No Drawing. Filed July 12, 1967, Ser. No. 652,668

Claims priority, application Italy, July 12, 1966, 20,102/66

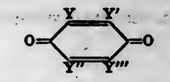
Int. Cl. C08d 1/12; C08f 1/58

U.S. Cl. 260—94.3 8 Claims

A catalyst system for the polymerization of unsaturated compounds is provided which comprises:

(a) a derivative of a transition metal represented by the general formula: R_nMX_m, wherein R represents (π-allylic) or (π-cyclopentadienyl); M represents a transition metal included within Groups IV to VIII of the Periodic Table; X represents chlorine, bromine or iodine; *m* represents 0, 1, 2, or 3; and *n* represents 1, 2, 3 or 4 when R is (π-allylic) and, when R is (π-cyclopentadienyl), 2; and

(b) a para-quinone represented by the general formula:



wherein Y represents a member of the group consisting of chlorine, bromine and iodine; Y' represents a member of the group consisting of hydrogen, chlorine, bromine, iodine and a hydrocarbon radical having up to 6 carbon atoms; and Y'' and Y''' each represent a member of the group consisting of hydrogen, chlorine, bromine, iodine and a hydrocarbon radical having up to 6 carbon atoms or, together form a carbon atoms ring. The new catalyst system is particularly useful in the production of polybutadiene of high 1.4 cis content.

3,510,467

PROCESS FOR THE EMULSION POLYMERIZATION OF CONJUGATED DIENES WITH MERCAPTAN MODIFIER

Adrien Azoulay, Paris, and Jean Teitgen, Arthez de Bearn, France, assignors to Societe Nationale des Petroles d'Aquitaine, Courbevole, France

Filed Oct. 19, 1967, Ser. No. 676,553

Claims priority, application France, Oct. 26, 1966, 81,615; Oct. 9, 1967, 123,734

Int. Cl. C08d 1/09, 1/24, 1/36

U.S. Cl. 260—94.4 8 Claims

Improvement in the manufacture of polymers of conjugated dienes, particularly butadiene and isoprene, in aqueous emulsion, in the presence of a radical catalyst system and at least one chain modifier, characterized in that the addition of the modifier to the emulsion is controlled in such a manner that, during the polymerization, the maximum value (R) and minimum value (*r*) of the ratio of the quantity of the modifier present to the quantity of remaining monomer are within the limits for which to *R:r* equals 1 to 4.

3,510,468

RECOVERY OF FATTY AND ROSIN ACIDS

Paul D. Patrick, Jr., and Frank J. Ball, Charleston, and Joseph C. McManus, Jr., Mount Pleasant, S.C., assignors to Westvaco Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 621,444, Mar. 8, 1967. This application Feb. 19, 1969, Ser. No. 800,735

Int. Cl. C09f 1/02

U.S. Cl. 260—97.7 13 Claims

This process involves the sulfoalkylation of aqueous solutions of soaps of fatty and rosin acids with a water-soluble sulfite and an aliphatic or aromatic aldehyde at a temperature between 150° F. and 550° F. until certain of the non-acid constituents are made water-soluble and can be easily separated from the acid upon acidification of the soap resulting in a product having improved color and odor. Further improvements in color and odor are obtained when sulfoalkylation is used in combination with a solvent extraction of the soap.

3,510,469

SCARLET PHENYL-AZO-NAPHTHOL DYES

Hiroshi Sugiyama, Ashiya-shi, Hideo Otsuka Ibaraki-shi, and Masakazu Yamamoto, Takarazuka-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a Japanese corporation

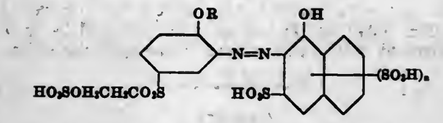
No Drawing. Filed Dec. 9, 1966, Ser. No. 600,380

Claims priority, application Japan, Dec. 13, 1965, 40/76,865

Int. Cl. C07c 107/08; C09b 29/16

U.S. Cl. 260—200 7 Claims

A scarlet monoazo dye having the formula



wherein R means methyl or ethyl radical and *n* means in integer of 1 to 2.

3,510,470

PHENYL-AZO-ANALINE DYES

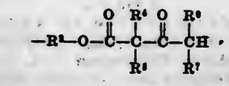
Joseph B. Dickey and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 2, 1966, Ser. No. 546,504

Int. Cl. C07c 107/06; C09b 29/08, 29/24

U.S. Cl. 260—207.1 7 Claims

Phenyl-azo-aniline compounds in which a group, having the formula:



wherein R^3 is alkylene and R^4, R^5, R^6 and R^7 each is alkyl or phenyl, is attached to the aniline nitrogen atom are useful as dyes for hydrophobic textile materials.

3,510,471

NOVEL POLYETHER POLYOLS AND PROCESS FOR PREPARING THE SAME

Leslie Catron Case, 14 Lockeland Road, Winchester, Mass. 01890

No Drawing. Filed Mar. 9, 1967, Ser. No. 621,768

Int. Cl. C07c 47/18; C08g 22/44

U.S. Cl. 260—209 13 Claims

This invention deals with novel fluid polyether polyols having a weighted average functionality of at least eight, and usually higher. In spite of their very high function-

ality, these polyols possess unusually low viscosities. The instant polyols are prepared by the base-catalyzed alkoxylation of a mixture of a higher polysaccharide and an aliphatic polyalcohol using a lower alkylene oxide. These polyols are compatible with and react with organic polyisocyanates to form polyurethanes with excellent physical properties.

3,510,472
METHOD OF PRODUCING CARDIOACTIVE GLYCOSIDES

Stanislaw Buchner, Birsfelden, near Basel, Switzerland, assignor to Solco Basel AG, Basel, Switzerland

No Drawing. Filed Sept. 25, 1967, Ser. No. 670,423
Claims priority, application Switzerland, Sept. 23, 1966, 13,729/66
Int. Cl. C07c *173/00*
U.S. Cl. 260—210.5 8 Claims

Leaves of *Adonis vernalis* L are extracted at 20–95° C. in an N_2 atmosphere with water or e.g. 5% aqueous ethanolic solution whereby glycosides are liberated from their naturally occurring complex compounds, by chemical reaction involving other ingredients present in the leaves. Cardioactive glycosides are recovered from the afore-obtained extract by further selective extraction with a chloroform-butanol or trichloroethylene-butanol mixture in mixture ratios ranging from 8:1 to 3:1 whereby active glycosidic agents having an L.D. in the cat of 0.1100±0.0040 mg./kg. are obtained, followed by chromatography with water-saturated butanol-toluene eluant.

3,510,473
PROCESS OF PRODUCING NUCLEOTIDES AND OLIGONUCLEOTIDES BY A THERMAL REACTION

Josef Morávek and Jan Škoda, Prague, Czechoslovakia, assignors to Ceskoslovenska Akademie ved, Prague, Czechoslovakia

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,221
Claims priority, application Czechoslovakia, Dec. 2, 1965, 7,240/65
Int. Cl. C07c *95/04*
U.S. Cl. 260—211.5 10 Claims

Production of nucleotides and oligonucleotides by the reaction of necleosides, nucleotides of the pyrimidine type and tubercidin with alkali metal phosphates, nucleotides and anomalous nucleotides at about 155 to 160° C. wherein the reactant ratio is about 1:1 to 1:10 respectively.

3,510,474
REACTION OF CYANOGEN AZIDE WITH SELECTED ORGANIC COMPOUNDS

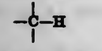
Frank Dennis Marsh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 234,878, Nov. 1, 1962. This application July 16, 1964, Ser. No. 383,233
Int. Cl. C07d *23/06*
U.S. Cl. 260—239 18 Claims

Described and claimed are processes for reacting cyanogen azide with organic compounds containing the non-aromatic



bond and/or the



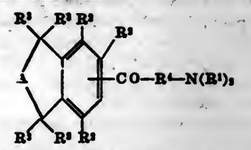
bond at about −25° C. up to about 150° C., and thereby producing N-cyanoaziridines or N-cyanoimines.

3,510,475
POLYNUCLEAR SUBSTITUTED AMINOKETONES, THEIR SALTS AND INTERMEDIATES THEREFOR

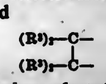
Edward J. Nikawitz, Glen Rock, N.J., assignor to Givaudan Corporation, Clifton, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 535,034, Mar. 17, 1966. This application Mar. 1, 1967, Ser. No. 619,564
Int. Cl. C07d *41/04*
U.S. Cl. 260—239 10 Claims

A new class of plant fungicides effective against downy mildew and other fungi is disclosed. The new compounds have the general formula:



wherein A is a member selected from the group consisting of $(R^2)_2C=$ and



R^1 is at least one member selected from the group consisting of H, an alkyl radical having from 1 to 7 carbon atoms, a cycloalkyl radical having from 1 to 7 carbon atoms, an aralkyl radical having from 1 to 7 carbon atoms in the side chain and an alkylene radical having from 2 to 7 carbon atoms and bound to N so as to form an aza-cycloalkane group or an aza-cycloalkene group, R^2 is at least one member selected from the group consisting of H, an alkyl radical having from 1 to 5 carbon atoms, NO_2 and a trifluoromethyl radical, R^3 is at least one member selected from H and an alkyl radical having from 1 to 5 carbon atoms, and R^4 is a member selected from the group consisting of an alkenylene radical having from 3 to 5 carbon atoms and an alkylene radical having from 1 to 5 carbon atoms; and salts of said compounds with acids and phenols.

3,510,476
DIBENZAZEPINE-5-HYDROXAMIC ACID AND DERIVATIVES THEREOF

Martin A. Davis, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 8, 1967, Ser. No. 614,547
Int. Cl. C07d *41/08*
U.S. Cl. 260—239 4 Claims

There are disclosed herein the compounds 10,11-dihydro-5H-dibenz[b,f]azepine-5-hydroxamic acid and its corresponding O-methyl, O-ethyl, O-proply, and O-butyl ethers, as well as the corresponding acetyl, propionyl, butyryl, benzoyl, phenylacetyl, and trimethoxybenzoyl esters thereof. The above compounds are anticonvulsant, analgetic, trichomonicidal, and antibacterial agents, and methods for their preparation and use are also given.

3,510,477
2,2-ETHYLENE-3-OXO-STEROIDS AND INTERMEDIATES

Andrew John Manson, Beaconsfield, Quebec, Canada, assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 502,394, Oct. 22, 1965. This application Oct. 4, 1967, Ser. No. 672,713
Claims priority, application Great Britain, Oct. 17, 1966, 46,383/66
Int. Cl. C07c *173/10, 169/22, 169/12*
U.S. Cl. 260—239.5 39 Claims

2,2-ethylene-3-oxo-steroids are prepared starting from 3-oxo-2-hydroxymethylene-steroids and proceeding successively through the intermediate 4'-hydroxyspiro[steroid-2,4'-m-dioxan]-3-ones, 2-methylene - 3-oxo-steroids, and spiro[steroid-2,3'(2'α)-1'-pyrazolin] - 3 - ones, which readily lose nitrogen to form the 2,2-ethylene-3-oxo-steroids. The latter and the novel precursors possess hormonal properties, especially progestational activity.

3,510,478
15α - HALOGENO - 14β - HYDROXY-CARD-20(22) - ENOLIDES AND PROCESS FOR THEIR MANUFACTURE

Werner Fritsch, Neuenhain, Taunus, Werner Haede, Hofheim, Taunus, Kurt Radschelt, Kelkheim, Taunus, and Ulrich Stache, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 685,971, Nov. 27, 1967. This application July 30, 1968, Ser. No. 748,655
Claims priority, application Germany, Nov. 30, 1966, F 50,804
Int. Cl. C07c *173/02*
U.S. Cl. 260—239.57 1 Claim

3β - formoxy - 15α - halogeno - 14β - hydroxy-5β-card-20(22)-enolides and a process for their manufacture starting from 3-keto-5β-carda-14(15)-20(22)-dienolides.

3,510,479
4-[2-(5-NITROFURYL)-VINYL]-PYRIMIDINES

Hideji Takamatsu, Amagasaki-shi, Hyogo-ken, Shinsaku Minami, Nara-ken, Akio Fujita, Inokumadori, Kamikyo-ku, Kyoto, Tadatsugu Yamamoto, Higashiyodogawa-ku, Osaka, Katsuro Fujimoto, Noyagawa-shi, Osaka-fu, Masanao Shimizu, Suma-ku, Kobe-shi, Hyogo-ken, Yoshiyuki Takase, Amagasaki-shi, Hyogo-ken, and Isao Nakanishi, Aza Oyamazaki, Oyamazakimura, Otokuni-gun, Kyoto-fu, Japan, assignors to Dainippon Pharmaceutical Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed May 20, 1963, Ser. No. 281,799
Claims priority, application Japan, Oct. 2, 1962, 43/43,901
Int. Cl. C07d *51/36, 51/38, 51/42*
U.S. Cl. 260—240 6 Claims

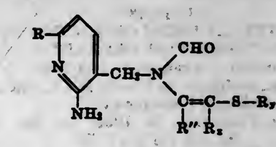
The invention relates to 4 - [2 - (5 - nitrofuryl) - vinyl] pyrimidines, processes for production thereof and their utility in treatment of bacterial, fungal and protozool infections in man and domestic animals.

3,510,480
ANTICOCCIDIAL PYRIMIDINES

Edward F. Rogers, Middletown, and Robert L. Clark, Woodbridge, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application May 15, 1963, Ser. No. 280,703, now Patent No. 3,268,403, dated Aug. 23, 1966. Divided and this application Dec. 17, 1965, Ser. No. 514,679
Int. Cl. C07d *51/42*
U.S. Cl. 260—240 1 Claim

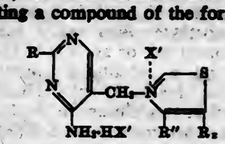
Anticoccidial compounds of the formula:



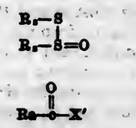
wherein R is a lower alkyl radical; R'' is hydrogen or a lower alkyl radical; R_x is hydrogen or a lower alkyl radical; R_y is



radical or —SR_z radical, with R_z being an alkyl or alkaryl radical and Ra being an alkyl, mononuclear aryl, alkaryl or alkyl radical, and acid addition salts thereof are prepared by reacting a compound of the formula:



under alkaline conditions with a compound of the formula:



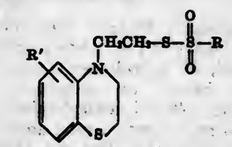
wherein X' is chlorine or bromine.

3,510,481
NAPHTHO- AND BENZOTHIAZINES, THIAZINO-BENZOTHIAZINES AND THEIR OXIDES

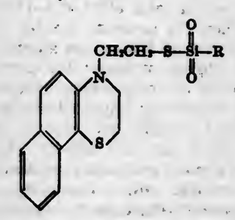
Joseph E. Dunbar and Betty H. Tarnowski, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 640,485, May 23, 1967. This application June 3, 1968, Ser. No. 735,954
Int. Cl. C07d *93/12*
U.S. Cl. 260—243 13 Claims

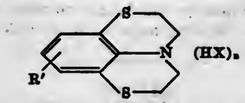
A new series of S-2-(3,4-dihydro-2H-1,4-benzothiazin-4-yl)ethyl substituted thiolsulfonates (I), 2,3-dihydro-4-(2-(substituted sulfonylthio)ethyl)naphtho-(1,2-b) (1,4)-thiazines (II), 2,3,5,6 - tetrahydro - (1,4)-thiazino-(4,3,2-de) (1,4)-benzothiazines (III), and 2,3,5,6-tetrahydro-(1,4)-thiazino-(4,3,2-de) (1,4)-benzothiazine oxides (IV) corresponding to the formulas



(I)

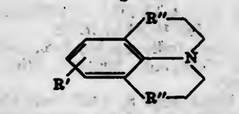


(II)



(HX)$_n$

(III)



(IV)

and a new method for their production. In said formulas each R represents lower alkyl, phenyl and substituted phenyl; each R' represents methyl, methoxy or hydrogen; one R'' represents a sulfinyl (SO) group and the other R'' represents a sulfur atom, a sulfinyl (SO) group, or a sulfonyl (SO_2) group or both R''(s) represent a sulfonyl (SO_2) group; and HX represents hydrogen chloride or

hydrogen bromide and *n* is zero or one. A new method of the present invention comprises dispersing an N,N-bis (2-(substituted sulfonylthio)ethyl)aniline or an N,N-bis (2-(substituted sulfonylthio)ethyl)-2-naphthylamine, or an N,N-bis(2-haloethyl)aniline and a substituted thiosulfonate alkali metal salt or an N,N-bis(2-haloethyl)-2-naphthylamine and a substituted thiosulfonate alkali metal salt in a polar organic solvent and heating the resulting solution to effect ring closure to produce products I, II and III. In another method an S-2-(3,4-dihydro-1,4-benzothiazin-4-yl)ethyl substituted thiolsulfonate (I) is dispersed in a polar organic solvent and the dispersion heated to effect ring closure and the formation of compounds corresponding to formula III. The 2,3,5,6-tetrahydro-(1,4)-thiazino-(4,3,2-de) (1,4)-benzothiazine oxides (IV) are prepared by oxidizing the parent thiazinobenzothiazines. The new compounds of the present invention are useful as pesticides and intermediates.

3,510,482

as-TRIAZINO[5,6-b]-3-AMINO INDOLES

Jan Mieczyslaw Zygmunt Gladych, Hertford, and John Harold Hunt, Theydon Bois, Essex, England, assignors to Allen and Hanburys Limited, London, England

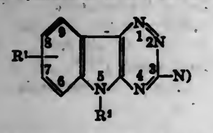
No Drawing. Continuation-in-part of application Ser. No. 638,641, Aug. 7, 1967. This application July 16, 1968, Ser. No. 745,089

Claims priority, application Great Britain, Sept. 17, 1963, 36,551/63; Feb. 20, 1964, 7,168/64; Aug. 27, 1964, 35,190/64; July 18, 1967, 33,050/67

Int. Cl. C07d *55/06, 57/34;* A61k *27/00*

U.S. Cl. 260—247.5 8 Claims

as-Triazino(5,6-b)indoles of the formula:



where R^1 is hydrogen, halogen, alkyl of 1–4 carbon atoms, hydroxy, alkoxy of 1–4 carbon atoms, nitro, amino or trifluoromethyl, R^2 is hydrogen, lower alkyl of 1–4 carbon atoms, benzyl or phenethyl; and N is amino, alkylamino (NHR^3), aralkylamino, dialkylamino (NR^3R^3), hydrazino, or heterocyclic amino wherein R^3 is straight or branched chain alkyl of 1–18 carbon atoms, provided that when N) is amino (NH_2) and R^2 is hydrogen or lower alkyl of 1–4 carbon atoms, R^1 is not hydrogen, bromo, chloro or nitro; the preferred heterocyclic amino groups are morpholino, piperidino, pyrrolidino, or similar monocyclic saturated nitrogen-containing ring; the preferred aralkyls are benzyl, phenethyl and phenylpropyl, exhibit antiviral activity. N-oxide derivatives with a N→O group and pharmaceutically acceptable nontoxic salts are also within the scope of the above designated compounds. Particularly valuable compounds are those substituted in the 3-position with amino moieties, preferably dimethylamino or morpholino.

3,510,483

SUBSTITUTED 1,4,5,6-TETRAHYDRO-as-TRIAZINE METHOHALIDES

Donald L. Trepanier, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 8, 1967, Ser. No. 659,006

The portion of the term of the patent subsequent to Feb. 18, 1986, has been disclaimed and dedicated to the Public

Int. Cl. C07d *55/10*

U.S. Cl. 260—248 2 Claims

1,3,5,6-substituted-1,4,5,6-tetrahydro-as-triazine methoiodides and methobromides which are useful as insecticides and herbicides, and as fungicides in certain cases.

3,510,484

PHOSPHORIC (-PHOSPHONIC) AND THIONO-PHOSPHORIC (-PHOSPHONIC) ACID ESTERS

Karl-Julius Schmidt, Wuppertal-Vohwinkel, Ingeborg Hammann, Cologne, and Günter Unterstenhöfer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 12, 1968, Ser. No. 744,331

Claims priority, application Germany, Aug. 1, 1967, F 53,122

Int. Cl. C07d *55/10;* A01n *9/22*

U.S. Cl. 260—248 9 Claims

(Alkyl, phenyl and O-alkyl)-O-alkyl-O-(benzo-1,2,4-triazin-3-yl)-(phosphoric and phosphonic) and thiono-(phosphoric and phosphonic) acid esters which possess arthropodicidal, especially acaricidal and insecticidal, properties and which may be produced by reacting the corresponding phosphoric (phosphonic) and thiono-phosphoric (-phosphonic) acid ester halide with 3-hydroxy-benzo-1,2,4-triazine.

3,510,485

1-(N-ALKYL AND N,N-DIALKYLAMINOOXY)-3-ALKYLAMINO-s-TRIAZINES

Richard K. Brantley, Westminster, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 6, 1967, Ser. No. 651,375

Int. Cl. C07d *55/46*

U.S. Cl. 260—249.5 4 Claims

Novel s-triazines such as 6-chloro-4-diethylaminooxy-2-isopropylamino-s-striazine as a selective herbicide with low residual effects.

3,510,486

HETEROCYCLIC COMPOUNDS

Kenneth H. Rattenbury, Kansas City, Mo., and Edward R. Levy and Ara Zakaryan, Shawnee Mission, Kans., assignors to Chemagro Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 27, 1965, Ser. No. 475,245

Int. Cl. C07d *51/78*

U.S. Cl. 260—250 3 Claims

Quinoxaline derivatives are prepared by reacting (1) a member of the group consisting of quinoxaline 2,3-dithiol and its carbocyclic aryl ring substitution products wherein the substituents are selected from the group consisting of lower alkyl, halogen, lower alkoxy, aminocarbonyl, aminosulfonyl and carboxyl with (2) an acid halide selected from the group consisting of monocarboxylic acid halide, monothiocarboxylic acid halides, sulfenic acid halides, sulfinic acid halides, sulfonic acid halides, chloroformic acid esters, thiocarboxylic acid ester halides, carbamic acid halides, chlorosulfonic acid esters, chlorosulfonic acid amides, phosgene, thiophosgene, thionyl chloride, sulfuryl chloride and sulfur dichloride under anhydrous conditions and removing the hydrogen halide formed from the reaction zone, the halogen of the hydrogen halide having an atomic weight of between 35 and 80.

3,510,487

SUBSTITUTED-2,3-DICHLOROQUINOXALINES AND PROCESSES FOR PREPARING SAME

William A. Bolhofer, Frederick, and John J. Baldwin, Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 28, 1966, Ser. No. 605,206

Int. Cl. C07d *51/76*

U.S. Cl. 260—250 7 Claims

Novel 2,3-dichloroquinoxalines which may be substituted in the 5, 6, and 7-positions, the 5 or 6-position having a substituted carbamoyl group and the 7-position having as substituents hydrogen, halo, loweralkyl, or loweralkoxy. These novel quinoxalines, useful as gastric acid inhibitors, may be prepared by intimately contacting 5(6)-chlorocarbonyl-2,3-dichloroquinoxaline or the appropriately 7 substituted-6-chlorocarbonyl-2,3-dichloroquinoxaline with an amine having at least one replaceable hydrogen atom.

3,510,488

PYRIDAZONE-HYDRAZONES

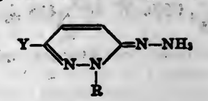
Gilbert Victor Henri Kremer, Ermont, and Robert Frederic Michel Sureau, Enghien-les-Bains, France, assignors, by mesne assignments, to Ugine Kuhlmann, Paris, France, a corporation of France

No Drawing. Original application Feb. 24, 1965, Ser. No. 435,045, now Patent No. 3,374,220. Divided and this application Dec. 13, 1967, Ser. No. 729,828

Int. Cl. C07d *51/04*

U.S. Cl. 260—250 1 Claim

Pyridazone-hydrazones of the general formula:



in which Y represents a member selected from the group consisting of chlorine and bromine atoms, the phenoxy group, and alkoxy groups having up to 3 carbon atoms, and R is a member selected from the group consisting of the methyl and ethyl groups. These compounds are dyestuff intermediates.

3,510,489

WEB FABRICATION PROCESS

Arthur E. Graham and Ray L. Dueltgen, Lexington, Ky., William L. Mitchell, Austin, Tex., and Harry E. Sweazy, Winchester, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 419,240, Dec. 19, 1964. This application July 31, 1968, Ser. No. 748,920

Int. Cl. B29c *5/02, 5/08*

U.S. Cl. 264—255 11 Claims

Magnetic recording webs are fabricated by spraying a dispersion of binder resin and magnetic particles onto a mold surface and heating to remove the dispersant. Strong, dimensionally stable endless webs result by including in the formulation a polymerizable monomer, such as an ester of acrylic acid, which crosslinks when the sprayed layer is heated and cured.

3,510,490

3,4-DIHYDRO-1-(2-HYDROXYALKYLAMINO)-4,4-TRIALKYL-2-(1H)-PYRIMIDINETHIONES

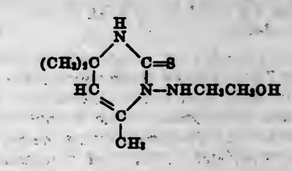
John Joseph D'Amico, Dunbar, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 18, 1967, Ser. No. 691,181

Int. Cl. C07d *51/28, 51/34*

U.S. Cl. 260—256.5 2 Claims

The compound 3,4-dihydro-1-(2-hydroxyethylamino)-4,4,6-trimethyl-2(1H)-pyrimidinethione of the formula



is useful as an accelerator for the vulcanization of rubber and as a chemosterilant against screw-worm flies.

3,510,491

4-(CYCLICAMINOMETHYL)-5-HYDROXYINDOLE-3-CARBOXYLIC ACIDS AND ESTERS THEREOF

Malcolm R. Bell, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 2, 1967, Ser. No. 613,456

Int. Cl. C07d *27/56*

U.S. Cl. 260—268 16 Claims

Certain 4-(cyclic aminomethyl)-5-hydroxyindole-3-carboxylic acids and esters thereof, having hypoglycemic and psychomotor depressant activity, are prepared by the reaction of the appropriate 5-hydroxyindole-3-carboxylic acid or ester with a secondary amine and formaldehyde.

3,510,492

2-ANILINO AND 2-ANILINOMETHYL CYCLOALKYLAMINES

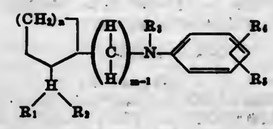
Jacob Szmuszkovicz, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 13, 1968, Ser. No. 728,796

Int. Cl. C07d *29/28;* C07c *87/50*

U.S. Cl. 260—293 16 Claims

Compounds of the formula



I

wherein *n* is 1 to 4, inclusive; wherein *m* is 1 or 2; wherein R_1 and R_2 are selected from the group consisting of hydrogen, lower-alkyl and benzyl or wherein the group



is



in which



represents a heterocyclic amino radical containing from 5 to 9 nuclear atoms, inclusive; wherein R_3 is selected from the group consisting of hydrogen, lower-alkyl and benzyl; and wherein R_4 and R_5 are selected from the group consisting of hydrogen, lower-alkyl, lower-alkoxy, hydroxy, halogen and $—CF_3$, with the proviso that when *m* is 1 and



is other than



at least one of R_4 and R_5 is selected from the group consisting of hydroxy, lower-alkoxy, halogen and $—CF_3$. The compounds and their pharmacologically acceptable acid addition salts are useful as oral antidiabetic agents and frequently have mild diuretic action.

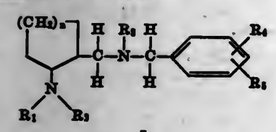
3,510,493

2-BENZYLAMINOMETHYL CYCLOALKYLAMINES

Ronald H. Rynbrandt, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

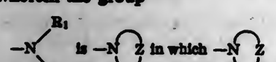
No Drawing. Filed May 13, 1968, Ser. No. 728,797
Int. Cl. C07d 29/28, 87/38
U.S. Cl. 260—294.7 6 Claims

Compounds of the formula:



I

wherein n is 1 to 4, inclusive; wherein R_1 and R_2 are selected from the group consisting of lower-alkyl and benzyl, or wherein the group



represents a heterocyclic amino radical containing from 5 to 9 nuclear atoms, inclusive; wherein R_3 is selected from the group consisting of hydrogen, lower-alkyl and benzyl; and wherein R_4 and R_5 are selected from the group consisting of hydrogen, lower-alkyl, lower-alkoxy, hydroxy, halogen and $-CF_3$. Formula I is intended to illustrate both cis and trans compounds. The compounds and their pharmacologically acceptable acid addition salts are useful as oral antidiabetic agents.

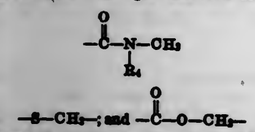
3,510,494

CERTAIN PERFLUORO ALKANAMIDO-, PERFLUORO ALKANOYLOXY-, PERFLUOROALKYLOXY AND PERFLUORO MERCAPTO-QUATERNARY AMMONIUM COMPOUNDS, THE CORRESPONDING PYRIDINIUM COMPOUNDS AND DERIVATIVES THEREOF

Domenick Donald Gagliardi, East Greenwich, R.I., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 301,421, Aug. 12, 1963. This application May 17, 1966, Ser. No. 550,646
Int. Cl. C07d 31/32, 87/42; C07c 87/30
U.S. Cl. 260—295 10 Claims

Highly fluorinated quaternary ammonium compounds containing between the fluoro moiety and the quaternized nitrogen one of three linkages selected from the group



which represent carboxamido, thioether and acid groups respectively are provided which are outstanding for producing water repellent, oil repellent and soil repellent finishes on textiles as well as resistance to staining.

3,510,495

NOVEL SUBSTITUTED 1-AMINO-2-PYRROLIDINONES

James R. Beck, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed June 26, 1967, Ser. No. 649,013
Int. Cl. C07d 27/08
U.S. Cl. 260—326.3 6 Claims

Compounds of the class of 1-amino-3,3-diphenyl-5-methyl-2-pyrrolidinones, useful as hypoglycemic agents, herbicides, anti-bacterials, and mosquito larvicides.

3,510,496

BENZENESULFONYL-UREAS WITH HYPOGLYCEMIC ACTIVITY

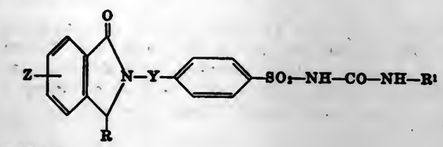
Walter Aumüller, Kelkheim, Taunus, Helmut Weber and Rudi Weyer, Frankfurt am Main, and Karl Muth, Kelkheim, Taunus, Germany; and Wilhelm Ludwig Andreas Richard Peschke, deceased, late of Mannheim, Germany, by Christel Elisabeth Peschke, née Dryzynga, coheiress, and Bruno Rötsinger, curator, both of Mannheim, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 471,449, July 12, 1965. This application June 3, 1968, Ser. No. 738,729

Claims priority, application Germany, July 30, 1964, F 43,614; Luxembourg, Jan. 13, 1965, 47,776

Int. Cl. C07d 27/56; A61k 27/00
U.S. Cl. 260—325 16 Claims

Benzenesulfonyl-ureas with hypoglycemic activity having the general formula



in which:

R is hydrogen or lower alkyl,
Z is hydrogen or halogen,
Y is a saturated hydrocarbon group with 1–4 carbon atoms and

R^1 is—

(a) alkyl or alkenyl of 2 to 8 carbon atoms, alkoxyalkyl of 4 to 8 carbon atoms, at least two of which carbon atoms forming the alkylene portion,
(b) phenyl-lower alkyl,
(c) cyclohexyl-lower alkyl,
(d) endoalkylene-cyclohexyl, -cyclohexyl, -cyclohexyl-methyl or -cyclohexenyl-methyl of 1–2 endoalkylene carbon atoms each,
(e) lower alkyl-cyclohexyl, lower alkoxy-cyclohexyl,
(f) cycloalkyl of 5 to 8 carbon atoms each,
(g) cyclohexenyl, cyclohexenyl methyl,
(h) dimethyl-cyclohexyl,

and salts thereof.

3,510,497

SUBSTITUTED CHROMANONE OXIMES AND CHROMANONE OXIME ETHERS

Robert D. Irmy, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 734,549, June 5, 1968. This application Dec. 23, 1968, Ser. No. 786,443

Int. Cl. C07d 7/20; A61k 27/00
U.S. Cl. 260—345.2 8 Claims

This disclosure teaches the preparation of chromanone oximes such as 7,8-dichloro-4-chromanone oxime by treating an appropriately substituted chromanone with hydroxylamine and chromanone oxime methyl ethers such as 7-chloro-6-fluoro-4-chromanone oxime methyl ether by treating an appropriately substituted chromanone with methoxyamine.

The compounds of this invention are useful as diuretics in warm-blooded animals.

3,510,498

OXIDATION OF FUSED RING HYDROCARBONS

Le Roi E. Hutchings, Johnson City, Tenn., assignor to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware

Filed June 21, 1965, Ser. No. 465,458
Int. Cl. C07c 49/66, 49/68, 49/72
U.S. Cl. 260—385 11 Claims

In the oxidation of fused ring hydrocarbons to form quinones an effective method involves the use of a solution of a Cr^{6+} compound as the oxidizing agent. This process does not lend itself to continuous operation because the chromium compound necessarily is in aqueous solution whereas the fused ring hydrocarbon is in an organic medium. Differences in densities are utilized herein in a process which can be operated continuously.

3,510,499

PROCESS FOR PREPARING AN ESTER IN THE PRESENCE OF Al_2O_3 AS CATALYST

John G. McNulty and William L. Walsh, Glenshaw, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 1, 1964, Ser. No. 373,484
Int. Cl. C07c 69/22; C11c 3/00
U.S. Cl. 260—410.9 8 Claims

A process for preparing an ester which comprises reacting a monobasic organic acid with an organic halide, which can be a primary straight or branched chain alkyl halide, a primary cyclic alkyl halide, a primary straight or branched chain olefinic halide or an aromatic halide, in the presence of Al_2O_3 as catalyst.

3,510,500

PROCESS FOR PREPARING AN ESTER FROM A MONOBASIC ORGANIC ACID AND AN ORGANIC HALIDE

William L. Walsh, Glenshaw, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 26, 1963, Ser. No. 333,624
Int. Cl. C07c 67/02, 69/76; C11c 3/10
U.S. Cl. 260—410.5 23 Claims

A process for preparing an ester which comprises reacting a monobasic organic acid with an organic halide, preferably at a temperature of about 180° to about 400° C., and, in a preferred embodiment, in the presence of catalytic amounts of a compound composed of said organic acid wherein an acid hydrogen thereof is replaced by an element selected from the group consisting of lithium, magnesium, calcium, lanthium, cesium, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc, boron, aluminum, silicon, phosphorus, sulfur, zirconium, tin, antimony and bismuth.

3,510,501

GLYCERIDE OILS

Paulus Johannes Seip, Zwijndrecht, Netherlands, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 14, 1966, Ser. No. 541,437
Claims priority, application Luxembourg, Mar. 18, 1965, 48,219
Int. Cl. C11l 3/06
U.S. Cl. 260—425 10 Claims

Alkali refining of glyceride oils is accomplished by separately heating the oil and an aqueous alkali solution, and by thereafter bringing the separately heated materials into contact with each other in a neutralization zone essentially free from obstruction at a temperature of from 105° C. to 170° C. The refined oil is subsequently separated from the soap-containing alkali solution formed by neutralization.

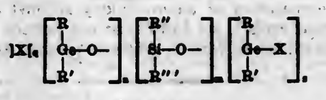
3,510,502

POLYMERIC GERMANOSILOXANES

Kurt Moedritzer, Webster Groves, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed June 12, 1967, Ser. No. 645,313
Int. Cl. C07f 7/00; C07d 103/00
U.S. Cl. 260—429 16 Claims

Polymeric dihydrocarbyl germanosiloxane compositions having the general formula



in which R, R', R'' and R''' are selected from the group consisting of hydrocarbyl radicals having from 1 to 20 carbon atoms, and phenyl and substituted phenyl radicals having from 6 to 20 carbon atoms; X is selected from the group consisting of fluorine, chlorine, bromine, alkoxyl, thioalkyl, dialkylamino, and cyano, in which the alkyl radicals have from 1 to 20 carbon atoms, and n plus m are numbers totaling from 1 to 100, q and z are equal and are whole numbers from zero to one.

The products are useful as functional fluids, such as heat transfer media, lubricants and hydraulic fluids.

3,510,503

TRIFLUOROBUTENYLTHIOCARBAMATES AND THIOCARBONATES

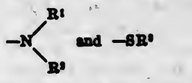
Mervin E. Brokke, Richmond, and Thomas B. Williamson, Santa Clara, Calif., and George E. Lukes, deceased, late of El Cerrito, Calif., by Wayne C. Janeshke, special administrator, Walnut Creek, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 491,508, Sept. 27, 1965. This application May 27, 1968, Ser. No. 735,495
Int. Cl. C07c 154/60
U.S. Cl. 260—455 18 Claims

Compounds of the formula



wherein X is a member selected from the group consisting of oxygen, sulfur, imino, phenylimino, chlorophenylimino alkylimino containing from 1 to 8 carbon atoms, inclusive, and alkenylimino containing 2 to 4 carbon atoms, inclusive, R is selected from the group



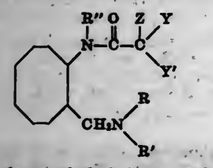
where R^1 and R^2, individually, are selected from the group consisting of hydrogen, alkyl containing from 1 to 10 carbon atoms, inclusive, hydroxyalkyl containing from 1 to 4 carbon atoms, inclusive, alkenyl containing from 2 to 4 carbon atoms, inclusive, cycloalkyl containing from 4 to 6 carbon atoms, inclusive, phenyl, and R^1 and R^2 jointly are a divalent alkylene radical containing 4 to 6 carbon atoms, inclusive, and R^3 is selected from the group lower alkyl, chlorophenyl lower alkyl, and 3,4,4-trifluoro-3-butenyl. The above compounds are effective herbicides and nematocides. Representative compounds are S-(3,4,4-trifluoro-3-butenyl)-N-methyl dithiocarbamate, S,S-bis-(3,4,4-trifluoro-3-butenyl)-N-ethylimino dithiocarbonate, 3,4,4-trifluoro-3-butenyl ethyl trithiocarbonate, S-(3,4,4-trifluoro-3-butenyl)-N-phenyl-N-methyl isothiourea.

3,510,504
ADAMANTYLOXYCARBONYL DERIVATIVES OF α-AMINO ACIDS
Koert Gerzon and Erika V. Krumkalns, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Original application Jan. 21, 1965, Ser. No. 427,124, now Patent No. 3,345,399, dated Oct. 3, 1967. Divided and this application Feb. 13, 1967, Ser. No. 615,338
Int. Cl. C07c *101/20*; C07d *27/26*
U.S. Cl. 260—471 3 Claims

The preparation of adamantyloxycarbonyl derivatives of α-amino acids is set forth. The compounds are useful as intermediates in various synthetic procedures.

3,510,505
2-SUBSTITUTED AMINOMETHYLCYCLOOCTYL AMIDES OF ALKYL SUBSTITUTED ACETIC ACID
Edward J. Pribyl, Metuchen, and Jack Bernstein, New Brunswick, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Application Mar. 7, 1967, Ser. No. 621,143, now Patent No. 3,373,195, which is a continuation-in-part of application Ser. No. 323,880, Nov. 15, 1963, which in turn is a continuation-in-part of application Ser. No. 72,328, Nov. 29, 1960. Divided and this application Sept. 20, 1967, Ser. No. 669,267
Int. Cl. C07c *103/86*
U.S. Cl. 260—557 6 Claims

This invention relates to basic amides having the general formula



the meaning of the symbols being explained below, and salts of compounds of this formula. These substances have central nervous system stimulant activity and are useful as psychomimetic agents.

3,510,506
BORATE ESTERS OF N-PANTOYL-HYDROCARBON AMINES
Elbert E. Harris, Westfield, and Stuart Weber, Colonia, N.J., assignors to Merck & Co. Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 22, 1966, Ser. No. 544,392
Int. Cl. C07f *5/04*
U.S. Cl. 260—462 4 Claims

Novel racemic and d and l borate esters of N-substituted pantoyl hydrocarbon amines prepared by reacting boric acid and a N-substituted pantoyl hydrocarbon amine and resolving the formed racemic cyclic borate ester derivatives by preferential precipitation and crystallization. The borate esters are useful in preparing laevorotatory pantolactone which in turn may be converted to pantothenic acid.

3,510,507
NOVEL POLYCARBONATES
Delos E. Bown, Norman P. Neureiter, Henry G. Schutze, and Herschel C. Williams, Baytown, Tex., assignors to Humble Oil & Refining Company
No Drawing. Original application Jan. 2, 1963, Ser. No. 248,876. Divided and this application Nov. 14, 1966, Ser. No. 611,785
Int. Cl. C07c *69/00*; C08g *51/58*; C08f *45/58*
U.S. Cl. 260—463 3 Claims

Polyphosphorous condensation products of bisphenols, polyborate condensation products, polycarbonate condensation products and polysilicate condensation products are especially effective stabilizers for polyolefins.

3,510,508
HYDROXY-ARYL OXAMIC ACID ESTERS
Albert Marie Ernest Blachere, Villeurbanne, and Claude Jean Maurice Breant, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Original application July 6, 1964, Ser. No. 380,624, now Patent No. 3,318,842, dated May 9, 1967. Divided and this application Dec. 6, 1966, Ser. No. 611,501
Int. Cl. C07c *101/72*, *103/38*
U.S. Cl. 260—471 2 Claims

The invention provides certain novel higher alkyl hydroxy-aryl oxamates and their derivatives which are useful as stabilizers for polyolefins against thermal degradation in association with diesters of thiodipropionic acid.

3,510,509
N-AROMATIC METHYL ITACONAMATES
Ralph P. Neighbors, Olathe, Kans., assignor, by mesne assignments, to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Original application Nov. 13, 1963, Ser. No. 323,255, now Patent No. 3,375,158, dated Mar. 26, 1968. Divided and this application Oct. 3, 1966, Ser. No. 598,135
Int. Cl. C07c *101/44*
U.S. Cl. 260—471 11 Claims

Methyl 3-methylenesuccinanilate, the correspnding N-naphthyl itaconamic ester and similar compounds with chloro, nitro, methyl or methoxy substituents on the aromatic ring have low toxicity to plant and animal life, but are effective as soil fungicides. The compounds are solids with melting points ranging between about 50° and 130° C. Liquid itaconamic esters of similar structure are disclosed which lack the properties necessary for use as soil fungicides.

3,510,510
NOVEL REACTIONS OF 4-ACYLOXY-3-CARANOLS AND NOVEL BICYCLIC COMPOUNDS RESULTING FROM SAID REACTIONS
Paul J. Kropp, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed June 30, 1966, Ser. No. 561,720
Int. Cl. C07c *35/22*, *49/44*, *69/14*
U.S. Cl. 260—489 9 Claims

Reaction of 4-acyloxy-3-carnols with dehydrating agents, e.g., phosphorous oxychloride, to produce 4-acyloxy-3-(10)-carenes and 2-acyloxy-4-isopropenyl-1-methylbicyclo[3.1.0]-hexanes, novel compounds, is disclosed. The products of the reaction have desirable odor characteristics and are useful in perfume compositions.

3,510,511
PROCESS FOR THE PRODUCTION OF ORGANIC ESTERS
Yvon Conseiller, Paris, Gerard Fontaine, Choisy-le-Roi, and Andre Quiquempois, Nogent-sur-Marne, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
Filed June 2, 1967, Ser. No. 643,067
Claims priority, application France, June 6, 1966, 64,312
Int. Cl. C07c *67/00*
U.S. Cl. 260—496 6 Claims

Carboxylic alkyl esters, especially lower alkyl lower alkanoates such as ethyl acetate, are made by adding a mixture of carboxylic acid and alkyl ether to a mixture of sulphuric acid and the same ether under conditions such that the ester is removed as it is formed and the reaction mixture consists essentially of sulphuric acid and the said ether.

3,510,512
METHOD FOR PREPARING STABLE MONOPERPHTHALIC ACID
Eric Jourdan-Laforte, Lyon, France, assignor to L'Air Liquide, Societe Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude
No Drawing. Filed July 15, 1966, Ser. No. 565,403
Claims priority, application France, July 29, 1965, 26,503; June 9, 1966, 64,761
Int. Cl. C07c *73/10*
U.S. Cl. 260—502 9 Claims

A method for preparing stable monoperphthalic acid is disclosed in which the phthalic anhydride and hydrogen peroxide, used in proportions of 0.5 to 1.5 atoms of active oxygen per molecule of phthalic anhydride, are caused to react in a halogenated hydrocarbon such as 1,2-dichloromethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,2-dichloropropane, 1,1,2,2-tetrachloroethane and 1,1,2-trichloroethane in which the monoperphthalic acid is insoluble. The reaction is carried out in the presence of an alkaline catalyst at a temperature between ambient temperature and 40° C. and the reaction medium is acidified upon completion of the peroxidation. The peracid formed is then separated by precipitation from the reaction medium.

3,510,513
PREPARATION OF A PURIFIED BENZOPHENONE CARBOXYLIC ACID
John H. McCracken, Pitcairn, Johann G. D. Schulz, Pittsburgh, and John V. Ward, Oakmont, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Substituted for abandoned application Ser. No. 72,566, Nov. 30, 1960. This application Mar. 23, 1966, Ser. No. 536,609
Int. Cl. C07c *65/20*, *63/02*
U.S. Cl. 260—517 3 Claims

A process for purifying an impure benzophenone carboxylic acid which comprises subjecting an aqueous slurry of the acid to an elevated temperature and an elevated pressure in the presence of hydrogen and a hydrogenation catalyst.

3,510,514
PROCESS FOR THE MANUFACTURE OF SORBIC ACID
Carl Bordenca, Ponte Vedra Beach, Fla., assignor, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York
Filed June 19, 1967, Ser. No. 646,993
Int. Cl. C07c *57/10*
U.S. Cl. 260—526 6 Claims

A process for the manufacture of sorbic acid representing a departure from previously known processes for sorbic acid preparation has been discovered and is described. The process comprises hydrolyzing at least one member of a novel class of mono-unsaturated tetrahalogenated hexenes in an aqueous medium until dehydrohalogenation occurs and a sorbate hexadienoate salt is formed in the medium. The medium is then acidified and substantially pure sorbic acid is recovered therefrom.

A novel class of mono-unsaturated, tetrahalogenated hexenes employed as starting materials in the sorbic acid process has also been discovered. Specific compounds falling within the class are described along with their method of preparation.

3,510,515
METHOD OF MAKING GLYCINE
Charles S. Colburn, Jr., Lookout Mountain, Tenn., assignor to Chattem Drug & Chemical Company, Chattanooga, Tenn., a corporation of Tennessee
Filed Jan. 4, 1967, Ser. No. 607,308
Int. Cl. C07c *101/06*
U.S. Cl. 260—534 5 Claims

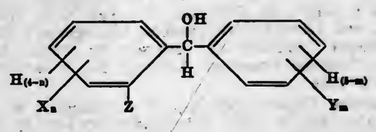
A continous or semibatch method of making glycine by ammonolysis of chloroacetic acid in the presence of hexamethylenetetramine (HMT) maintained at an effective level by recycling a portion of the mother liquor obtained by centrifuging the cooled reaction mass containing HMT, glycine and ammonium chloride, thereby effecting a saving in the use of HMT and also facilitating the adjustment of quantities and concentrations of reactants to constant values after the method has reached a stage of equilibrium.

3,510,516
N-HALOALKANOYL-2-NITRODIPHENYL-AMINES
John W. Schulenberg, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Application Oct. 21, 1966, Ser. No. 588,339, now Patent No. 3,415,839, which is a continuation-in-part of application Ser. No. 404,952, Oct. 19, 1964. Divided and this application Mar. 29, 1968, Ser. No. 717,441
Int. Cl. C07c *87/54*
U.S. Cl. 260—562 2 Claims

1-R-2-R'-benzimidazole 3-oxides, where R and R' are lower-alkyl or phenyl, at least one of R and R' being phenyl, having hyperglycemic and tranquillizing activities, are prepared by hydrogenating the appropriate 2-nitroanilines substituted on nitrogen by the groups R and COR'', where R'' is lower-alkyl, phenyl, 1-chloro-lower-alkyl or 1,1-dichloro-lower-alkyl.

3,510,517
2-DIMETHYLAMINO-5-CHLORO-BENZHYDROLS
Sidney B. Richter and David P. Mayer, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Continuation-in-part of application Ser. No. 454,688, May 10, 1965. This application May 12, 1967, Ser. No. 637,934
Int. Cl. C07c *91/40*
U.S. Cl. 260—570 7 Claims

A new compound of the formula



wherein Z is dialkylamino; each X and Y is independently selected from the group consisting of alkyl, alkenyl, halogen, nitro, alkoxy, dialkylamino and alkylthio; *n* is an integer from 0 to 4; and *m* is an integer from 0 to 5. An acaricidal composition comprising an inert carrier and, in a quantity toxic to acarids, a compound of the above formula. A fungicidal composition comprising an inert carrier and, in a quantity toxic to fungi, a compound of the above formula.

3,510,518
PREPARATION OF N,N'-DIARYL-p-PHENYLENEDIAMINES
Alexander Gaydasch, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed July 26, 1966, Ser. No. 567,817
Int. Cl. C07c *87/50*
U.S. Cl. 260—576 4 Claims

N,N'-diaryl-p-phenylenediamines are prepared by condensing an aromatic amine with a polyhydroxy aromatic compound in the presence of a catalyst comprising one or more oxides of Mo, Ni and/or rare earths composited on a silica-alumina support.

3,510,519
PREPARATION OF DEUTERIZED COMPOUNDS
Gerard Frejaville and Jean Jullien, Orsay, Essone, France, assignors to Etablissement Public: Centre National de la Recherche Scientifique, Paris, France, a corporation of France
Filed Dec. 1, 1965, Ser. No. 510,846
Claims priority, application France, Dec. 1, 1964, 996,978
Int. Cl. C07c 83/00
U.S. Cl. 260—583 9 Claims

A method of producing deuterized compounds in higher yields comprising contacting and reacting under continuous non-turbulent countercurrent flow conditions (1) a compound having at least one protonizable hydrogen atom and (2) a compound having a reactive deuterium atom, one of said compounds being in liquid form and the other being in gaseous form; said reaction taking place in a reaction zone having a small transverse dimension.

3,510,520
LINEAR POLY-N-HALOAZIRIDINES
Allen F. Grapp, Claremont, Calif., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 282,136, May 21, 1963. This application Jan. 20, 1967, Ser. No. 610,504
Int. Cl. A01n 9/20; C07c 87/20; C08f 5/00
U.S. Cl. 260—583 1 Claim

A germicidal polymer having the formula:



where X is a halogen and n is a whole number greater than one useful as general sanitizing agents, germicides and fungicides.

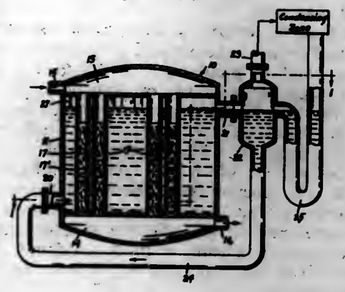
3,510,521
BRANCHED FATTY TETRAAMINES AND ALKYL AND ALKOXY DERIVATIVES THEREOF
Eugene J. Miller, Jr., Wheaton, Ill., Ago Mais, Trenton, N.J., and Donald J. Berenschot, Chicago, and Robert L. Reiner, Elmhurst, Ill., assignors to Armour Industrial Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 410,014, Nov. 9, 1964. This application July 25, 1968, Ser. No. 747,469
Int. Cl. C07c 87/20, 91/12, 93/02
U.S. Cl. 260—583 5 Claims

Branched fatty tetraamines, their alkyl and alkoxylated derivatives, their synthesis and their use as epoxy resin curing agents, as corrosion inhibitors, and as agricultural chemicals.

3,510,522
PURIFICATION OF HEXAMETHYLENEDIAMINE BY RECRYSTALLIZATION FROM CYCLOHEXANE
Donald R. Larkin, Corpus Christi, Theodore Horlenko, Houston, Hopkins Wade Tatum, Bay City, and Coy H. Hood and Wilbur S. Cureton, Corpus Christi, Tex., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 571,691, Aug. 11, 1966. This application Sept. 9, 1968, Ser. No. 758,619
Int. Cl. C07c 85/16, 85/12, 85/06
U.S. Cl. 260—583 10 Claims

Process for purifying hexamethylenediamine such as is produced by the reductive ammonolysis of 1,6-hexanediol, by crystallization and recrystallization from hydrocarbons of 5 to 12 carbon atoms.

3,510,523
EXOTHERMIC CATALYTIC REACTIONS WITH THERMOSYPHON FLOW
Charles W. Horner, Mount Kisco, N.Y., assignor to Reichhold Chemicals, Inc., White Plains, N.Y.
Filed June 14, 1967, Ser. No. 646,110
Int. Cl. C07c 45/16
U.S. Cl. 260—603 4 Claims



An exothermic catalytic reactor having a group of catalyst containing tubes surrounded by a liquid heat exchange medium, the reactor also having a liquid inlet and a liquid-vapor outlet, the latter being directed into a second vessel at the outside of the reactor. The bottom of the second vessel comunicates with the liquid inlet of the reactor, while the top of the second vessel leads to a condensing zone where vapor is transformed into cool liquid which is then passed into the second vessel for mixing with the liquid already there. Such mixing increases the density of the liquid in the second vessel as compared to that in the reactor, as a result of which a thermosyphon flow of liquid between the second vessel and the reactor is established and maintained without the use of a circulating pump.

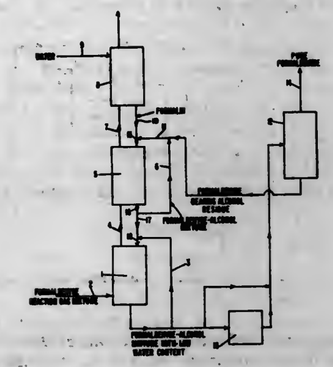
3,510,524
OXO PROCESS
John F. Deffner, Glenshaw, Edmond R. Tucci, Pittsburgh, and John V. Ward, Oakmont, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Aug. 23, 1966, Ser. No. 574,297
Int. Cl. C07c 45/02
U.S. Cl. 260—604 13 Claims

An Oxo process wherein an olefin is reacted with hydrogen and carbon monoxide in the presence of a cobalt carbonyl and a trioxaphospha-adamantane, preferably in the presence of a trialkyl amine.

3,510,525
PROCESS FOR THE MANUFACTURE OF GASEOUS FORMALDEHYDE
Per G. M. Flodin and Carl-Axel E. Sjögren, Perstorp, Sweden, assignors to Perstorp Aktiebolag
Filed July 12, 1965, Ser. No. 471,131
Int. Cl. C07c 47/04
U.S. Cl. 260—606 4 Claims

1. In a process for producing pure anhydrous formaldehyde gas including the steps of absorbing crude formaldehyde in water and a polyhydric alcohol having a boiling point above approximately 200° C. at atmospheric pressure and a vapor pressure of less than about 2 mm. at 100° C. to form a hemi-acetal and thereafter thermally decomposing the hemi-acetal, the improvement which comprises absorbing the formaldehyde in three stages, (1) bringing in counter-current flow the gas mixture and a circulating, relatively dry formaldehyde-alcohol mixture

at a temperature of 80–130° C., (2) bringing in countercurrent flow effluent gases from the first stage, having a greater water and formaldehyde concentration than the gas mixture, and a relatively moist formaldehyde-alcohol mixture at 40–80° C., and (3) absorbing by water the remaining formaldehyde in effluent gases from the second stage, wherein a part of the circulating formaldehyde-



alcohol mixture in the second stage is fed to the circulating formaldehyde-alcohol mixture in the first stage, the water with absorbed formaldehyde-alcohol in the third stage together with the residue from the thermal decomposition is supplied to the circulating formaldehyde-alcohol in the second stage, and a part of the formaldehyde-alcohol mixture circulating in the first stage is conducted directly to the decomposition stage without preliminary drying.

3,510,526
PROCESS FOR THE PREPARATION OF HYDROPEROXIDES
Jacques Paul Marie Bonnart, Lyon, Yannik Bonnet, Ecully, Rhone, and Paul Pierre Marie Rey, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
Filed June 22, 1967, Ser. No. 648,046
Claims priority, application France, June 30, 1966, 67,736
Int. Cl. C07c 73/00, 73/06
U.S. Cl. 260—610 5 Claims

Improved results are obtained if, in the oxidation of cycloalkanes to cycloalkane hydroperoxides with oxygen, the unoxidised cycloalkane is contacted with a basic reagent after separation of the hydroperoxide and prior to recycling.

3,510,527
PREPARATION OF p-NITROPHENOLS
Thomas J. Prosser, Sherwood Park, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 18, 1967, Ser. No. 639,283
Int. Cl. C07c 79/00
U.S. Cl. 260—622 7 Claims

The process involves nitrosation and nitration of phenol to produce p-nitrophenol as principal product. The reactions are carried out in an aqueous nitric acid medium under controlled conditions. The process also is applicable to ortho- and meta-cresols.

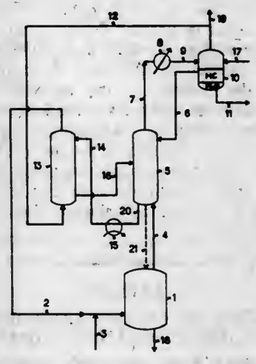
3,510,528
PROCESS FOR PREPARING META-ALKYL-CHLORO- AND FLUOROPHENOLS
Lawrence E. Stevick and Gustave K. Kohn, Berkeley, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Apr. 28, 1967, Ser. No. 632,206
Int. Cl. C07c 39/36, 39/24, 39/27
U.S. Cl. 260—623 10 Claims

Process for preparing m-alkylchloro- and fluorophenols which comprises reacting amonoalkene of 3 to about 15 carbon atoms with chlorophenol or fluorophenol in the presence of an acid-activated Group II metal montmorillonite clay at about 110 to 155° C. and thereafter increasing the temperature to about 165 to 190° C.

3,510,529
METHOD FOR THE PRODUCTION OF PENTACHLOROPHENOL AND OF INTERMEDIATES THEREFOR
Adrianus Van Es, Hengelo, Netherlands, assignor to N.V. Koninklijke Nederlandsche Zoutindustrie, Hengelo, Netherlands, a Dutch company
No Drawing. Filed May 9, 1967, Ser. No. 637,894
Int. Cl. C07c 39/36, 39/32
U.S. Cl. 260—623 1 Claim

Pentachlorophenol is produced by treating phenol or a lower chlorinated chlorophenol with a hydrochloric acid and/or chlorine and an oxygen-containing gas in the presence of an oxychlorination catalyst.

3,510,530
PROCESS FOR THE OXIDATION OF HYDROCARBONS
Jacob Alagy, La Celle-Saint-Cloud, Franz Defoer, Rueil-Malmaison, and Sigismond Franckowiak, Montesson, France, assignors to Institut Francais du Pétrole des Carburants et Lubrifiants, Rueil-Malmaison, France
Filed Aug. 18, 1965, Ser. No. 480,688
Claims priority, application France, Aug. 18, 1964, 985,546
Int. Cl. C07c 35/08, 29/00; C07b 29/00
U.S. Cl. 260—631 16 Claims



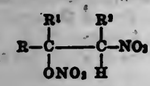
In the oxidation of cyclohexane to cyclohexanol by the use of an oxygen-containing gas and a boron compound, the improvement of treating the "boil-up" by separating oxygen-depleted gas from condensed cyclohexane, heating at least a portion of the condensed cyclohexane to above the reaction temperature, intermixing the oxygen-depleted gas with the heated cyclohexane, and recycling the resultant mixture to the reaction vessel.

3,510,531
PREPARATION OF NITROOLEFINS

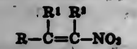
John M. Larkin, Hopewell Junction, and Kenneth L. Kreuz, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 18, 1967, Ser. No. 691,122
Int. Cl. C07c 79/06
U.S. Cl. 260—644 21 Claims

A method of preparing a nitroolefin having at least two carbon atoms by contacting a vicinal nitroalkyl nitrate having at least two carbon atoms corresponding to the formula:



with a nitric acid acceptor in a non-aqueous medium thereby forming a nitroolefin of the formula:



The contemplated nitroolefins are useful as fungicides, lubricant additives, fuel additives and as intermediates in the preparation of herbicides, nematocides, detergents, dyestuffs, pigments and pharmaceutical agents.

3,510,532
HALOGENATION OF AN ACYCLIC OLEFIN

Frank E. Carapreso, Hamilton Square, and Clarence D. Chang, Princeton, N.J., John H. Craddock, Creve Coeur, Mo., and Marshall L. Spector, Livingston, N.J., assignors to Pullman Incorporated, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 304,953, Aug. 27, 1963. This application July 15, 1966, Ser. No. 565,402
Int. Cl. C07c 17/02, 17/04
U.S. Cl. 260—658 10 Claims

1. A process for halogenating an acyclic olefin selected from the group consisting of a hydrocarbon olefin and a halogen substituted hydrocarbon olefin having from two to six carbon atoms which comprises contacting said olefin with an aqueous solution containing cupric halide, cuprous halide, and a metal halide solubilizing agent wherein the metal is selected from the group consisting of lithium, magnesium, calcium and mixtures thereof and wherein the halogen of the substituted olefin and the halogen of the halides in the aqueous solution are chlorine, bromine or iodine, the mole ratio of Cu^{++} to Cu^{+} is between about 14:1 and about 1:2; the halogen equivalent ratio of solubilizing halide to cuprous halide is at least 2:1; and halogenating the olefin with the aqueous solution under conditions such that the total copper concentration is maintained between about 6 and about 90 mole percent.

3,510,533
DIMERIZATION OF CONJUGATED DIENES WITH π-ALLYLDINITROSYLIRON COMPLEXES

Perry L. Maxfield, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

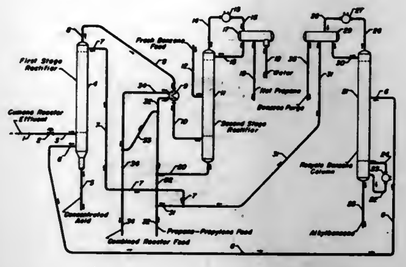
No Drawing. Original application Sept. 2, 1966, Ser. No. 576,831, now Patent No. 3,448,129, dated June 3, 1969. Divided and this application Dec. 16, 1968, Ser. No. 840,541
Int. Cl. C07c 11/16, 3/18
U.S. Cl. 260—666 7 Claims

Dimerization of conjugated dienes by contact with a catalyst comprising π-allyldinitrosyliron complexes of germanium, tin and lead.

3,510,534
PROCESS FOR AROMATIC ALKYLATION AND OLEFINIC OLIGOMERIZATION

Thomas L. Salzbach, Elk Grove Village, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed June 6, 1968, Ser. No. 734,922
Int. Cl. C07c 3/10, 3/52, 7/04
U.S. Cl. 260—671 15 Claims



Separation process for a reaction zone effluent containing at least three components, such as an aromatic alkylation reaction zone effluent. The effluent is passed into a two stage flash rectification zone under conditions sufficient to provide a first stream comprising diluent, a second stream comprising diluent and alkylatable aromatic compound, and a third stream comprising alkylatable aromatic compound and alkylated aromatic compound. The third stream is fractionated to provide a fourth stream comprising alkylatable aromatic compound and a fifth stream comprising alkylated aromatic compound. The fifth stream is recovered while the second and fourth streams are returned to the reaction zone. The process is equally effective in the separation of the effluent from an oligomerization reaction zone. Specific application of the process is in the synthesis of ethylbenzene, cumene, heptene, propylene-trimer, and propylene-tetramer.

3,510,535
PROCESS AND PLANT FOR THE PURIFICATION OF TERPHENYL AND/OR ANALOGOUS ORGANIC MATERIALS

Giancarlo Imarisio, Varese, Italy, assignor to European Atomic Energy Community-Euratom, Brussels, Belgium

Filed Feb. 11, 1966, Ser. No. 526,836
Claims priority, application Great Britain, Aug. 17, 1965, 35,278/65
Int. Cl. C07c 7/00
U.S. Cl. 260—674 2 Claims

Chlorine is removed from organic coolants or moderators for nuclear reactors by contacting the hot coolant with a getter metal such as zirconium or titanium or an alloy or mixture thereof. The coolant is circulated at a temperature between 300° C. and 450° C. through a bed of the getter metal in the form of chips, turning, grains or sheets.

3,510,536
TELOMERIZATION OF ISOPRENE

John F. Brennan, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 675,051, Oct. 13, 1967. This application Mar. 25, 1969, Ser. No. 810,333
Int. Cl. C07c 3/18
U.S. Cl. 260—680 7 Claims

The telomerization of isoprene is accomplished by treating isoprene with hydrogen in the presence of certain catalytical compositions of matter, and particularly

a catalyst comprising a titanium halide and a halide of a metal of Group VIII of the Periodic Table.

3,510,537
FORMATION OF DIOLEFINS FROM INTERNAL OLEFINS

Ming Nan Sheng, Cherry Hill, N.J., and John G. Zajacek, Strafford, Pa., assignors to Atlantic Richfield Company, New York, N.Y., a corporation of Pennsylvania

No Drawing. Filed Oct. 16, 1967, Ser. No. 675,361
Int. Cl. B01j 1/10; C07c 73/00, 11/18
U.S. Cl. 260—681 10 Claims

Method for the catalytic oxidation of internal olefins to produce a mixture of unsaturated alcohols and the epoxide, and specifically oxidation of 2-methylbutene-2, isomerization of the oxidation product followed by dehydration of the isomerized product to produce isoprene.

3,510,538
CONTINUOUS PROCESS FOR DEHYDRATION OF TERTIARY BUTYL ALCOHOL

Rudolph Rosenthal, Broomall, Pa., assignor to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania

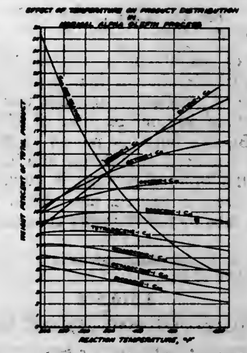
No Drawing. Filed Dec. 15, 1967, Ser. No. 690,724
Int. Cl. C07c 5/22
U.S. Cl. 260—682 5 Claims

Method for the continuous dehydration of tertiary butyl alcohol with an ion exchange resin as the catalyst wherein water is continuously removed from the reaction zone.

3,510,539
CONVERSION OF ETHYLENE TO ALPHA OLEFINS IN THE PRESENCE OF A SOLVENT

Herbert B. Fernald, Glenshaw, Russell G. Hay, Gibsonia, and Alfred N. Kreage, Verona, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Nov. 9, 1966, Ser. No. 593,038
Int. Cl. C07c 3/10
U.S. Cl. 260—683.15 4 Claims



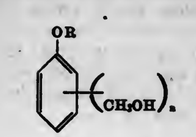
A process for the production of alpha olefins from ethylene in the presence of trialkylaluminum catalyst and solvent in a tubular reactor immersed in a bath of heat exchange fluid wherein no catalyst and solvent are added to the ethylene until the ethylene is preheated to full reaction temperature in an upstream portion of the tubular reactor and the reaction then occurs at a constant temperature in a downstream portion of the tubular reactor.

3,510,540
RESINOUS COATING COMPOSITIONS CONTAINING AMIDE INTERPOLYMERS

Erwin J. Kapalko and Richard A. Martin, Delaware, Ohio, assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Filed Sept. 21, 1967, Ser. No. 669,410
Int. Cl. C08g 45/08, 45/10
U.S. Cl. 260—831 16 Claims

Coating compositions having outstanding detergent resistance and other properties are provided by a combination of an interpolymer of an unsaturated carboxylic acid amide and one or more other ethylenic monomers, and an aromatic reaction product of an alkyl-substituted aromatic hydrocarbon-aldehyde condensate with a polyepoxide or a methylol phenol ether composition of the formula



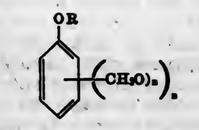
where n is 1 to 3 and R is an unsaturated aliphatic group or a halogenated derivative of such a group. The amide interpolymer is modified by reaction of the amide groups with an aldehyde and preferably these groups are further reacted with an alcohol. The properties of these coating compositions make them highly useful on appliances such as laundry equipment.

3,510,541
MODIFIED AMIDE INTERPOLYMER COATING COMPOSITIONS

Erwin J. Kapalko and Richard A. Martin, Delaware, Ohio, assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Filed Sept. 21, 1967, Ser. No. 669,411
Int. Cl. C08g 45/08, 45/10
U.S. Cl. 260—831 11 Claims

Coating compositions having outstanding detergent resistance and other improved properties are provided by a combination of an interpolymer of an unsaturated carboxylic acid amide and one or more other ethylenic monomers, and a methylol phenol ether composition of the formula



where n is 1 to 3 and R is an unsaturated aliphatic group or a halogenated derivative of such a group. The amide interpolymer is modified by reaction of the amide groups with an aldehyde and preferably these groups are further reacted with an alcohol. The properties of these coating

compositions make them highly useful on appliances such as laundry equipment, particularly as primers.

3,510,542

POLYVINYL ALCOHOL PLASTICIZED WITH AN ALKANOL AMINE SALT OF A POLYALKYLENE GLYCOL-ESTERIFIED STYRENE/MALEIC ANHYDRIDE COPOLYMER

Robert C. Strand, Homewood, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 23, 1967, Ser. No. 617,799

Int. Cl. C08f 29/30, 19/02

U.S. Cl. 260—874 10 Claims

Polyvinyl alcohol is plasticized with a minor amount of an alkanol amine salt of a polyalkylene glycolesterified styrene/maleic anhydride copolymer. The amine is polyhydroxyl-containing and a member of certain specific classes of amines including, for example, N,N,N',N'-tetra (hydroxyethyl) ethylene diamine, tris (hydroxymethyl) aminomethane, and 2-amino-2-methylpropane-1,3-diol. The copolymer is about 10–100% half-esterified with the polyalkylene glycol, which is capped on one end with an alkyl radical of 1 to about 5 carbon atoms. The resulting compositions are useful for the production of cast films from aqueous solutions, which films find application in the packaging of laundry detergents, bleaches and softeners, for instance.

3,510,543

VINYL CHLORIDE POLYMER MIXTURE FOR THE PREPARATION OF TRANSPARENT RIGID SHEETS

Gerhard Kühne, Burgkirchen (Salzach), and Erich Zentner, Burghausen (Alz), Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,542

Claims priority, application Germany, Oct. 24, 1964, F 44,308

Int. Cl. C08f 29/24, 15/06

U.S. Cl. 260—876 7 Claims

A composition of matter consisting essentially of:

(a) about 50–70% by weight of a homopolymer of copolymer of vinyl chloride with another vinyl compound copolymerizable therewith, the reaction being effected in aqueous emulsion, the resulting material having a K-value of 58–72;

(b) about 10–30% by weight of a homopolymer of vinyl chloride prepared in aqueous suspension and having a K-value of 50–65;

(c) about .5–40% by weight of a cross-linked graft copolymer of vinyl chloride wherein said vinyl chloride is grafted on a copolymer of a conjugated diene with acrylonitrile or methacrylonitrile, said graft copolymer being essentially insoluble in organic solvents and having a gel content of at least 90%; and

(d) 0% or 1–10% by weight of a cross-linked elastomeric copolymer prepared by emulsion polymerization of a conjugated diene and acrylonitrile or methacrylonitrile in an aqueous emulsion, said elastomeric copolymer having a gel content of at least 80%;

and rigid sheets produced from said composition of matter suitable for packing foodstuffs.

3,510,544

DIGUAIACYL PHOSPHATE SALT OF TETRACYCLINE

André Allais, Les Lilas, and Michel Paturet, Sucy-en-Brie, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France

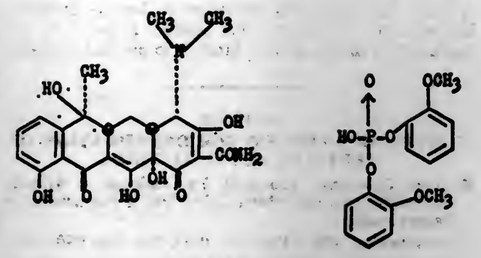
No Drawing. Filed June 27, 1967, Ser. No. 649,145

Int. Cl. C07f 9/08; A61k 27/00

U.S. Cl. 260—925 1 Claim

Diguaiacyl phosphate salt of tetracycline of the formula:

I



and its preparation and antibiotic and bactericidal compositions and method.

3,510,545

METHOD OF MANUFACTURING NUCLEAR FUEL RODS

Atsushi Nishiyama, Kawachi, and Toshio Kanamatsu, Nishinomiya, Japan, assignors to Sumitomo Electric Industries, Ltd., Osaka, Japan, a company of Japan

No Drawing. Original application Dec. 11, 1964, Ser. No. 417,719, now Patent No. 3,372,213, dated Mar. 5, 1968. Divided and this application Dec. 8, 1967, Ser. No. 688,966

The portion of the term of the patent subsequent to Mar. 5, 1985, has been disclaimed

Int. Cl. G21c 21/08, 3/04

U.S. Cl. 264—.5 4 Claims

A method of manufacturing nuclear fuel rods having a prolonged fuel life wherein there is provided a homogeneous mixture of powders of an oxide nuclear fuel and a metallic boride of any one or more of TiB_2, ZrB_2, CrB_2, NbB_2 and VB_2, as a burnable poison, compacted at a desired pressure followed by sintering at a high temperature after which the sintered product is pulverized into different grain sizes, if desired, and placed into a nuclear fuel cladding tube by the vibratory compacting technique.

3,510,546

METHODS FOR POWDERING METALS

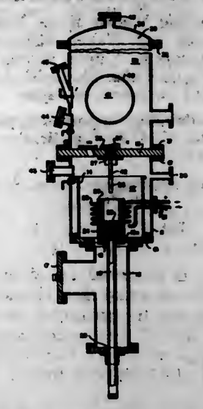
Joseph M. Wentzell, Oneida County, N.Y., assignor to Homogeneous Metals Inc.

Filed Dec. 15, 1967, Ser. No. 691,852

Int. Cl. B01j 2/04

U.S. Cl. 264—13 4 Claims

A method for forming metal powders by pressurizing molten metal with a compatible non-reactive gas or metal having a vapor pressure substantially above that of the metal, then spraying the pressurized metal through an



orifice into a vacuum chamber where the formed metal particles are cooled and collected.

3,510,547

METHOD OF HEAT TREATING A BODY OF CURABLE MATERIAL

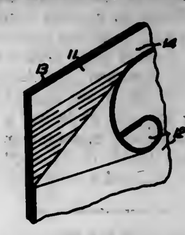
Paul Eisler, 57 Exeter Road, London NW. 2, England

Continuation-in-part of application Ser. No. 165,736, Jan 12, 1962. This application May 12, 1966, Ser. No. 549,681

Claims priority, application Great Britain, Jan. 20, 1961, 2,384/61; Jan. 20, 1966, 2,626/66

Int. Cl. E04b 1/16; B28b 21/78

U.S. Cl. 264—33 3 Claims



A method is provided for producing a shaped body of curable material, the solidification of which can be accelerated by heat. An electric heating film is positioned in a mold structure which defines the shape of the body produced. A thin crust of curable material is applied to the film in order to form a shell of the desired shape when cured and the film is energized for a short time in order to cure the crust. The shell and mold structure are separated while leaving the film on the shell. The shell is then filled with more curable material and the film is further energized to cure the body.

3,510,548

PROCESS FOR BLOW MOLDING FOAM PARISONS FORMED FROM EXPANDABLE POLYSTYRENE BEADS

Peter D. J. Dicks, Kitchener, Ontario, William M. Hill, Ayr, Ontario, and James T. Horn, Port Credit, Ontario, Canada, assignors to Cecil Harold Royce Day, Grimsby, Ontario, Canada

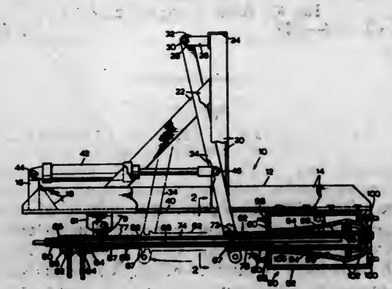
Filed Nov. 16, 1967, Ser. No. 683,656

Claims priority, application Canada, Oct. 30, 1967, 3,734

Int. Cl. B29d 23/03

U.S. Cl. 264—51 2 Claims

The present invention relates to a method and apparatus for the manufacture of plastic articles such as bottles from a foamable plastic material such as expandable polystyrene. The apparatus of the present disclosure includes a mold which has a first molding chamber surrounded by a second molding chamber and separated therefrom by a movable wall. The movable wall is adapted to be removed from the mold to permit the parison formed within the first mold to be expanded to the contour of the second mold. In the method of the present



invention the first molding chamber is charged with a foamable plastic and the foamable plastic is expanded therein to form a tubular parison. After the expansion of the plastic material within the first mold has been substantially completed the movable outer wall of the first mold is withdrawn and the parison is further expanded by blow-molding to the contour of the second mold. After the blow-molding has been completed the mold is split and the molded article removed.

3,510,549

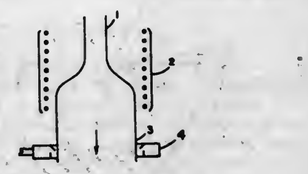
PROCESS FOR PREPARING POLYPROPYLENE FILMS HAVING THERMAL SHRINKABILITY

Kazuhiko Tsuboshima and Teruchika Kanoh, Shizuoka-ken, Japan, assignors to Kohjin Company, Limited, Tokyo, Japan, a corporation of Japan

Continuation-in-part of application Ser. No. 690,328, Dec. 13, 1967. This application Apr. 15, 1969, Ser. No. 816,367

Int. Cl. B29c 17/06; B29d 7/26

U.S. Cl. 264—95 8 Claims



A method is provided for making a film having high thermal shrinkability from a crystalline propylene-ethylene copolymer. The copolymer contains propylene as the major constituent and contains less than 10% ethylene. The copolymer is melted, extruded through an annular die, and cooled to provide a tubular film. The film is then reheated to a temperature above 120° C. and below the melting point of the copolymer and the heated film is simultaneously stretched in both the transverse and longitudinal directions so as to orient the film. The film is then cooled while retaining the stretched condition.

3,510,550
MANUFACTURE OF THERMOPLASTIC CONTAINERS

Viktor Indrika, Unterjesingen, Germany, assignor to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany
Continuation of application Ser. No. 648,823, June 26, 1967, which is a division of application Ser. No. 402,869, Oct. 9, 1964. This application June 16, 1969, Ser. No. 837,999
Claims priority, application Germany, Apr. 1, 1964, K 52,548

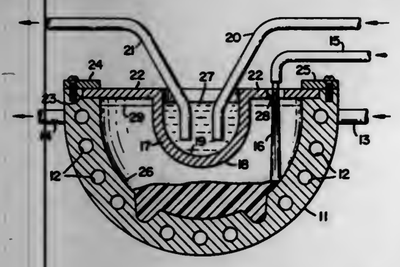
Int. Cl. B32b 7/06; B29c 27/14
U.S. Cl. 264—242 3 Claims



The present invention provides a method of obtaining an advantageous attachment between the upper and lower parts of a container, made from a thermoplastic film, which parts meet at flattened edges. A repeatedly detachable means of attachment between the upper and lower parts of a container, which meet at flattened edges, can be achieved in a relatively simple manner when, at any part of the container at which such edges are required to be separably attached together, these edges are heated until the thermoplastic film is softened and then so rolled together that they are secured against casual separation while being separable when required. In the case of a container in two parts having straight edges at opposite sides and intended to be hinged at one side and separably attached at the other, one of the pairs of flattened edges may be softened and so rolled together that they are not normally detachable but can pivot with reference to one another, while the other pair is treated as set forth above.

3,510,551
CASTING COMPOSITE ARTICLES

Charles H. McCrea, Belmont, Calif., assignor to Plastic Productions Company, Redwood City, Calif., a corporation of California
Filed Nov. 20, 1967, Ser. No. 684,385
Int. Cl. B29c 6/04; B29g 7/100; B32b 31/00
U.S. Cl. 264—250 6 Claims



A method of casting thick-walled composite articles from a combination of different plastic materials is disclosed wherein a solid thermoplastic material forms a part of the mold for a fluid plastic material and is integrally bonded to the fluid material during hardening.

ERRATUM

For Class 264—255 see:
Patent No. 3,510,489

3,510,552
BIAXIALLY DRAWING POLYAMIDE FILM

Motohiro Tsuruta and Mutsuo Kuga, Kyoto-shi, Takeshi Mashimo, Uji-shi, and Wakuo Matsumura, Hirakata-shi, Japan, assignors to Nippon Rayon Company Limited (Nippon Rayon Kabushiki Kaisha), Uji-shi, Kyoto-fu, Japan, a body corporate of Japan

No Drawing. Continuation-in-part of application Ser. No. 536,481, Jan. 24, 1966. This application Sept. 12, 1966, Ser. No. 578,449
Claims priority, application Japan, Sept. 16, 1965, 40/56,493
Int. Cl. B69d 7/24
U.S. Cl. 264—289 15 Claims

Polyamide film is processed by adding 2 to 12% by weight water, preheating and then biaxially drawing at a temperature lower than the preheating temperature and in the range 100 to 180° C. The process results in film having improved gauge properties. Controlled drawing conditions, e.g. draw speed, leads to further improved products.

3,510,553
DENTIFRICES CONTAINING FLUOSILICATES AND SILICA

James Richard Mellberg, Barrington, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts

No Drawing. Filed Oct. 27, 1967, Ser. No. 678,542
Int. Cl. A61k 7/16
U.S. Cl. 424—52 11 Claims

A professional prophylactic dentifrice paste comprising an aqueous solution containing an alkali metal or ammonium fluosilicate to provide a fluorine content of 0.5 to 5% by weight, based on the total weight of the solution, a finely divided silica abrasive having particles which pass a 140 mesh screen (U.S. Standard sieve series) and are retained on 400 mesh; and preferably also containing phosphate ion; the paste has a pH of about 2.5 to 5.5 and a consistency, measured in accordance with A.S.T.M. Procedure D217, of 25 to 35 mm. penetration of the cone at 20° C., under a load of 82.5 grams.

3,510,554
COMPOSITION AND METHOD FOR HARDENING FINGER- AND TOENAILS

Georges Balsiger, Lausanne, Vaud, Switzerland, assignor to Magdeleine Benois, Lausanne, Switzerland

No Drawing. Continuation of application Ser. No. 313,163, Oct. 3, 1963. This application Feb. 6, 1968, Ser. No. 703,785
Int. Cl. A61k 7/04
U.S. Cl. 424—61 6 Claims

Hardening of finger- and toenails to prevent or mitigate brittleness with attendant splitting and breaking is effected by the topical application of a tannin-containing liquid having the following preferred composition:

	Parts
Tannic acid	2
Citric acid	2
Distilled hamamelis water	20
Spirits of camphor	3
Spirits of lavender	20
Ethyl alcohol	21
Tincture of garlic	2
Chamomile extract	10
Cognac	10
Boric acid	10

3,510,555
ANTIBIOTICS PREPARED FROM TETRACYCLINE AND GENTAMICIN

Werner Rogalski and Helmut Wehlig, Darmstadt, and Ludwig Hepding, Darmstadt-Eberstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany
Continuation-in-part of application Ser. No. 568,112, July 27, 1966. This application Sept. 11, 1968, Ser. No. 759,163
Claims priority, application Germany, Aug. 4, 1965, M 66,209
Int. Cl. A61k 21/00
U.S. Cl. 424—119 5 Claims

A non-antagonistic combination of a tetracycline with a gentamicin, said combination being a compound of the formula:

$$G—(CH_3—NH—CO—T)_n$$

wherein

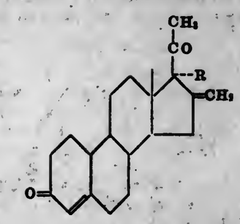
G represents a gentamicin residue,
T represents a descarboxamido-tetracycline residue, and
n represents an integer of from 1 through 4 inclusive.

3,510,556
17α-ETHERS OF 16-METHYLENE-19-NOR-PROGESTERONES

Rolf Erb, Seelbach, über Lahr, Klaus Irmscher, Klaus Brückner, Hans-Günther Kraft, Darmstadt-Eberstadt, and Hartmut Kleser, Darmstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany

No Drawing. Filed Nov. 23, 1966, Ser. No. 596,439
Claims priority, application Germany, Nov. 26, 1965, M 67,421
Int. Cl. C07c 169/32, 169/34
U.S. Cl. 424—240 10 Claims

Steroids having ovulation-inhibiting activity and little or no anti-androgenic effect are compounds of the formula:



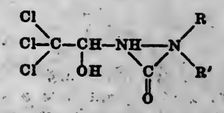
wherein R represents an etherified hydroxy group, preferably alkoxy of 1–8, particularly 1–4 carbon atoms.

3,510,557
UREA DERIVATIVES AS THERAPEUTIC AGENTS

Albert Rene Joseph Castaigne, Toulouse, France, assignor to Centre d'Etudes pour l'Industrie Pharmaceutique, Toulouse, France

No Drawing. Filed Feb. 23, 1967, Ser. No. 617,831
Claims priority, application France, Mar. 2, 1966, 51,618
Int. Cl. A61k 27/00
U.S. Cl. 424—248 9 Claims

Urea derivatives of formula



(I)

wherein R and R', which may be the same or different, represent hydrogen, a lower alkyl radical having 1–6 carbon atoms, a benzyl radical or a morpholino-carbonyl radical useful in human therapeutics for their tranquilizing, relaxing and anxiolytic properties.

3,510,558
INSECTICIDAL COMPOSITION OF 5-BENZYL-3-FURYLMETHYL dl-CIS, TRANS-CHRYSANTHEMATE AND 3,4,5,6-TETRAHYDROPHTHALIMIDOMETHYL dl-CIS, TRANS-CHRYSANTHEMATE

Keizo Hamuro, Nishinomiya-shi, Japan, assignor to Sumitomo Chemical Company, Ltd., Higashi-ku, Osaka, Japan, a corporation of Japan

No Drawing. Filed July 3, 1967, Ser. No. 650,660
Int. Cl. A01n 9/08
U.S. Cl. 424—274 1 Claim

An insecticidal composition of 5-benzyl-3-furylmethyl dl-cis, trans-chrysanthemate and 3,4,5,6-tetrahydrophthalimidomethyl dl-cis, trans-chrysanthemate.

3,510,559
2-ALKOXYPHENOXY-ACETAMIDES AS ANESTHETICS AGENTS

Winfried Arnold, Dobbs Ferry, N.Y., and Charles J. Morel, Arlesheim, Basel-Land, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 423,320, Jan. 4, 1965. This application Mar. 28, 1967, Ser. No. 624,622
Claims priority, application Switzerland, Jan. 10, 1964, 278/64; Feb. 4, 1964, 1,260/64; Feb. 11, 1964, 1,633/64
Int. Cl. A61k 27/00
U.S. Cl. 424—324 5 Claims

2-alkoxyphenoxy-acetamides substituted in the 4-position by a hydroxyalkyl group in which the hydroxy group is on the terminal carbon atom of the alkyl group are anesthetic agents.

3,510,560
METHOD OF PRODUCING ANTI-ADRENAL ACTIVITY WITH DIARYLALKYLAMINES

Harry L. Saunders, Willow Grove, Pa., assignor to Smith Kline & French Laboratories

No Drawing. Continuation-in-part of application Ser. No. 400,551, Sept. 30, 1964. This application Mar. 1, 1966, Ser. No. 530,806
Claims priority, application Canada, Sept. 29, 1965, 940,078
Int. Cl. A61k 27/00
U.S. Cl. 424—330 4 Claims

Diphenyl alkyl amines are disclosed having adrenocortical inhibitory properties. The diphenyl propylamines show selected suppression of aldosterone. These compounds are synthesized by methods known to the art.

3,510,561
SULFONE-ENHANCED HEPARIN ABSORPTION THROUGH MUCOUS MEMBRANES

Teow Yan Koh, Toronto, Ontario, Canada, assignor to Canada Packers Limited, Toronto, Ontario, Canada

No Drawing. Continuation-in-part of applications Ser. No. 457,501 and Ser. No. 457,502, both filed May 20, 1965, Ser. No. 550,935, May 18, 1966, and Ser. No. 686,323, Nov. 28, 1967. This application Aug. 18, 1969, Ser. No. 851,102
Int. Cl. A61k 17/18
U.S. Cl. 424—183 26 Claims

This invention relates to sulfone-enhanced heparin absorption through mucous membranes and particularly to compositions and methods for administering heparin so that it is absorbed through the mucous membranes to provide effective anticoagulant activity. The compositions contain heparin and at least one non-toxic physiologically acceptable sulfone, such as a dialkyl sulfone, a sulfolane or sulfolene. It has been discovered that these sulfones promote the absorption of the heparin anticoagulant substance through the mucous membranes. The compositions

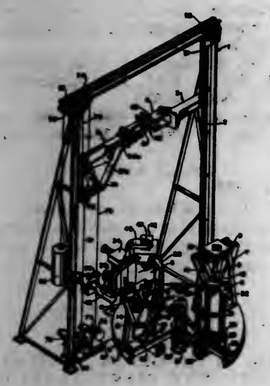
may also contain a fatty alcohol of chain length C_{14} to C_{24} to prolong or regulate the time period of absorption of the active anticoagulant substance from the composition. The composition may be administered in the form of solids or liquids which may be incorporated in enteric-coated tablets or capsules for oral administration.

ELECTRICAL

3,510,562
EQUIPMENT FOR ELECTROSLAG REMELTING OF METALS

Manfred Gerhard Frauenstein, Freital, Germany, assignor to VEB Qualitäts- und Edelstahl-Kombinat, Hennigsdorf, Germany

Filed Sept. 17, 1968, Ser. No. 760,187
Int. Cl. H05b 7/18, 3/60; C22d 7/00
U.S. Cl. 13—10 15 Claims



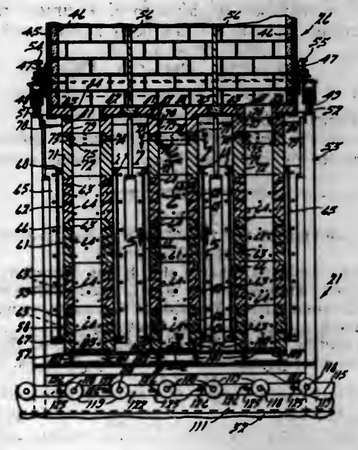
Equipment for remelting metals according to the electro-slag remelting process, by providing a rotatable turntable on which are disposed two or more crystallizers or ingot molds, one or more stands therebetween for temporarily supporting electrodes, and guidance means located above the melting position to which the crystallizers can be swung by means of the turntable. The equipment also provides a portal-like frame on which is vertically slidable an arm with suitable clamping elements for supporting electrodes of various cross-sectional and dimensional characteristics, which can be melted down to their upper ends.

3,510,563
CHIP DRYING METHOD AND APPARATUS

Robert T. Hall, Orchard Lake, Mich., assignor to Kelsey-Hayes Company, a corporation of Delaware

Filed May 3, 1968, Ser. No. 726,415
Int. Cl. C21b 5/00, 11/00; H05b 3/66
U.S. Cl. 13—22 17 Claims

An apparatus for removing cutting fluids or other liquids from metal pieces generated by machine tools and for preheating the pieces for subsequent remelting within a furnace or for compaction by a briquetting machine. The apparatus is particularly adapted for use in foundries where machining operations take place and includes a drying device that passes an electrical current through the wet pieces for vaporizing the liquid and separating it from the pieces. A conveyor delivers the wet particles to the drying device and another conveyor delivers the heated, dry particles to a furnace or briquetting machine. The vaporized liquid removed from the particles is drawn off through a plenum, is cooled by the introduction of

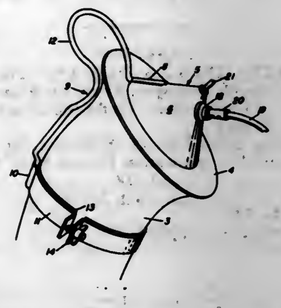


a water spray and is subsequently recovered by condensation and impingement, or is consumed in an afterburner.

3,510,564
AMPLIFYING SYSTEM FOR WIND INSTRUMENTS

Harry O. Wetsell, North Little Rock, and Douglas W. Stiles, Little Rock, Ark., assignors to Tone Cone Electronics, Inc., Little Rock, Ark., a corporation of Arkansas

Filed Aug. 8, 1966, Ser. No. 570,981
Int. Cl. G10d 9/00; G10k 11/00
U.S. Cl. 84—1.04 2 Claims

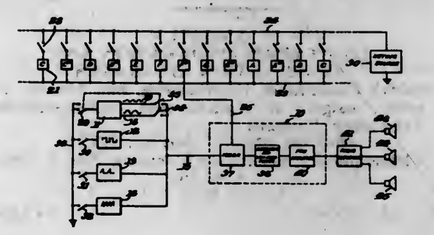


An amplifier for wind instruments having a pickup hood containing a microphone and a support member connected externally to the bell of the instrument at a point remote from the bell opening, for mounting the hood within the annular confines of the bell opening and out of contact therewith, so as to minimize undesirable noise pickup resulting from movement of the keys of the instrument.

3,510,565
ELECTRONIC ORGAN WITH MUSICAL NOTES COMPRISING BEAT FREQUENCIES OF A REFERENCE GENERATOR AND NOTE GENERATORS UTILIZING MAGNETOSTRICTIVE OSCILLATORS

Gene S. Morez, River Grove, Ill., assignor to Warwick Electronics, Inc., Chicago, Ill., a corporation of Delaware

Filed July 17, 1967, Ser. No. 653,842
Int. Cl. G10h 1/02, 1/04, 3/00
U.S. Cl. 84—1.06 13 Claims

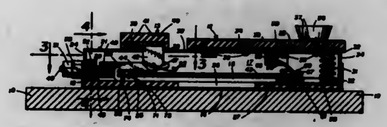


An electronic organ includes a reference frequency generator and a series of note generators with the beat frequencies of the reference generator and a given note generator corresponding to a note of the musical scale to be reproduced. All of the generators are magnetostriction oscillators and are so constructed as to selectively provide only a fundamental tone or additional harmonics thereof in a desired weighted proportion to thereby develop a series of minor beat frequencies simulative of the multiple source reproduction of a pipe organ. Structure for effecting vibrato, celeste and tremulant effects are also disclosed.

3,510,566
FOOT OPERATED WALKING STRING BASS PLUCKED BY TOE AND TUNED BY HEEL

Clyde J. McKenzie, 2818 E. Hoffman, Spokane, Wash. 99207

Filed Oct. 24, 1965, Ser. No. 504,794
Int. Cl. G10c 3/14; G10d 1/02, 3/14
U.S. Cl. 84—1.16 5 Claims

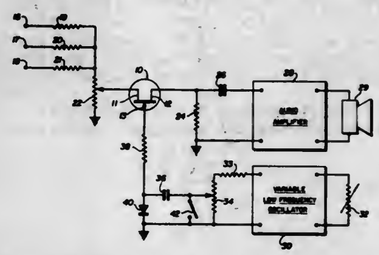


A foot operated string instrument providing a taut string which may be vibrated by an agitator pedal operated by the forefoot and varied in tension, to vary tone, by a notation pedal operated by the heel of the same foot to provide a musical instrument that simulates the sound of a bass violin with an electro-magnetic pickup device associated with the string to provide an electrical signal (responsive to string tone) that may be amplified by traditional methods for audio display. The vibrating string is carried between a movable frog, mechanically linked to the agitator pedal, and a floating bridge mechanically moved by the notation pedal.

3,510,567
TREMOLO AMPLIFIER CIRCUIT UTILIZING A FIELD EFFECT TRANSISTOR

Robert Dean Fisher, Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana

Filed Nov. 28, 1966, Ser. No. 597,281
Int. Cl. G10h 1/04
U.S. Cl. 84—1.25 4 Claims



A field effect transistor is employed as a variable resistance in an audio amplifier circuit, the resistance of this transistor being varied by applying a low frequency tremolo signal to the gate electrode of said transistor. Signal blocking due to charging of the coupling capacitor employed to couple the tremolo voltage to the gate electrode is avoided by providing a diode which conducts when the signal applied to the gate electrode exceeds a predetermined value.

3,510,568
BUSHING TERMINAL GUARD

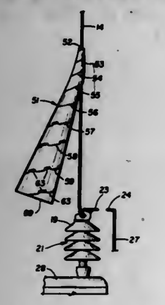
Donald J. Cochran, 2650 Newland St., Wheatridge, Colo. 80033

Filed Mar. 6, 1968, Ser. No. 711,110
Int. Cl. H01b 17/00; B26d 7/14
U.S. Cl. 174—5 8 Claims



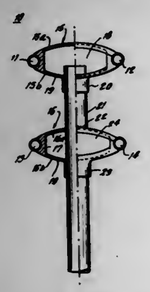
A product for the protection of transformers and other electrical equipment from damage due to short circuits attributable to squirrels, birds and other animals or objects through provision of a guard or cover that may be selectively engaged on insulators of different size to protect circuit wires to an elevation or distance away from any animal or object supporting surface. The guard which fits over terminals and wires of an electrical circuit is formed of a high dielectric material, and it provides a skirt that may be changed to fit insulators of different

size. Arc gap openings are provided at stepped elevations to establish moisture drain ports and electrical discharge paths for lightning energy when lightning arrestors are used. A mechanism inclusive of guide elements for machine cutting are gap slots in a flexible guard is disclosed. An embodiment of the invention provides a guard



formed of a ribbon of semi-rigid dielectric material disposed in a spiral configuration to facilitate installation without interruption of power and further providing a weather protected arc gap and moisture discharge opening that may be selectively positioned at an elevation for registration with installed lightning arrestors.

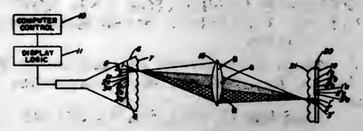
3,510,569
CONNECTOR FOR BUNDLED CONDUCTORS
Eugene Gorin, Greensburg, Pa., assignor to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Aug. 1, 1968, Ser. No. 749,359
Int. Cl. H02g
U.S. Cl. 174—70 4 Claims



A universal connector for use with bundled conductors employed in the transmission and distribution of extra high voltage. The universality of the connector which is of a simplified design permits tapping between multiconductor buses and connection between multiconductor bus and single conductors and other terminals in a variety of different ways as a result of requirements imposed by applications of extra high voltage. The simplicity of design facilitates connection to multiconductor bus and the configuration leads to a substantial reduction of corona.

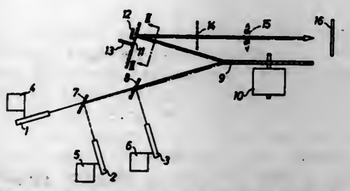
3,510,570
ELECTRONIC LENTICULAR DISPLAY SYSTEM
Israel J. Melman, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 3, 1966, Ser. No. 583,635
Int. Cl. H04n 1/22
U.S. Cl. 178—5.4 4 Claims

A recording system wherein a monochromatic cathode ray tube having a lenticulated face plate is utilized to display interlaced rasters of information each nominally



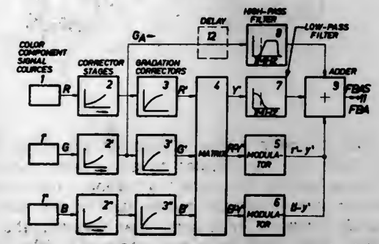
color-identified and which are focused by a conventional lens means onto a photosensitive medium supported by a lenticulated support.

3,510,571
LIGHT BEAM MODULATION AND COMBINATION APPARATUS
Friedrich Biedermann, Unterhaching, near Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Jan. 31, 1967, Ser. No. 612,875
Claims priority, application Germany, Feb. 4, 1966, A 51,504
Int. Cl. H04n 9/14
U.S. Cl. 178—5.4 14 Claims



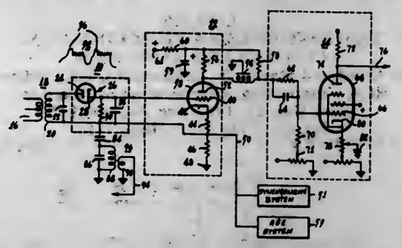
A color television receiver which utilizes one or more lasers and mechanical-optical means, including one or two Weiller mirror wheels, for reproducing color pictures on the phosphor screen. The reproduction of pictures can be carried out in accordance with the simple or interlaced scanning method.

3,510,572
METHOD OF AND APPARATUS FOR THE GRADATION CORRECTION OF COLOR TELEVISION SIGNALS
Helmut Schönfelder, Darmstadt, Germany, assignor to Fernseh GmbH, Darmstadt, Germany
Filed July 25, 1966, Ser. No. 567,687
Claims priority, application Germany, July 28, 1965, F 46,726
Int. Cl. H04n 9/04
U.S. Cl. 178—5.4 11 Claims



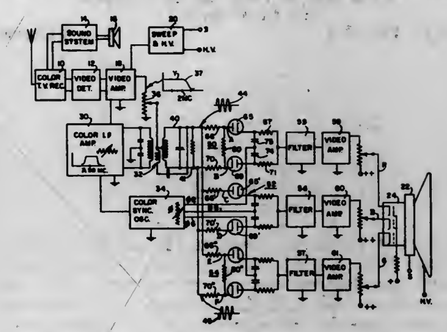
A method and apparatus for generating a gradation-corrected color television luminance signal, in which the color component signals representing red, green and blue components of the scene scanned, are applied to individual gradation correctors from signal sources developing these color component signals. The outputs of the gradation correctors are applied to a color matrix device which provides a luminance signal composed of predetermined proportions of the corrected color component signals. After passing through a low-pass filter, the luminance signal from the matrix device is added to a signal taken from one of the signal sources and passed through a high-pass filter having a characteristic which is complementary to that of the low-pass filter.

3,510,573
VIDEO CIRCUITS FOR COLOR TELEVISION RECEIVERS
Roland Norman Rhodes, Indianapolis, Ind., and Albert Macovski, Palo Alto, Calif., assignors to RCA Corporation, a corporation of Delaware
Filed Dec. 20, 1966, Ser. No. 603,317
Int. Cl. H04n 9/12
U.S. Cl. 178—5.4 5 Claims



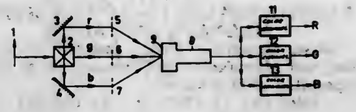
A composite signal amplifier for video signals employs a detector poled to provide a composite video signal having deflection synchronizing pulses extending in a positive direction with respect to the other components of the signal. The detector is bootstrapped across the grid to cathode circuit of a first vacuum tube video amplifier and the cathode is used to supply drive to sync and A.G.C. circuits. A delay line is coupled between the plate electrode of the first amplifier and a grid electrode of a second amplifier. The second amplifier's grid is coupled to another detector for providing a D.C. potential thereto in accordance with the low frequency components present in the composite signal.

3,510,574
COLOR TELEVISION SIGNAL DEMODULATION SYSTEM
Albert W. Massman, Wheaton, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 11, 1967, Ser. No. 666,749
Int. Cl. H04n 9/50
U.S. Cl. 178—5.4 6 Claims



A direct color television signal demodulator includes synchronous detectors to provide color representative video signals, each demodulator having two branches fed by the same phase brightness signal and opposite phases of modulated color subcarrier signal. A series impedance in each branch and a shunt impedance between the two branches establishes the brightness signal to color subcarrier ratio to compensate for the transmitted amplitudes of color difference signals in a received composite signal.

3,510,575
COLOR TELEVISION PICKUP APPARATUS EMPLOYING A SINGLE CAMERA TUBE
Wolfgang Dillenburger, Niederramstadt, near Darmstadt, and Richard von Feigel-Farnholz, Darmstadt-Eberstadt, Germany, assignors to Fernseh GmbH, Balmhof, Germany
Filed Dec. 18, 1967, Ser. No. 691,355
Claims priority, application Germany, Dec. 17, 1966, F 50,996
Int. Cl. H04n 9/06
U.S. Cl. 178—5.4 16 Claims

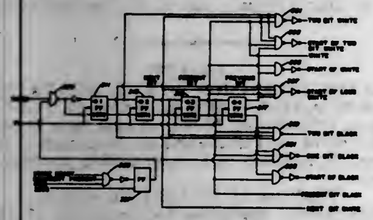


An arrangement in color television pickup apparatus for generating a plurality of color primary signals through the use of a single television pickup tube. The object to be picked up is scanned so that separate and differently colored images are formed. These images are situated in planes containing diaphragms which have an array of alternate opaque and transparent strips disposed perpendicular to the direction of the line of scanning. The light passing through the diaphragm is imaged upon the photosensitive layer of the television pickup tube used in the apparatus. The image of each transparent strip of one of the diaphragms is immediately adjacent to the image of a transparent strip of another one of the diaphragms. Complete images of the object scanned are projected in mutually exclusive spectral ranges. Each of the images has the same chrominance value with regard to hue and saturation, over the entire picture area. Separation into the individual spectral ranges may be accomplished through the use of mirror or prism systems including dichroic layers.

3,510,576
DATA SAMPLER CIRCUIT FOR DETERMINING INFORMATION RUN LENGTHS
James D. Centanni, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 3, 1966, Ser. No. 583,632
Int. Cl. H04n 5/38, 5/44
U.S. Cl. 178—6 4 Claims

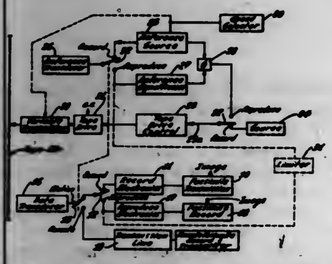
In a binary encoder for encoding information run lengths in accordance with the statistical probability of occurrence thereof, a video sampler circuit for determining the color of a run, the length of a run, and the end of one run and the start of the next run. The sampler circuit comprises four flip-flops in a shift register array. The first flip-flop monitors the polarity of the input binary information; the second flip-flop monitors

the polarity of the next immediate bit of binary information; the third flip-flop monitors the polarity of the present bit of binary information; and the fourth flip-flop monitors the polarity of the previous bit of binary



information. Gating circuitry selectively coupled to the shift register monitors the input sequences in order to determine the statistical probability of occurrence of data in the incoming waveform.

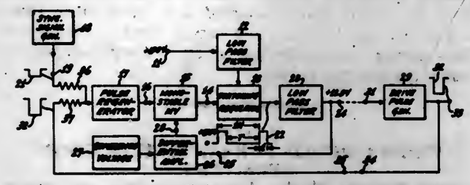
3,510,577
FACSIMILE SYSTEM WITH TWO SPEED MAGNETIC STORAGE
Peter Arnum, Camarillo, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 13, 1967, Ser. No. 675,243
Int. Cl. H04n 1/28, 1/42
U.S. Cl. 178—6.6 19 Claims



A facsimile record-reproduce system is disclosed where facsimile signals are recorded first and subsequently reproduced for image compositioning by the associated facsimile unit or for transmission to another remotely positioned system. Differently located facsimile systems communicate through the transmission facility and through their recorders at respective high record and reproduce speeds. Each tape recorder communicates with its associated facsimile unit at low speed. During facsimile recording reference signals are recorded concurrently and the induction motor of the recorder-reproducer is controlled in open loop. During reproduction the reproduced reference signals are phase compared with a concurrently produced reference signal, the phase difference is amplified and modified and controls formations of a D-C component serving for developing a controlled braking torque for the otherwise A-C driven induction motor.

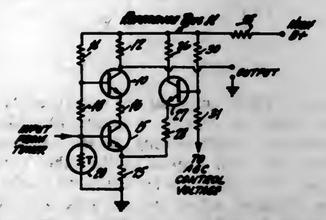
3,510,578
TELEVISION CAMERA POWER SUPPLY
Lucas J. Bazin, Stratford, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,945
Int. Cl. H04n 5/26
U.S. Cl. 178—7.1 6 Claims

A relatively high voltage direct current is keyed on during horizontal blanking intervals and off during horizontal signal-producing intervals to produce pulses which are integrated to produce a relatively low voltage direct current supply, any deviation of which from a reference voltage is detected to produce a control signal by which



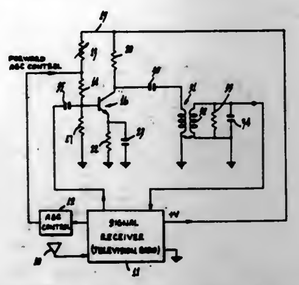
the ratio of the on-to-off keying periods is adjusted to maintain the voltage of the low voltage supply substantially constantly equal to the reference voltage.

3,510,579
TRANSISTORIZED AUTOMATIC-GAIN-CONTROLLED AMPLIFIER
James Courtland Marsh, Jr., Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,132
Int. Cl. H03g 3/30; H04n 5/56
U.S. Cl. 178—7.3 10 Claims



A gain controlled bandpass amplifier includes two amplifier stages arranged in a series direct current biasing configuration and a cascade alternating current configuration. Gain control is applied by means of a third transistor in a manner to maintain the circuit impedances of the bandpass amplifier substantially constant over the automatic gain control range.

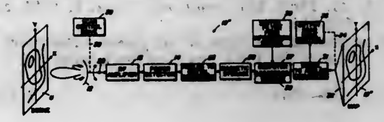
3,510,580
GAIN CONTROLLED TRANSISTOR AMPLIFIER WITH CONSTANT BANDWIDTH OPERATION OVER THE AGC CONTROL RANGE
Yoshihiro Okuno, Sosbigaya, Japan, assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 5, 1968, Ser. No. 710,476
Int. Cl. H04n 5/52
U.S. Cl. 178—7.3 8 Claims



A transistor amplifier having a given bandwidth is biased and operated to exhibit gain changes due to a forward automatic gain control signal applied to its base. The

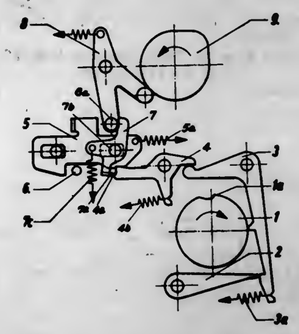
amplifier output circuit includes a high Q series resonant circuit, magnetically coupled to a low Q parallel resonant circuit, the combination affording stable bandwidth operation over the forward AGC control range.

3,510,581
OPTIMUM POSTDETECTION FILTER FOR MICROWAVE RADIOMETRIC MAPPING SYSTEM
Robert L. Craigiow, John M. Holt, and Walter R. Iliff, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed July 1, 1966, Ser. No. 562,212
Int. Cl. H04n 7/18, 7/02
U.S. Cl. 178—6 18 Claims



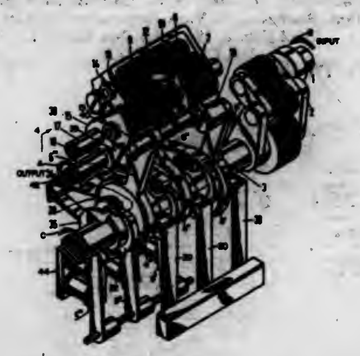
Postdetection spatial filtering for microwave radiometric mapping systems is involved. It incorporates real time spatial filtering after detection in the recording process to minimize spatial frequency distortion and loss of detail inherently present and characteristically determined by the specific scene scanning antenna employed.

3,510,582
TELEPRINTER ARRANGEMENT FOR REDUCING RECEIVED SIGNAL DISTORTION
Dieter Schenk, Pforzheim, and Horst Gaupp, Enzberg, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 20, 1966, Ser. No. 603,213
Claims priority, application Germany, Dec. 23, 1965, St 24,800
Int. Cl. H04l 17/16
U.S. Cl. 178—17.5 3 Claims



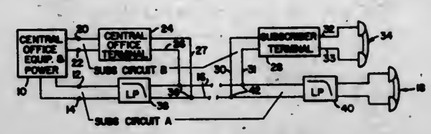
An arrangement for reducing the effects of received signal distortion in teleprinters of the type which operate on the start-stop code principle. The disclosure defines an addition to the mechanical storage facilities therein to prevent falsification of code elements resulting from distorted start-stop pulses. There is provided a component part coupled to the first storage element which permits an intermediate storage of the desired first element marking until the storage element is ready to accept it.

3,510,583
TELEGRAPH APPARATUS (5-UNIT-CODE) FOR THE SETTING OF SYMBOLS WHICH ARE ARRANGED ON A TYPE CYLINDER
Hans Kern, 14 Schneckenstr., 8 Munich 25, Germany
Filed Jan. 23, 1967, Ser. No. 610,902
Claims priority, application Germany, Jan. 28, 1966, S 101,673, S 101,674, S 101,675
Int. Cl. H04l 17/24
U.S. Cl. 178—34 13 Claims



A telegraph apparatus (5-unit-code) for the setting of symbols which are arranged on the circumference of a type cylinder in eight symbol rows extending in an axial direction. The type cylinder is driven by successively connected planetary gears (combined planetary gear mechanism) which are rendered operable by setting members controlled by a binary code system. The combined planetary gear mechanism has a gear ratio of 1:2, or 2:1 per gear stage. Moreover, the invention concerns a coupling system for the selective engagement of cams for one-half of a revolution. The cams provide an input to the individual stages of the combined planetary gear mechanism for the setting of a type-cylinder having a plurality of symbols in an electrically operated typewriter.

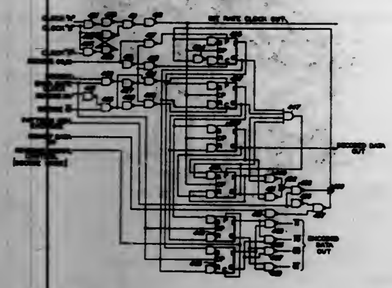
3,510,584
TELEPHONE SYSTEM WITH ADDED MAIN LINE SUBSCRIBER FACILITIES
Lester Q. Krasin, Dallas, and Clifford E. Greene, Fort Worth, Tex., assignors to Superior Cable Corporation, Hickory, N.C., a corporation of Delaware
Continuation-in-part of application Ser. No. 549,399, May 11, 1966. This application Aug. 2, 1967, Ser. No. 660,165
Int. Cl. H04m 19/08
U.S. Cl. 179—2.5 18 Claims



The disclosure relates to a telephone communication system wherein additional facilities are added to the normal cable transmission pair of lines without affecting the original system and which utilizes its own battery power rather than the system power during transmission and reception. This is provided by adding subscriber stations with their own batteries which operate at frequencies different from those of the communication system and include filter

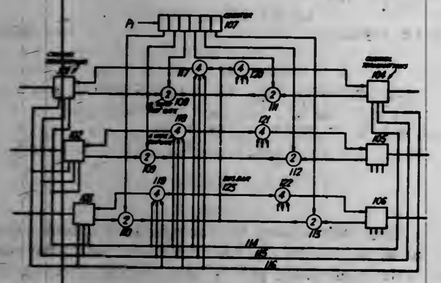
means to separate system signals from those of the additional facilities. The batteries are conditioned to be charged by the power supply of the system during non-operation thereof and of the additional facilities to maintain the batteries in charged condition.

3,510,585
MULTI-LEVEL DATA ENCODER-DECODER WITH PSEUDO-RANDOM TEST PATTERN GENERATION CAPABILITY
Roger B. Stone, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Feb. 2, 1967, Ser. No. 613,571
Int. Cl. H04l 27/10
U.S. Cl. 178—66 3 Claims



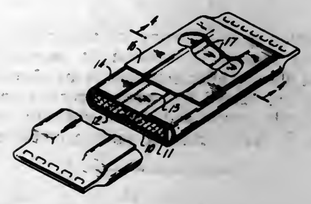
An encoder-decoder circuit for use in converting binary signals into multi-level signals and vice-versa for transmission of data through a restricted bandwidth information channel. Two level binary signals are converted to four level signals by means of logic circuitry designed for combined encoding and decoding operations. An additional feature of the encoding-decoding circuitry is the conversion thereof into a pseudo-random pattern generator for generation of a test pattern in order to test the encoding and decoding operations by means of a fixed transmitted pattern.

3,510,586
DATA TRANSMISSION SYSTEMS
Esmond Philip Goodwin Wright, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 24, 1966, Ser. No. 522,538
Claims priority, application Great Britain, Jan. 29, 1965, 4,032/65
Int. Cl. H04l 25/02
U.S. Cl. 178—69 7 Claims



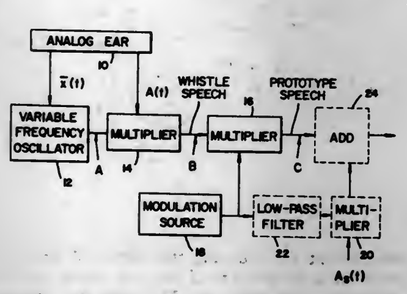
A signalling system for telecommunications having a number of features arising out of the use of a separate data signalling channel. The data stream uses blocks of signals with acknowledgement signals and error detecting facilities. The use of duplicate signalling channels enables correct operation to continue when one channel gives wrong signals, or even when both channels give wrong signals, but the correct signals can be deduced from the received information. Special operational procedures are described with regard to certain signals (i.e. Clear-Forward Signal). Also described are facilities for signals of different priorities, test signals and administrative signals.

3,510,587
DISPOSABLE DIAPER
Herman L. Marder, Plainfield, George Daniel Grippo, New Brunswick, and Werner Otto Tundermann, Colonia, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 298,904, July 31, 1963. This application Mar. 8, 1966, Ser. No. 532,636
The portion of the term of the patent subsequent to Feb. 28, 1984, has been disclaimed
Int. Cl. A61f 13/00
U.S. Cl. 128—284 9 Claims



A diaper comprising an absorbent core contained in a porous envelope comprising two high wet-strength members which form a substantially flattened tube and which are secured to the core but are not secured to each other except when said diaper is wet.

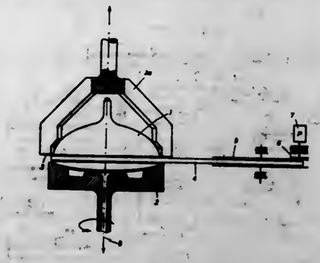
3,510,588
SPEECH SYNTHESIS METHODS AND APPARATUS
John L. Stewart, Santa Clara, Calif., assignor to Santa Rita Technology, Inc., Menlo Park, Calif., a corporation of Arizona
Filed June 16, 1967, Ser. No. 646,589
Int. Cl. G10l 1/00
U.S. Cl. 179—1 20 Claims



Apparatus and method for producing synthetic speech from real speech wherein two or three slowly varying measures from the output of an electronic analog cochlea are used to control and modulate the output signal of an oscillator to produce a whistle-type speech. The whistle

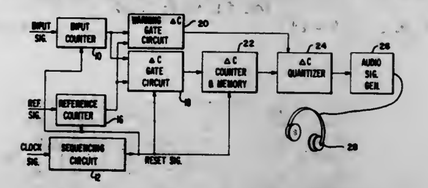
speech is modulated to produce proto-type speech suitable for reception by the human ear. The prototype speech can be of the one-bump type providing only moderate intelligibility or can be of the two-bump type having better intelligibility along with improved naturalness.

3,510,589
CATHODE RAY TUBE WITH METALLIC TENSIONING RIBBON FOR IMPLOSION PROTECTION
Peter Schmidt, Denkendorf, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 18, 1968, Ser. No. 713,835
Int. Cl. H01j 29/06
U.S. Cl. 178—7.82 3 Claims



A metal tensioning strip is wrapped around a cathode ray tube at the faceplate seam to prevent implosion. One end of the strip is secured to a mounting angle which is permanently positioned between the tube and the overlapping layers of the strip as it is wrapped around. The overlapping portions are welded together to maintain the tension.

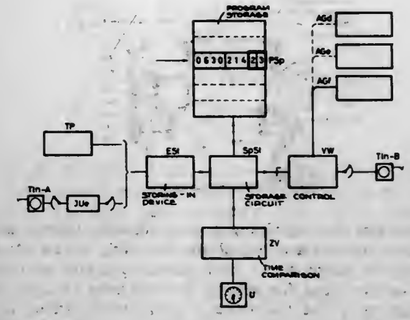
3,510,590
ELECTRONIC APPARATUS FOR QUANTIZING A DIGITAL INPUT SIGNAL FOR PROVIDING AN AUDIO OUTPUT SIGNAL THEREOF
Eugene Fred Golla, Kittanning, Pa., assignor to HRB-Singer, Inc., State College, Pa., a corporation of Delaware
Filed Sept. 19, 1967, Ser. No. 668,916
Int. Cl. H03k 5/20, 13/24
U.S. Cl. 179—1 9 Claims



Communications apparatus for presenting an interpretation of a digital (binary) number to an operator by means of audio signals, comprising a binary signal counter and a reference counter coupled to sequencing means under the control of a clock signal, whereupon an input binary signal representing a binary number is compared against a reference number selected in the reference counter. A delta count circuit is coupled to both the counter and reference counter, the output of which is fed into a third binary counter circuit including memory means. A binary quantizer circuit is coupled to the third counter circuit which is operative to feed a control signal to an audio signal generator to produce a predetermined output in form of a combination of audio tones and low frequency pulses which are representative of the quantized binary input signal.

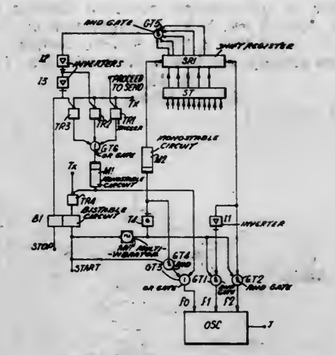
3,510,591
CONTROL FOR AN AUTOMATIC REVEILLE ALARM DEVICE IN TELEPHONE SYSTEMS
Wolfgang Klein, Kornwestheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed June 1, 1966, Ser. No. 554,571
Claims priority, application Germany, June 3, 1965, St 23,924, St 23,925; June 6, 1965, St 24,091
Int. Cl. H04m 11/02
U.S. Cl. 179—2 5 Claims

An automatic morning and alarm call system is provided. By this system a subscriber is able, by dialling, to place a request for certain telephone services at a particular time. The times for all calls are recorded and pulses from a clock are used to determine when particu-



lar calls are to be made. Calls into and from the system are automatic to dispense with the need for a human operator.

3,510,592
CODED AUDIO FREQUENCY DIGITAL TRANSMISSION SYSTEM
George Menicou, London, England, assignor to International Standard Electric Corporation
Filed Oct. 27, 1966, Ser. No. 589,947
Claims priority, application Great Britain, Nov. 2, 1965, 46,285/65
Int. Cl. H04m 11/00
U.S. Cl. 179—2 4 Claims



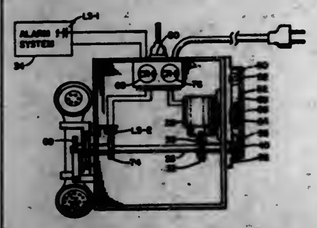
A coded voice frequency signalling system is provided for signalling between registers. Digits are sent in binary form, using two frequencies f_1 and f_2 for binary "0" and "1" respectively. A third frequency, f_n, is used to provide

suffix and prefix for each digit and also to fill the digits inter-bit gaps. The prefix and suffix are made longer than the inter-bit gaps to serve as inter-digital pauses.

ERRATUM

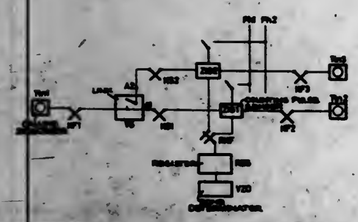
For Class 179—2.5 see:
Patent No. 3,510,584

3,510,593
TELEPHONE ALARM DEVICE
Robert E. Chappell, Essex Road, Westbrook, Conn. 06498
Filed Apr. 17, 1967, Ser. No. 635,296
Int. Cl. H04m *11/04*
U.S. Cl. 179—5 8 Claims



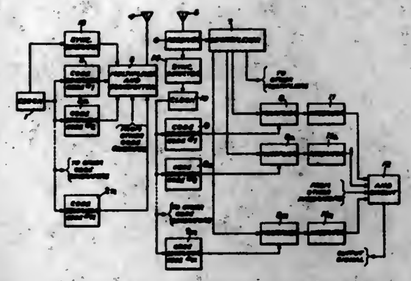
A device for activating a card dialable telephone in response to an alarm signal and including a base for receiving the telephone. A shaft rotatably supported in the base carries cams for raising the telephone receiver and for activating the telephone circuitry when driven by a motor which is energized in response to a signal from the alarm system. A mechanical sound producing device is also carried by the shaft adjacent the telephone receiver so that after a predetermined telephone number is dialed, a coded message is transmitted to such telephone number. One of the cams operates two pushrods, which are mechanically connected to levers for depressing the telephone start bar and for recycling the telephone circuitry by depressing the perforated card to initiate successive cycles of operation as long as the alarm system continues to generate an alarm signal.

3,510,594
ARRANGEMENT FOR AUTOMATIC ASSESSMENT OF FEES IN CONFERENCE CALL CIRCUITS
Hoechley Odau, Korntal, Wurttemberg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,880
Claims priority, application Germany, May 11, 1965, St 23,906
Int. Cl. H04m *15/18*
U.S. Cl. 179—7.1 4 Claims



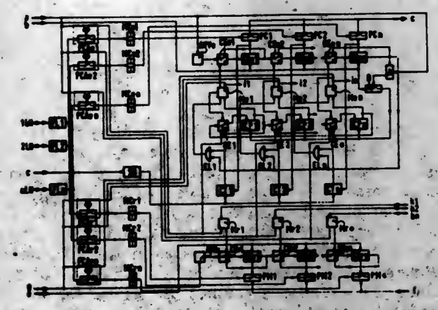
An automatic fee assessment system for conference calls is shown. Counting pulses for each called subscriber are generated in an unrelated manner. The unsynchronized pulses are related to each subscriber are used to operate separate relays. The separate relays, in turn, collectively operate a logical AND gate and set another relay. The last relay remains closed, enabling establishment of total time of the call, until connections are broken to all of the called subscribers.

3,510,595
IMPULSE AUTOCORRELATION FUNCTION MULTIPLEX SYSTEM
Frank S. Gutleber, Wayne, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Aug. 11, 1967, Ser. No. 659,915
Int. Cl. H04j *7/00*
U.S. Cl. 179—15 10 Claims



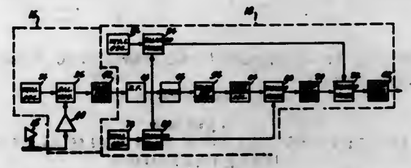
A pseudo-noise multiplexed code class of the type where at least one of a plurality of code signals has an autocorrelation function including an impulse output upon time coincidence of the code signal and its replica and a zero output at all other times. All the code signals are separately correlation detected and the resultant detected outputs are coincidence detected to provide an output signal having an impulse autocorrelation function.

3,510,596
TELEPHONE SYSTEM
Evangelo Lyghounis, Milan, Italy, assignor to Societa Italiana Telecomunicazioni Siemens S.p.A.
Continuation of application Ser. No. 445,333, Apr. 5, 1965. This application May 5, 1969, Ser. No. 826,047
Int. Cl. H04j *5/00*
U.S. Cl. 179—15 10 Claims



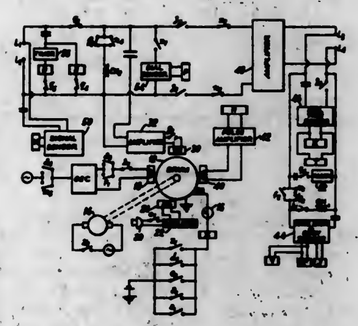
A means is provided to couple a number of telephone lines at one location to a like number of telephone lines at a remote location by a number of tie lines which is no more than half the number of telephone lines, means being provided for tie lines only to such of the telephone lines as are not idle. Furthermore, coded signals are sent via the tie lines to properly associate the local telephone lines with the remote telephone lines.

3,510,597
FREQUENCY BANDWIDTH COMPRESSION AND EXPANSION SYSTEM
Glen A. Williamson, 339 Norwood Drive, Danville, Va. 24541
Continuation of application Ser. No. 362,777, Apr. 27, 1964. This application May 5, 1969, Ser. No. 824,364
Int. Cl. H04b *1/68*
U.S. Cl. 179—15.55 11 Claims



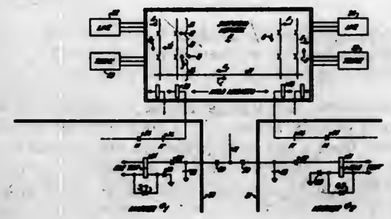
A transmitter and receiver system in which an audio signal modulates a radio frequency signal which modulated signal is filtered to produce a single sideband having a given frequency bandwidth, the single sideband width is compressed by heterodyning said signal with a submultiple of said signal and the compressed bandwidth single sideband derived therefrom is transmitted to a receiver. The receiver expands the single sideband bandwidth to the original bandwidth by heterodyning said signal with a higher frequency signal and heterodyning said higher frequency signal with a signal derived from the input to the receiver. This system permits transmission of a single sideband signal having a bandwidth a fraction, e.g. ¼ of the bandwidth of the original modulating signal.

3,510,598
TELEPHONE CALL DIVERTER AND ANSWERING DEVICE
Joseph D. Ballin, Oceanside, N.Y., Emmett R. Salzberg, 2930 Rockaway Ave., Oceanside, N.Y. 11572, and Arthur Michael Lieberman, Scarsdale, N.Y.; said Ballin and Lieberman assignors, by direct and mesne assignments, to said Salzberg
Filed Oct. 22, 1965, Ser. No. 501,054
Int. Cl. H04m *3/54, 11/04*
U.S. Cl. 179—18 6 Claims



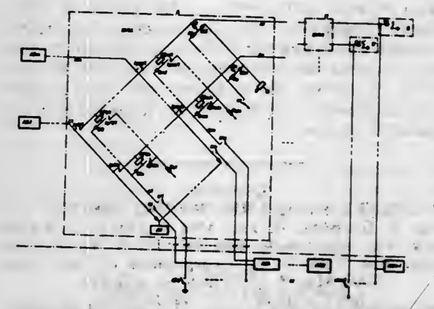
This invention provides a novel device for effecting the transfer of a call from the called telephone (Station A) to another telephone (Station B), the device having an endless recording medium bearing an "indication" of the transfer number and including means responsive to the incoming call for moving the recording medium and effecting the transfer of the incoming call to Station B. An answering message is recorded on the same medium.

3,510,599
IDLE TEST CIRCUITS FOR FOLDED NETWORKS
Roger Cohen, Bayamon, Puerto Rico, assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Mar. 15, 1967, Ser. No. 623,267
Int. Cl. H04m *3/22*
U.S. Cl. 179—18 5 Claims



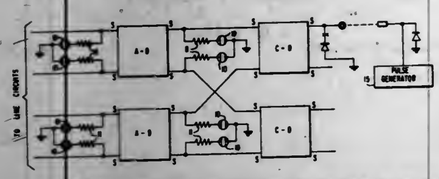
An idle test relay circuit is provided for each of many telephone system markers which may operate in parallel to seize the same idle equipment. The relay releases when the equipment is idle and holds when the equipment is busy. If two markers test simultaneously, one finds that the tested equipment is idle, and the other finds that it is busy. The resulting release of the test relay in the one marker circuit applies a busy ground to hold the relay in the other marker. Responsive thereto, the other marker skips over the busy equipment and tests the next equipment.

3,510,600
MULTISTAGE CROSSPOINT SWITCHING ARRANGEMENT
Heinrich Halfmann, Korntal, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,157
Claims priority, application Germany, Feb. 19, 1966, St 25,012
Int. Cl. H04q *3/495*
U.S. Cl. 179—18 6 Claims



Control of switching grids is based on the guide wire method. The guide wires are used for offering, access, through-connection and holding—no further control wire is necessary for the intermediate link. This is achieved by using positive, negative, and ground potentials and by connecting the crosspoint relay windings between two guide wires at the crossings.

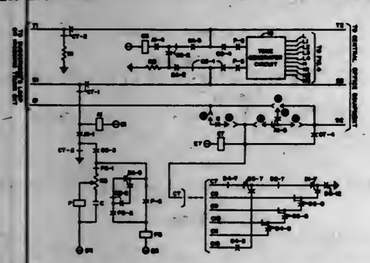
3,510,601
CALL TRACING CIRCUIT
James G. Pearce, William W. Pharis, and Gerhard O. K. Schneider, Rochester, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed July 22, 1966, Ser. No. 567,205
Int. Cl. H04m 3/22
U.S. Cl. 179—18 4 Claims



A telephone call tracing circuit is disclosed wherein indicating devices, actuated by a predetermined amplitude of pulses from a test pulse generator, are coupled to telephone lines connected through at least two switching stages, for tracing communication paths therethrough.

The present invention relates in general to telephone communication systems, and more particularly, to a circuit for facilitating the tracing of calls through enclosed cross-point switches.

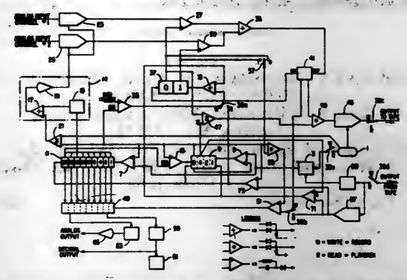
3,510,602
AUTOMATIC DIAL CIRCUIT
Derek Leyburn, St. Laurent, Quebec, Canada, assignor to The Bell Telephone Co. of Canada, Montreal, Quebec, Canada
Filed Feb. 9, 1968, Ser. No. 704,419
Int. Cl. H04m 1/26
U.S. Cl. 179—90 6 Claims



The dial circuit comprises a timing circuit which generates a series of timing pulses, a flip-flop circuit responsive to the timing circuit and digit counting relays responsive to the flip-flop circuit for counting the digits transmitted. A circuit interconnecting selected contacts of said counting relays and the multifrequency tone generator causes the generation of the required tones for each digit of the called number.

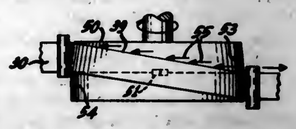
3,510,603
DIGIT CARRIER RECORDING SYSTEM
George F. Gaertner III and Alva B. Lloyd, Jr., Lynchburg, Va., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 8, 1967, Ser. No. 621,611
Int. Cl. H03k 13/07; G11b 5/02
U.S. Cl. 179—100.2 6 Claims

An apparatus for representing the magnitude of multiple analog input signals on magnetic tape, where oscillator cycles are gated to a conventional tape system such that each analog input signal is stored serially as a series of oscillator cycles, the number of which is controlled logically as a function of the magnitude of the analog input signal. The stored data is individually addressed by a predetermined number of oscillator cycles such that during playback of the recorded data, selected input chan-



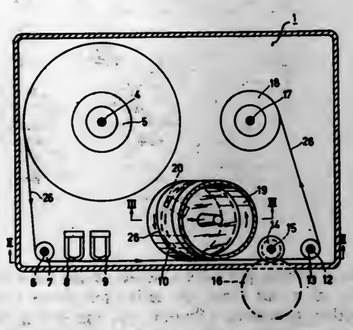
nels may be distinguished and converted to digital and analog outputs.

3,510,604
DRUM CONSTRUCTION FOR HELICAL SCAN TAPE RECORDER
Furman Donald Kell, Cherry Hill, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,436
Int. Cl. G11b 15/64, 21/04; H04n 1/28
U.S. Cl. 179—100.2 7 Claims



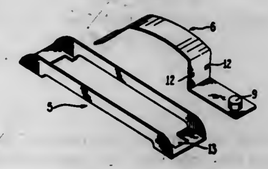
An efficient air bearing between a drum and a web which passes over the peripheral surface of the drum is provided. The drum is constructed with a portion having a diameter which decreases along the drum axis. The decreasing diameter portion which subtends a portion of the traversing web produces additional air bearing effect between the web and the drum. This in turn results in an improved stability of the traversing web.

3,510,605
AUDIO-VIDEO MAGNETIC TAPE MAGAZINE INCLUDING TRANSDUCERS
Lodewijk Frederik Ottens, Emmasingel, Netherlands, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 3, 1967, Ser. No. 635,763
Claims priority, application Netherlands, May 7, 1966, 6606263; Mar. 15, 1967, 6703877
Int. Cl. G11b 21/04, 23/04, 15/24
U.S. Cl. 179—100.2 10 Claims



A magazine contains a magnetic tape which is transportable between two spools. The tape follows a path around a guiding drum which drum is an integral part of the magazine. Magnetic heads are positioned along this path and also within the drum for the transducing of audio and/or video signals.

3,510,606
SNAP ACTION SWITCH
Hiroaki Abe and Yasuhiko Iwami, Kyoto, Japan, assignors to Tateisi Electronics Co., Kyoto, Japan
Filed Sept. 29, 1967, Ser. No. 671,678
Claims priority, application Japan, Oct. 22, 1966, 41/98,212
Int. Cl. H01h 13/36
U.S. Cl. 200—67 2 Claims



A snap action switch having an engaging member pivotally engaged at a common terminal member. One end of tension element is interengaged with the engaging member, and the other end of the tension element is interengaged with an elastic compression element. One end of the compression element is engaged at the common terminal member, and the other end of the compression element has a movable contact which is positioned to face opposed stationary contacts.

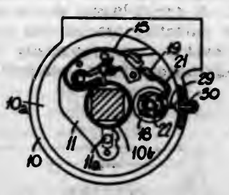
3,510,607
IMPULSE ACTUATED REED SWITCH
Carl H. Breed, 857 E. Michigan Ave., Grass Lake, Mich. 49240; and Carroll H. Bush, 2753 Vreeman Road; and John E. Getz, 3476 Northlands St., both of Jackson, Mich. 49203
Filed Feb. 23, 1967, Ser. No. 617,991
Int. Cl. H01h 35/38, 36/00
U.S. Cl. 200—81 11 Claims



An impulse actuated reed switch employing an elongated tubular nonmagnetic member, having a linearly moveable magnet-piston assembly disposed within the tube so as to actuate a reed switch positioned adjacent to the tubular exterior, the magnet movement being caused by pressurized forces applied thereto.

3,510,608
IGNITION DISTRIBUTORS
William Harold Cooksey and Albert Henry Ball, Walsall, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Jan. 31, 1968, Ser. No. 701,890
Claims priority, application Great Britain, Feb. 14, 1967, 7,008/67
Int. Cl. H01r 39/46
U.S. Cl. 200—19 5 Claims

In an ignition distributor for use in a road vehicle, of the kind wherein the casing of the distributor supports the engine driven contact breaker of the distributor, and a capacitor which is connected across the contact breaker, an input lead is connected to one side of the capacitor, said one side of the capacitor also being connected through a further lead to an intermediate terminal elec-



trically connected to one contact of the contact breaker assembly. The other contact of the contact breaker assembly, and the other side of the capacitor are electrically interconnected.

3,510,609
IGNITION DISTRIBUTORS
William Harold Cooksey, Walsall, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Mar. 7, 1968, Ser. No. 711,447
Claims priority, application Great Britain, Mar. 20, 1967, 12,933/67
Int. Cl. H01h 19/62
U.S. Cl. 200—19 2 Claims

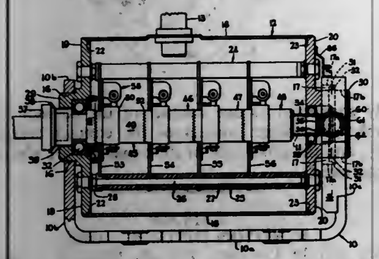


A distributor includes a casing, having a cam shaft mounted for rotation therein, the cam shaft carrying the rotor arm of the distributor. A fixing plate is secured within the casing and a correction plate is supported within the casing for movement substantially radially with respect to said cam shaft. A timing plate is engaged for the correction plate for movement angularly relative thereto, and the contact breaker assembly of the distributor is mounted on the timing plate. Movement of the correction plate serves to move the contact breaker assembly, through the timing plate, towards or away from the shaft so as to adjust the operating gap of the contacts of the contact breaker assembly, and the arrangement is such that at a given setting of said operating gap the correction plate constrains the timing plate to move relative to the cam shaft in a path such that said operating gap remains constant.

3,510,610
SWITCHING APPARATUS
Clarence O. Jones, Jr., Eggertsville, and William F. Abraham, Lancaster, N.Y., assignors to Niagara Machine & Tool Works, Buffalo, N.Y.
Filed Dec. 12, 1968, Ser. No. 783,245
Int. Cl. H01h 9/54
U.S. Cl. 200—25 21 Claims

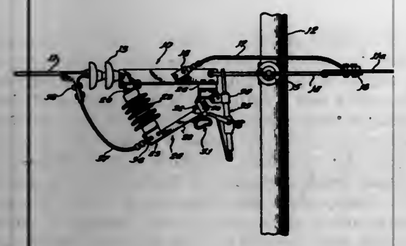
Apparatus for performing a plurality of switching operations in response to input rotary motion. A housing is rotatably connected to a stationary mounting bracket,

and an input shaft is positioned coaxially and rotatably within the housing. A plurality of electrical switches each including a movable contact arm are attached to the housing and a corresponding plurality of cams are positioned on the shaft. A spring-biased detent mechanism connected to the mounting bracket and a plurality of indentations provided circumferentially on the housing permit an adjustment of the rotational orientation of



the housing relative to the shaft. Each switch includes means for adjusting the radial distance between the rest position of the movable arm and the axis of the shaft. The cams are adjustably rotatable on the shaft, and a plurality of teeth provided on the end faces of each thereof cooperate to lock the cams against relative rotational movement when urged together along the shaft but permit adjustment of the relative rotational orientation of the individual cams upon separation thereof.

3,510,611
CIRCUIT DISCONNECT MEANS FOR OVERHEAD ELECTRIC LINES
Ronald P. Bridges, % Bridges Electric, Inc., 2451 Wisconsin St., Downers Grove, Ill. 60515
Filed Nov. 29, 1968, Ser. No. 779,953
Int. Cl. H01h *31/00*
U.S. Cl. 200—48 15 Claims



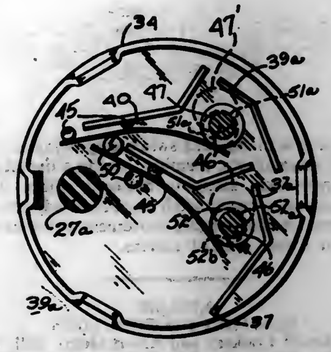
Circuit disconnect means for overhead electric lines which may be used to sectionalize a line, or to disconnect an underground cable rise, or for other comparable purposes, in which that part of the circuit disconnect means which is directly connected to an overhead line is formed of metal or other material which is strong in tension, permitting the use of a lightweight porcelain insulator as a support for the disconnect means. Specifically, that portion of the disconnect means which is directly connected to the overhead line comprises an aluminum bar, and a lightweight porcelain insulator is mounted at one end of the bar in an inclined position to receive the pivot end of a circuit disconnect means which has its other end directly connected to a latch bracket on the bar. The disconnect means may be either a switch or a high voltage fuse.

3,510,612
MECHANICAL INTERLOCK FOR ELECTRICAL SWITCHES OR THE LIKE
Daniel Douglas Ward, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 14, 1967, Ser. No. 690,667
Int. Cl. H01h *9/26*
U.S. Cl. 200—50 10 Claims



An interlock mechanism for electrical switches or the like including two interlockable cam members which are supported on fixed pivotal axes by means of a bracket member which in turn is supported at its opposite ends by the respective companion switches which are being interlocked. Each of the companion switches is provided with an operator member which is moved into engagement with one of the respective pivoted cams upon the energization of its respective switch. Actuation of either of the interlocking cams by energization of its associated switch will cause that respective cam to move into the path of movement of the other cam in such manner as to prevent movement of the companion switch into circuit closing position.

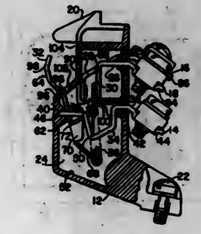
3,510,613
SNAP ACTION SWITCH AND COMBINATION SWITCH AND VARIABLE RESISTANCE CONTROL
Wayne A. Barden and Mervin B. Arismaa, Elkhart, Ind., assignors to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed July 10, 1967, Ser. No. 652,327
Int. Cl. H01h *13/26*
U.S. Cl. 200—67 2 Claims



A switch having a lost motion connection between a contactor driver and a floating contactor permits rotation of the floating contactor relative to the contactor driver and promotes a self-cleaning action of the floating contactor as well as proper alignment of the floating contactor relative to a pair of fixed terminal means when biased thereagainst by spring means. The floating contactor is loosely retained in an oversized cavity in the contactor driver and spring means provide a biasing force

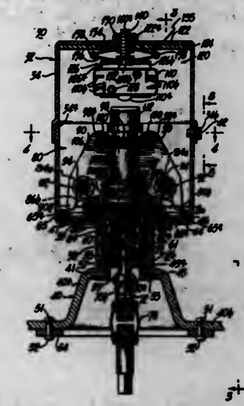
for urging the floating contactor into good electrical contact with the terminal means. An abutment wall carried by the contactor driver strikes the floating contactor and acts as a bearing surface for driving the floating contactor away from the terminal means against the action of the spring means when the switch is snapped from a closed switch condition to an open switch condition. In one embodiment the switch is combined with a variable resistance control.

3,510,614
SINGLE POLE SNAP ACTING SWITCH
Rudolf H. Kiessling, Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Feb. 26, 1968, Ser. No. 708,295
Int. Cl. H01h *13/36*
U.S. Cl. 200—67 4 Claims



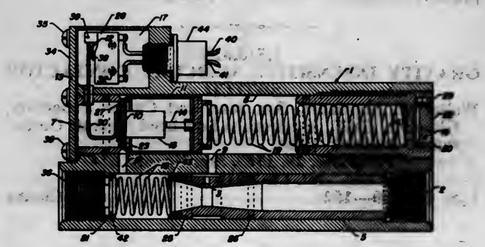
An inexpensive single pole snap acting switch having a zig-zagged shaped member to provide a pair of oppositely facing zigs and a common terminal for the switch with the zigs each providing a pair of spaced pivots for an actuator and a movable contact blade for the switch.

3,510,615
ADJUSTABLE MOUNTING MEANS FOR SPEED RESPONSIVE SWITCH
William L. Stelter, 8244 N. Keeler Ave., Skokie, Ill. 60076
Filed Oct. 10, 1967, Ser. No. 674,346
Int. Cl. H01h *35/10*
U.S. Cl. 200—80 17 Claims



A speed responsive switching device comprising, a housing and a shaft rotatably mounted therein. A speed responsive device is mounted for rotation with said shaft and actuator means is mounted for axial translation on the shaft and is engaged by the speed responsive device to move the actuator means back and forth in response to the speed of the shaft. At least one electrical switch is mounted in the housing including a switch operator which is engaged by the actuator means when said shaft reaches a predetermined speed of rotation. The switch is adjustably supported from one wall of the housing and is movable toward and away from the actuator by means of an adjusting member which is accessible from the exterior of the housing. By movement of the switch to the desired position, the shaft speed at which the switch is actuated is adjustably controlled.

3,510,616
VENTURI OPERATED FLOW SWITCH
Emanuel J. Di Nola, Briar Cliff Manor, N.Y., and Theodore R. Brennich, Stamford, Conn., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 28, 1968, Ser. No. 771,247
Int. Cl. H01h *35/40*
U.S. Cl. 200—81.9 7 Claims

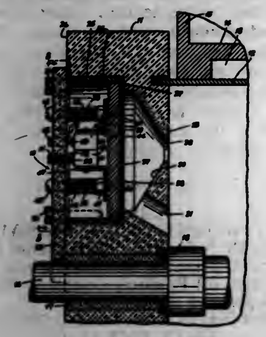


A flow switch operated by flow rate changes from a critical flow rate range. The pressure differential in a venturi tube is applied against the spring bias of a compression spring. This spring bias tends to push a piston against an end of a cylinder or cavity. When the flow rate increases sufficiently the venturi tube pressure differential increases beyond the limiting value necessary to overcome the spring bias of the compression spring and thereby forces the piston away from the cavity end. When the flow rate decreases sufficiently, the venturi tube pressure differential falls below that necessary to overcome the spring bias of the compression spring and the piston returns to the cavity end. The piston contains a magnet which when near the cavity end magnetically attracts through the cavity end piece, a contact arm positioned exteriorly from the cavity. As the magnetic field of the magnet overcomes the bias of the contact arm away from the end piece, the contact arm moves toward the magnet and closes the contacts of an electric circuit.

3,510,617
DUAL ACTION PRESSURE SWITCH
Orville Mitchell, Richard L. Roden, William P. Freeman, Jr., John D. Harris, and Dudley C. Smith, Dallas, Tex., assignors to John E. Mitchell Company, Dallas, Tex., a corporation of Missouri
Filed Oct. 25, 1968, Ser. No. 770,640
Int. Cl. H01h *35/40*
U.S. Cl. 200—83 6 Claims

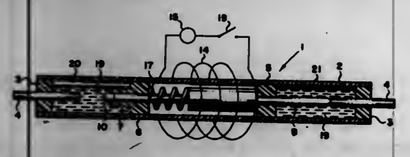
A dual action pressure switch for responding to pressure conditions within a freezing chamber of the kind that prepares a semi frozen drink or confection from liquid flavoring and carbon dioxide ingredients to control the operation of the ingredient pump under one set of pressure conditions and to control operation of the refrigeration system under another set of pressure conditions different from

the first set. A dual action pressure switch mounted in a transparent face plate of the dispensing machine for visual



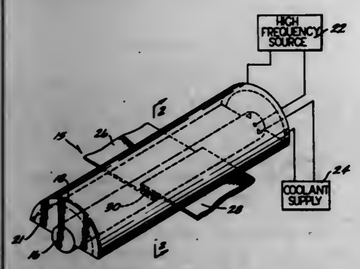
inspection of its operation and for direct response to the pressure conditions within the freezing chamber.

3,510,618
GRAVITY INSENSITIVE MERCURY CONTACTOR SWITCH
Walter G. Mordaunt, San Jose, and Carter Robertson, Glendale, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 29, 1967, Ser. No. 694,674
Int. Cl. H01h 29/00
U.S. Cl. 200—152 4 Claims



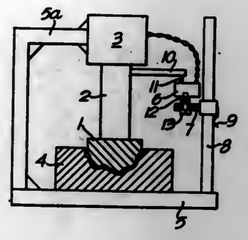
A mercury switch and switching concept utilizing both "mercury to mercury" reservoirs and mercury to metal as contact elements encompassing the utilization of both rotationally and/or linearly positionable electrical contactor elements.

3,510,619
APPARATUS FOR INDUCTION HEATING
Alfred F. Leatherman, Columbus, Ohio, assignor, by mesne assignments, to William C. Heller, Jr.
Filed Oct. 18, 1965, Ser. No. 497,381
Int. Cl. B23k 13/02; H05b 9/02
U.S. Cl. 219—10.53 5 Claims



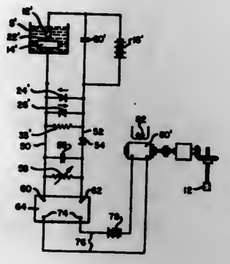
A low inductance induction heating opparatus for providing a localized high frequency magnetic field includes a central current carrying bar and an outer current carrying plate partially surrounding the bar. When energized, a localized high frequency field is produced by the apparatus along the exposed portion of the bar which is useful in thermal processes such as the induction heat sealing of plastics.

3,510,620
METHOD AND APPARATUS RELATING TO SPARK-EROSION MACHINES PROVIDING SHORT-REMOVING RAPID ELECTRODE MOVEMENT
Gordon Victor Smith, Highnam, England, assignor to Sparcatron Limited, Stafford, Staffordshire, England, a corporation of the United Kingdom
Filed Aug. 7, 1967, Ser. No. 658,732
Claims priority, application Great Britain, Aug. 12, 1966, 36,218/66
Int. Cl. B23p 1/14
U.S. Cl. 219—69 13 Claims



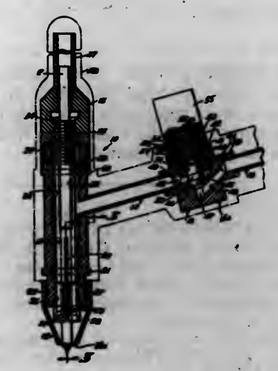
A method and means for controlling relative movement between the electrode and the workpiece in a spark erosion machine wherein, before the electrode is moved away from the workpiece, the position thereof is registered and the return movement of the electrode to its registered position is carried out at two different speed rates to avoid over-running of the electrode.

3,510,621
ELECTRODE POSITIONING CONTROL FOR ELECTRIC DISCHARGE MACHINING APPARATUS AND THE LIKE
Terry O. Hockenberry, Pittsburgh, and Everard M. Williams, Oakmont, Pa., assignors to Siltronics, Inc., Oakmont, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1966, Ser. No. 602,722
Int. Cl. B23p 1/14
U.S. Cl. 219—69 8 Claims



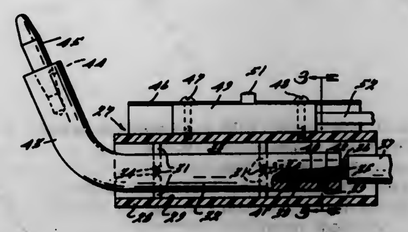
We disclose a control circuit for gap discharge apparatus comprising substantially constant voltage drop means coupled in series with the discharge circuit and the discharge gap of such apparatus, said constant voltage drop means having a voltage-current characteristic such that very little current flows therethrough until a predetermined voltage drop across said constant voltage drop means is attained, and circuit means coupled across said constant voltage drop means for conducting signal voltages generated by said voltage drop means to external control mechanism for relatively adjusting the electrodes defining said discharge gap.

3,510,622
GAS COOLED AND GAS SHIELDED ELECTRIC WELDING TORCH
Louis F. Himmelmann, 28 Arrowhead Drive, Upper Saddle River, N.J. 07458
Filed Sept. 20, 1967, Ser. No. 669,115
Int. Cl. B23k 9/16
U.S. Cl. 219—75 4 Claims



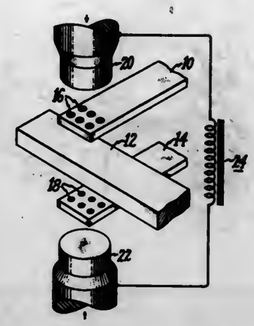
A gas-cooled, gas-shielded electric welding torch including a manually-actuated valve for controlling gas flow through the torch and including gas flow directing means in the electrode chuck and cooperative with a nozzle cap for effecting substantially columnar flow of the gas through an annular opening surrounding the electrode tip in the arc area.

3,510,623
PORTABLE RESISTANCE SPOT WELDER
Raymond P. Wolgast, 3726 Kipling Road, Berkeley, Mich. 48072
Original application Jan. 25, 1965, Ser. No. 427,679, now Patent No. 3,397,322, dated Aug. 13, 1969. Divided and this application Apr. 22, 1968, Ser. No. 723,209
Int. Cl. B23k 9/28
U.S. Cl. 219—86 9 Claims



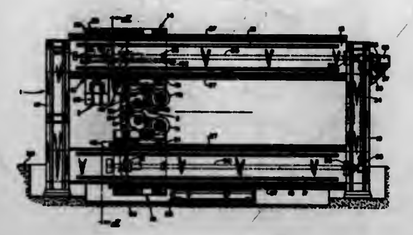
A portable resistance spot welding machine embodying a lightweight electrode holder that reduces the transmission of heat to an operator's hands. The holder defines a longitudinally extending cavity into which the electrode extends. Insulating elements extend between the cavity of the holder and the electrode for holding the electrode in spaced relationship within the cavity for circulating airflow.

3,510,624
COMBINED MECHANICAL AND WELDED JOINT AND METHOD OF MAKING
Moreland P. Bennett, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Jan. 10, 1968, Ser. No. 696,808
Int. Cl. B23k 9/28, 9/00
U.S. Cl. 219—91 5 Claims



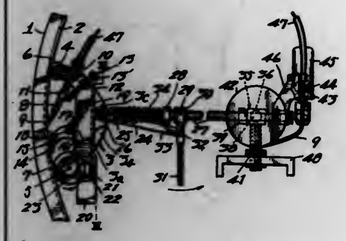
A combined mechanical and welded joint between two or more overlapped strips of metal. Holes are placed in at least one of the strips of metal in the area to be joined and the parts are placed together in overlapping relation. Heat and pressure are applied so that the surface between the members are bonded or welded and the melted material flows into the holes of one or more of the members being joined, providing a secure mechanical and electrical connection.

3,510,625
STRIP JOINING METHODS AND APPARATUS
Donald J. Wheeler, Kent, and Victor Lohrenz, Bedford, Ohio, assignors to Guild Metal Joining Equipment Co., Bedford, Ohio, a corporation of Ohio
Filed Mar. 3, 1966, Ser. No. 531,412
Int. Cl. B23k 9/12
U.S. Cl. 219—125 22 Claims



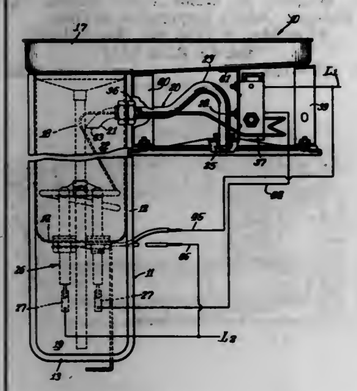
A method and apparatus for joining strip material, such apparatus including a support member pivotally mounted on a carriage for transverse movement across the strip material, such support member having a slitter shear and planish roll or welding apparatus carried thereby for pivotal movement of the slitter shear into strip pass height and retraction of the planish roll or welding assembly and vice versa. A bead trimming tool may also be mounted on the support member adjacent the welding apparatus for removing a part of the weld bead during the welding operation.

3,510,626
APPARATUS FOR WELDING HOLLOW WORKPIECES FROM THE INSIDE
Mitsuo Hasegawa, Toyonaka-shi, Japan, assignor to The Osaka Transformer Co., Ltd., Osaka, Japan, a company of Japan
Filed Sept. 18, 1967, Ser. No. 668,329
Int. Cl. B23k 9/12
U.S. Cl. 219—125 11 Claims



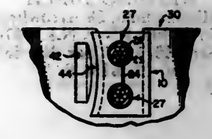
An apparatus for welding hollow workpieces comprising a radial pivotal support means disposed within said workpieces, a journal mechanism supporting said support means, a connection bar telescopically received within said support means, a pressure applying means disposed between said support means and connection bar, a welding means guide mechanism pivoted at said connection bar, and a drive mechanism for said welding means and guide mechanism.

3,510,627
HOT WATER SUPPLY APPARATUS
Harvey R. Karlen, Chicago, Ill., assignor to Cory Corporation, a corporation of Delaware
Filed May 26, 1967, Ser. No. 641,519
Int. Cl. H05b 1/00
U.S. Cl. 219—320 9 Claims



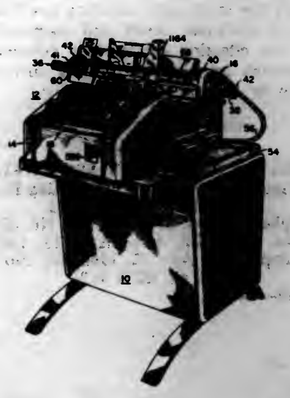
A hot water supply for apparatus such as a coffee brewing apparatus wherein water is maintained hot in the tank for substantially immediate dispensing when desired. The tank is of the pour-through type wherein a preselected quantity of cold water is delivered into the tank to displace a corresponding quantity of hot water from the tank. The tank is provided with an electric heater structure which is arranged to minimize vaporization while maintaining the water at the desired temperature.

3,510,628
HOUSING HAVING INSULATING STRAIN RELIEF GROMMET THERETHROUGH
Bohdan Zahaykevich, Newark, N.J., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Feb. 21, 1967, Ser. No. 617,560
Int. Cl. H05b 1/00
U.S. Cl. 219—366 11 Claims



An insulating strain relief grommet of semi-rigid thermo-plastic material is locked in place, and simultaneously locks conductors passing through the grommet, by deformation of the edge of the wall of the housing in which the grommet is seated.

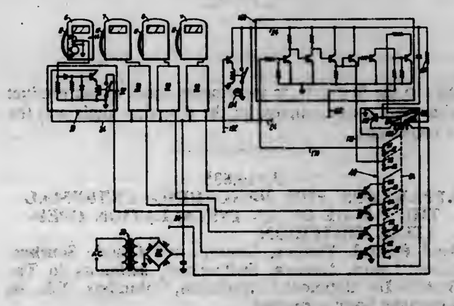
3,510,629
AUTOMATIC ACCOUNTING MACHINE
William Ward Deighton, Glen Mills, Pa., Roy L. Phelan, Plymouth, Mich., and Lewis Leland Tanguy, Jr., Paoli, and Richard Alfred Wallace, Audubon, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Continuation of abandoned application Ser. No. 598,454, July 17, 1956. This application Mar. 13, 1964, Ser. No. 352,718
Int. Cl. G06f 15/04
U.S. Cl. 235—61.9 31 Claims



1. In combination with a document including a printed record and a magnetic code record,
an accounting machine,
a movable carriage for bearing said document,
means disposed in said carriage for sensing said magnetic code record,
means for feeding said document past said sensing means in two directions to effect sensing of the magnetic record in one direction and writing on said record in the opposite direction,
printing means to which said document is presented by said feeding means,
said printing means comprising a plurality of printing elements,
data storage means,

data input means in said accounting machine operably associated with said data storage means and said printing means,
data storage means being effective to control said printing means to selectively position said printing elements for printing,
read-in means adapted selectively to control said data input means,
and means controlling said feeding means effective to cause said printing elements to print the information sensed from said magnetically coded record in a selected line of the print receiving area of said document.

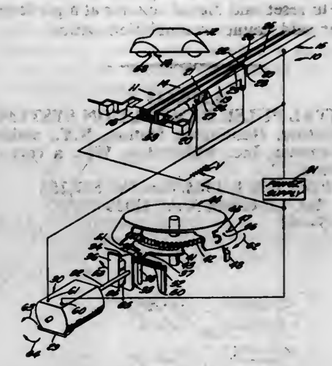
3,510,630
ACCOUNTING SYSTEM FOR FUEL DISPENSING EQUIPMENT
Herbert G. Ryan, South Hamilton, and George S. Orsten, Danvers, Mass., assignors to Veeder Industries Inc., Hartford, Conn., a corporation of Connecticut
Filed Mar. 11, 1966, Ser. No. 533,461
Int. Cl. B65g 51/36; G06m 1/12
U.S. Cl. 235—92 4 Claims



A fuel dispensing system with four separate fuel pumps adapted to be activated for delivering fuel by a multiple-key lock mechanism having a key for each of a large number of accountable parties. A plurality of lock mechanism switches are selectively actuated in different combinations by the keys to provide a binary signal representative of the key used, and NOR circuits provide for generating individual signals corresponding to the binary signals respectively. A stepping switch with six banks of electrical contacts has a first bank of contacts individually energized by the individual signals, and a control circuit provides for de-energizing the stepping switch (and for energizing the fuel pumps through a second contact bank) when the stepping switch engages the energized contact of the first contact bank. The remaining four contact banks of the stepping switch provide for connecting pulse generators of the four fuel pumps with four counters corresponding to the key used for separately recording the amount of fluid delivered with each of the four fuel pumps with each of the keys.
In a modified two pump system the barrel of the multiple-key lock is operable in opposite angular directions by the operative key to selectively activate the pumps in accordance with the angular direction the barrel is rotated.

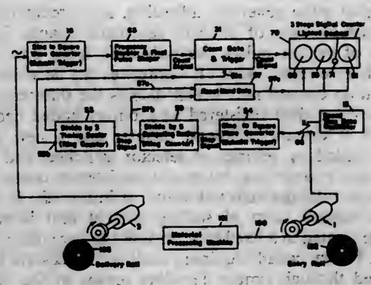
3,510,631
LAP COUNTER
Stanley Weinberg and John C. Parker, Los Angeles County, Calif., assignors to Revell, Inc., Venice, Calif., a corporation of California
Filed June 15, 1966, Ser. No. 557,833
Int. Cl. B61l 1/16
U.S. Cl. 235—92 10 Claims

Toy cars including electric motors are driven along conductive tracks under the selective control of variable resistors manipulated by the players. A portion of each track includes a spaced conductor which is shorted to the track by a car brush as it moves therepast, forming a switch. Each of the switches is interconnected in a circuit to a motor which actuates a cam and cam follower



arrangement for indexing a wheel carrying lap number information on its periphery. As a car makes a full lap and temporarily closes the switch, the motor effects indexing to indicate the number of laps accomplished.

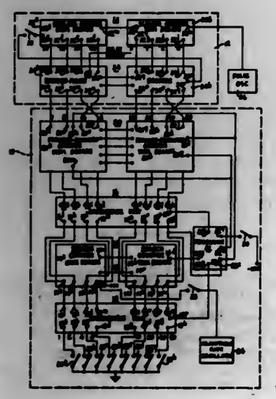
3,510,632
DIGITAL STRETCH AND SPEED INDICATING APPARATUS
Robert C. Strandberg, Greensboro, N.C., assignor to Strandberg Engineering Laboratories, Inc., Greensboro, N.C., a corporation of North Carolina
Filed Feb. 14, 1966, Ser. No. 527,230
Int. Cl. G04f 9/00; G06m 7/00
U.S. Cl. 235—92 17 Claims



A digital computer for computing the percent elongation of material being treated in a processing machine comprising: input pulse generating means for generating pulses corresponding to units of length of the material entering the processing machine, output pulse generating means for generating pulses corresponding to units of length of the material leaving the processing machine, a digital counter for counting the pulses from said output pulse generating means, said digital counter having reset means, a count gate means in circuit with said digital counter and said output pulse generating means for controlling the admission of pulses from said output pulse generating means to said digital counter, a reset gate in circuit with said digital counter for controlling the application of reset signals to said reset means, and cyclic

timing means in circuit with said input pulse generating means and with said count gate and reset gate respectively, said timing means being controlled by the pulses from said input generator for opening and closing said count gate and said reset gate periodically to admit pulses from said output pulse generator to said digital counter through said count gate during a count accumulation period and to reset said digital counter at a predetermined period after said count accumulation period.

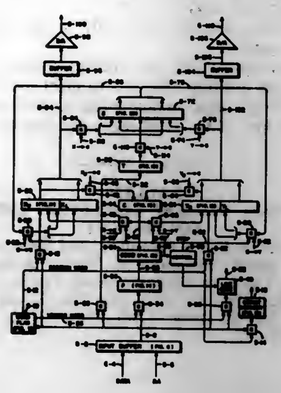
3,510,633
DIGITAL PULSE GENERATION SYSTEM
Paul M. Kintner, Huntington Station, N.Y., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,256
Int. Cl. G06m 3/02; H03k 29/00
U.S. Cl. 235—92 13 Claims



A digital pulse generator affording, at a predetermined but adjustable rate of change, automatic change in the number of output pulses per unit time from one value to another selected value. It comprises an acceleration-deceleration control unit which detects the difference between a value then registered as a binary coded decimal count in a forward-backward counter and a new value as determined by settings of selector switches, and then causes the counter to bring the registered count into agreement with the selected value. Additionally it comprises a unique form of scaling control unit in which pulses generated at a fixed rate per unit time are distributed through binary coded biquinary scaling decades are interconnected through simple decoding means to the binary coded decimal count register of the forward-backward counter to provide output pulses per unit time decimally proportional to the count registered in the forward-backward counter.

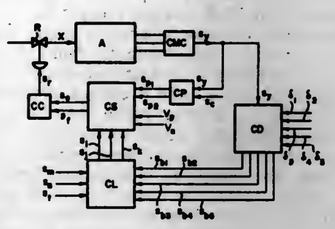
3,510,634
DIGITAL VECTOR GENERATOR
Maurice L. Granberg, Minneapolis, and Hubert W. Mueller, Jr., Hamburg, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,481
Int. Cl. H01j 29/72
U.S. Cl. 235—150 10 Claims

A high-precision vector generator for displaying on the face of a cathode ray tube a line segment of a desired length and direction wherein digital type circuits are used to develop deflection signals tending to move the electron beam in unit increments along a first Cartesian coordinate axis and along a second axis, at right



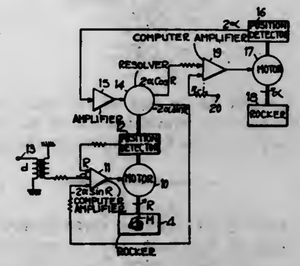
angles to the first axis, in increments equal to the product of the tangent or cotangent of the direction angle and the unit increment.

3,510,635
APPARATUS FOR RENDERING EXTREMAL THE VALUE OF AN INSTALLATION OPERATING CRITERION
Roland Rouzal, Troinex, Geneva, and Claude Sourisse, Grand-Lancy, Geneva, Switzerland, assignors to The Battelle Development Corporation, Columbus, Ohio, an American body corporate
Filed Aug. 10, 1966, Ser. No. 571,526
Claims priority, application Switzerland, Aug. 17, 1965, 11,554/65
Int. Cl. G05b 13/00
U.S. Cl. 235—150.1 2 Claims



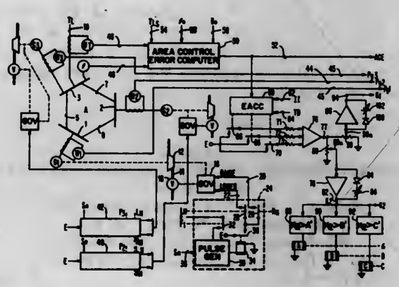
Control apparatus for rendering the value of an installation operating criterion extremal by acting on at least one regulating quantity of the installation, comprises a device for continuously producing a pilot signal whose value is a linear function of at least one of three quantities, namely the instantaneous value of the criterion and its first derivative in time and its second derivative in time, the signal being compared with a plurality of reference signals so as to trigger off a searching cycle at predetermined time intervals and when the amplitude of said pilot signal reaches either a first predetermined, positive, boundary value or a second predetermined, negative, boundary value to find the optimal value of the regulating quantity which corresponds to the extremal value of the criterion.

3,510,636
HEAD-UP DISPLAY SYSTEMS FOR AIRCRAFT PILOTING
Jean Turboult, Paris, France, assignor to CSF-Compagnie General de Telegraphie Sans Fil, a corporation of France
Filed June 5, 1968, Ser. No. 734,798
Claims priority, application France, June 9, 1967, 109,831, Patent 1,533,459
Int. Cl. G06g 7/12
U.S. Cl. 235—150.23 6 Claims



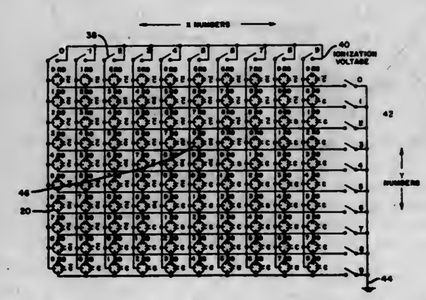
An arrangement for maintaining in the actual direction of progression of an aircraft the luminous marks, which are the images of reticles in a head-up display system, comprises a first rocker for mounting the semi-reflecting mirror of the head-up display system pivotally about an axis perpendicular to the longitudinal axis of the aircraft and to the optical axis of the collimator lens of this head-up display system and a second rocker for mounting this first rocker on the body of the head-up display system pivotally about this optical axis. Computing means are provided for controlling the rotation of these rockers and of the reticles as a function of the drift and incidence angles of the aircraft.

3,510,637
LOAD-FREQUENCY CONTROL SYSTEM
Charles W. Ross, Hatboro, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 15, 1966, Ser. No. 602,048
Int. Cl. G06f 15/56; G06g 7/12; G02j 3/04
U.S. Cl. 235—151.21 12 Claims



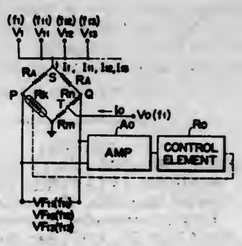
The novel control system utilizes the area control error signal to indicate the amount of generation change necessary and to provide a plurality of adaptive signals when the area control error signal exceeds a predetermined value for a predetermined period of time. One of the adaptive signals modifies the area control error signal as it is utilized in the determination of a control signal for establishing the sense and magnitude of the changes to be made in the generation of the area under control. The other adaptive signal is utilized to modify the rate at which the generation change is made at each of the units as well as the number of units which participate in the control of generation in the area under control. The control system provides separate output pulses for modifying the generation of the individual unit. These pulses are provided at a rate which relates to the desired change in generation and are in sense corresponding with the control signal. The control also incorporates feedforward signals representing predictable changes in generation. The feedforward signals modify the control of the generation to anticipate those changes.

3,510,638
DECIMAL MATRIX ADDER UTILIZING GAS DISCHARGE TUBES
Richard F. Pond, 7802 Newman St., Huntington Beach, Calif. 92647
Filed Feb. 9, 1967, Ser. No. 614,964
Int. Cl. G06f 7/48; H03k 17/52
U.S. Cl. 235—168 4 Claims



An adding machine wherein gas discharge tubes, such as neon tubes, having at least two pairs of electrodes per tube serve as switching elements in the adder circuit. A third pair of electrodes in the gas discharge tube may serve as the "tens" carry-over mechanism.

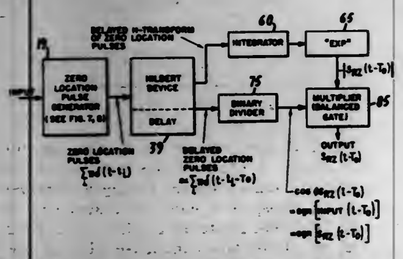
3,510,639
ELECTRONIC SERVO-TYPE MULTIPLICATION AND DIVISION APPARATUS
Keisuke Takada, Tokyo, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Aug. 14, 1967, Ser. No. 660,510
Claims priority, application Japan, Aug. 18, 1966, 41/53,942; Oct. 8, 1966, 41/66,219; Oct. 15, 1966, 41/67,571
Int. Cl. G06g 7/16
U.S. Cl. 235—195 8 Claims



A divisor signal which has the same frequency as an input signal and a multiplier signal having a frequency different from that input signal are coupled to a resistance network which comprises a fixed resistor in series

with a variable resistance and a feedback signal having the same frequency as the input signal is derived out from another point of said network. The feedback signal and said input signal are compared by a comparator and an output difference signal is amplified by an amplifier. The amplified difference signal is coupled to the control element of said variable resistance element and the resistance value thereof is automatically regulated. A frequency selector selects an output signal having the same frequency on the multiplier signal from said network.

3,510,640
METHOD AND APPARATUS FOR INTERPOLATION AND CONVERSION OF SIGNALS SPECIFIED BY REAL AND COMPLEX ZEROS
Herbert B. Voelcker, Jr., Rochester, N.Y., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York
Filed May 13, 1966, Ser. No. 550,021
Int. Cl. H04b 1/62; H03k 9/00
U.S. Cl. 235—197 25 Claims



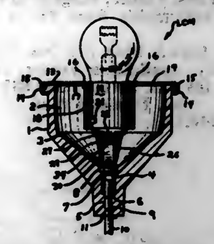
The disclosure relates to techniques and apparatus for modifying intelligence signals for transmission, often at reduced bandwidths, without significant loss of information content. In the case of a pulse signal, wherein the intelligence is embodied in the transitions between two amplitude states, the pulse-train signal is converted, by a process of interpolation, to a continuous, reduced bandwidth signal having alternating polarity portions with zero-axis crossings, i.e., real zeros, corresponding in time to the transitions of the pulse signal. At reception, the original pulse train is reconstituted from the continuous waveform. Where the input signal is continuous, such as a speech wave, it may be converted to a pulse form, such as by clipping, and then transformed as above.

If it is desired to transmit a bandwidth limited signal describable as a continuous function having both real and complex roots or zeros, the input signal is first processed to transform the complex roots or zeros into real zeros, along with the original real zeros of the signal. The resultant is then processed as above. Upon reception, a reverse transformation is performed. Since the information in the original signal wave is more completely specified by both the real and complex roots, greater fidelity of transmission is thereby obtained.

The foregoing techniques are explained mathematically and circuitry for carrying them out is described.

3,510,641
LIGHT BASE AND LIGHT-CONDUCTING MEMBER ATTACHED THERETO
Charles Edward Reynolds, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 27, 1967, Ser. No. 626,252
Int. Cl. G02b 5/16
U.S. Cl. 240—1 7 Claims

A light base in which a light-emitting source is disposed for electrical energization. A light conductor is mounted on the light base so as to receive light from a reflection area provided by the light base when the light-emitting source is energized to thereby indicate the condition of the light-emitting source. A terminating device is con-



trollably fastened on an end of the light conductor to removably mount the terminated end of the light conductor in position to receive light emitted by the light-emitting source.

3,510,642
BAIT GATHERING IMPLEMENT
George R. Sopchack, 1322 Victoria Ave., New Kensington, Pa. 15068
Filed Aug. 8, 1967, Ser. No. 659,211
Int. Cl. F21v 33/00
U.S. Cl. 240—6.4 8 Claims



A bait gathering implement which includes a carrier constructed and arranged to be gripped in one's hand and carried in a horizontal position. The carrier includes an illuminating device at one end thereof to direct light downwardly into the area where bait is being collected and a container for storing collected bait, and being located at the other end of the carrier which is maintained by the carrier in an upright position when the illuminating device is directed downwardly. The carrier consists of a hollow elongated body, which body forms the battery casing for the illuminating device, having a bottom portion with an end wall, and a top plate which is removably secured to the bottom portion to provide access to the interior of the elongated body. The top portion of the elongated body has a downwardly turned extension at the end where the container is located with a clamping screw thereon for releasably securing the container against the end wall of the body.

3,510,643
EATING UTENSIL WITH ILLUMINATED HEAD PORTION
Robert H. Flie, 7217 Ottawa Road NE., Albuquerque, N. Mex. 87110
Filed Aug. 7, 1967, Ser. No. 658,691
Int. Cl. B25f 3/00; B43k 29/10; F21v 33/00
U.S. Cl. 240—6.46 6 Claims



The invention disclosed consists of an elongated eating utensil including a removable spoon bowl defining head portion at one end constructed of light-transmitting material. Illumination structure is provided and operable to

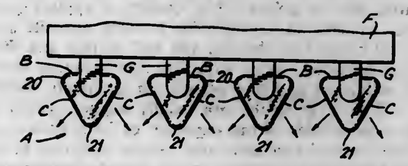
cast a beam of light into the base of the head portion for illumination of the latter from within and the head includes measuring indicia for indicating the amount of fluent material disposed within the spoon bowl.

3,510,644
PLASTIC RING ASSEMBLY
William E. Brasse, Airport Road, Dyersburg, Tenn. 38024
Filed Aug. 4, 1967, Ser. No. 658,454
Int. Cl. G01j 1/52
U.S. Cl. 240—10.6 4 Claims



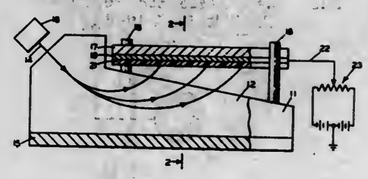
Each ring assembly includes a relatively large diameter clock face ring of transparent material having a gummed back, from which one can remove the protective covering ring so that pressure sensitive adhesive is exposed permitting application of the ring to an aviator's clock face with the numbers 13 to 24 on this ring at the regularly spaced intervals similar to the 1 to 12 numerals on the face of the clock, so that the aviator can read the hours instantly in terms of 13 to 24 from 1 p.m. on without having to do any mental arithmetic. The secondary set of numerals appear radially inwardly with respect to the other set on the clock face for instant reading of any time—a.m. or p.m. Integral with each clock face ring are two other rings of smaller diameters in concentric relation die-cut to be separable readily from one another upon breakage of a few narrow webs at widely spaced points circumferentially of the rings, these inner rings being of predetermined internal and external diameters to be useful as battery adaptor rings in flashlights in an emergency in the event a cell goes dead and the aviator doesn't happen to have the right size cell to insert in the flashlight and must, therefore, make an undersized cell do duty until the proper sized one or ones can be supplied, these emergency rings being easily stored in the flashlight case behind the reflector or inside the screw-on cap so as to be certain of being available for immediate use when needed.

3,510,645
FLUORESCENT LIGHTS
Alvin M. Siegel, Middle Village, N.Y., assignor to American Brightlights Corporation, New York, N.Y., a corporation of New York
Filed July 10, 1967, Ser. No. 652,096
Int. Cl. H05b 33/02
U.S. Cl. 240—51.11 1 Claim



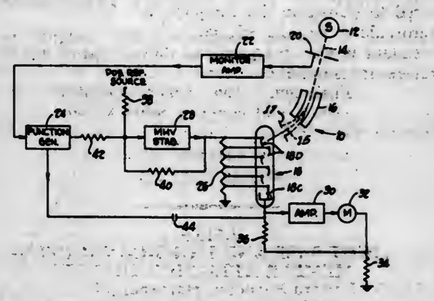
A fluorescent light having a polygonal rather than a rounded cross-section so that there will be an enhanced light radiating surface and a decreased dirt and grime accumulating surface, with the light being cast from a major portion and desirably at least two-thirds of the surface of the reflecting surface area of the fluorescent bulb. The preferred cross section is a triangular cross-section with the sides being of the same length, width and shape and with the one triangular side being horizontal and not in a position to reflect upon the working surface or upon the floor.

3,510,646
MASS SPECTROMETER AND ELECTRICALLY CONDUCTIVE DISPLAY MEMBER THEREFOR
Thomas H. Briggs, Allentown, and Peter P. Prichett, Bethlehem, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 23, 1967, Ser. No. 662,787
Int. Cl. G03b 29/00
U.S. Cl. 250—41.9 3 Claims



An improved display member for a mass spectrometer of the type wherein a beam of ions is projected from an ion source into a mass analyzer having a display member, such as a transparent substrate coated with photosensitive material. The improved display member includes a substrate, an electrically conductive film on the substrate and a coating of material sensitive to ions deposited on the substrate, whereby the display member is provided with electrically conductive characteristics to reduce spurious indications, such as fogging, caused by reflected ions and other electrically active emissions.

3,510,647
AUTOMATIC SENSITIVITY CONTROL FOR A MASS SPECTROMETER
Leslie Wood, Manchester, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Sept. 5, 1967, Ser. No. 665,403
Claims priority, application Great Britain, Sept. 6, 1966, 39,818/66
Int. Cl. H01j 39/34
U.S. Cl. 250—41.9 17 Claims

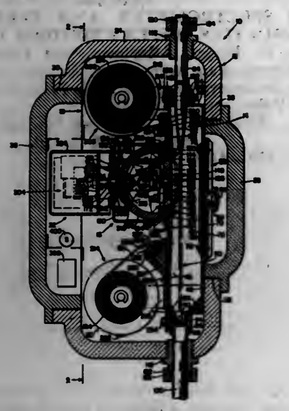


A monitor collector positioned between a source and an analyzer of a mass spectrometer collects a constant fraction of the total ion beam from the source. The separated ion beams are amplified by an electron multiplier, whose gain is varied as a function of monitor collector current.

3,510,648
APPARATUS EMPLOYING ULTRAVIOLET RADIATION FOR MEASURING THE AMOUNT OF FLUORESCENT MATERIAL IN A CONTINUOUSLY FLOWING FLUID STREAM

Alton Lager, Jr., Roslyn, Pa., assignor to Honeywell, Inc., Minneapolis, Minn., a corporation of Delaware

Filed Apr. 25, 1967, Ser. No. 633,575
Int. Cl. G01n 21/52
U.S. Cl. 250—43.5 10 Claims

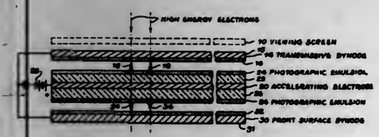


A measurement of the quantity of fluorescing material such as oil in a fluid is accomplished by directing ultraviolet energy at a fixed location through portions of a web of transparent nonfluorescent material into a narrow jet stream of the fluid and also into a stable reference fluorescent material employing photoelectric detectors to measure the visible light emitted from the fluid and the reference fluorescent material, employing an electric circuit to maintain the current output of the first mentioned photoelectric detector proportional to the amount of light it receives divided by the amount of light received by the other photoelectric detector and thereby provide a measuring circuit that is uneffected by errors due to changes in line voltage, aging, temperature, and spectral shifts which may take place in the ultraviolet energy source and changes that occur due to the temperature coefficient of the photoelectric conductors.

3,510,649
SYSTEM FOR PRODUCING TWO SIMULTANEOUS RECORDS OF HIGH ENERGY ELECTRONS IN AN ELECTRON MICROSCOPE

Ladislaus L. Marton, Washington, D.C., assignor to the United States of America as represented by the Secretary of Commerce

Filed Oct. 3, 1967, Ser. No. 672,648
Int. Cl. G01j 37/22; G01n 23/04
U.S. Cl. 250—49.5 1 Claim



Electrons having energies above 100–300 kev. are inefficiently recorded by photographic emulsions. A dynode (transmissive and/or front surface) is placed in the path of such electrons to produce secondary electrons; these secondaries are suitably accelerated, to efficiently expose the emulsion.

3,510,650
APPARATUS FOR PRODUCING COLORED RADIOGRAPHS

Mataichi Tajima, Kanagawa, Japan, assignor to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

Filed Nov. 4, 1965, Ser. No. 506,358
Claims priority, application Japan, Nov. 5, 1964, 39/62,437
Int. Cl. G01n 21/34
U.S. Cl. 250—65 3 Claims

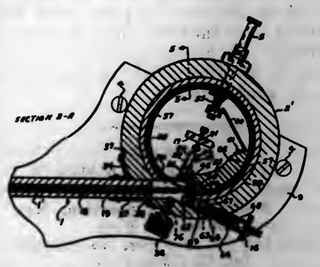


An apparatus for irradiating an object directly by a plurality of X-rays of different wavelengths without attenuation to produce successive images on a fluorescent screen disposed behind the object. An optical system is provided to form the images from the fluorescent screen on to color photosensitive material. A plurality of color filters are inserted in the light path of the image in synchronization with X-rays of different wavelength, respectively, to produce separate color images on separate photosensitive layers of said color photosensitive material.

3,510,651
CYLINDRICAL X-RAY CASSETTE FOR DRY PROCESS

Frank L. Chan, 3228 Ravenwood Road, Fairborn, Ohio 45324

Filed Aug. 24, 1967, Ser. No. 663,480
Int. Cl. G01n 23/04, 23/20; G03b 41/16
U.S. Cl. 250—66 7 Claims

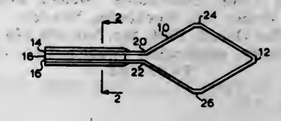


A cylindrical X-ray cassette having an axial slit for removably receiving therewithin an envelope containing Polaroid film. A polymer film coating is applied to the interior cassette wall surface for forming opposite static electrical charges on the film and wall surface and thereby provide strong mutual attraction therebetween. Two or more collimator and trap pairs, each separately shielded with a light-tight shield, are axially aligned within the cassette to provide X-ray exposure of both known and unknown crystal specimens on a single film, and to also enable the taking of single crystal rotation photographs. The cassette is further equipped with a rotatable cap element having a film-engaging and operating arm, and adjustable between a first, film-exposing position and a second position withdrawing the film from inside the cassette.

3,510,652
DENTAL BITE WING TAB X-RAY FILM HOLDER

Nathan Greene and Rose Greene, both of 4622 White Oak Place, Encino, Calif. 91316

Continuation-in-part of application Ser. No. 582,711, Sept. 28, 1966. This application Nov. 21, 1967, Ser. No. 689,229
Int. Cl. G03b 41/16
U.S. Cl. 250—70 8 Claims



A dental bite wing tab X-ray film holder is provided which is held, when X-rays are taken, between the teeth of a patient. The X-ray film holder is packed flat so that it occupies a minimum of storage space. However, it is prefolded to enable its being easily opened up to receive and hold the X-ray film packet. Also, the bite wing tab construction is made so that the portion which is held between the teeth of the patient is both comfortable to the patient and will not slip or move when between his teeth. It is also constructed to permit the dental bite wing tab to hold different X-ray film packet sizes.

3,510,653
TEST PROCEDURE FOR VINYL-COATED GLASS

Thomas Render Holbrook, Cornelia, Ga., assignor to Johnson & Johnson, a corporation of New Jersey

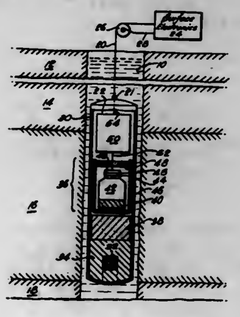
No Drawing. Filed Oct. 12, 1967, Ser. No. 674,765
Int. Cl. G01n 21/38
U.S. Cl. 250—71 4 Claims

The process of determining the continuity of vinyl coating on shaped articles made substantially of glass by exposing said article to a short wave length light source.

3,510,654
SCINTILLATION-TYPE FAST NEUTRON WELL LOGGING DEVICE

Hans J. Paap and Hugh E. Hall, Jr., Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 22, 1965, Ser. No. 515,651
Int. Cl. G01t 1/20; G01v 5/00
U.S. Cl. 250—71.5 23 Claims

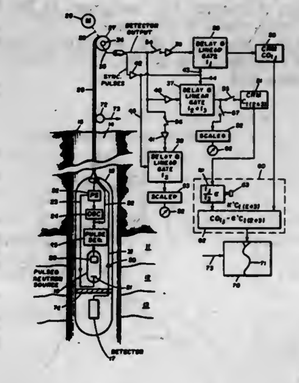


The present invention relates generally to the determination of the nature of earth formations and more particularly it is concerned with the analysis of earth formations along the traverse of a borehole through irradiation of the formations with neutrons in order to produce certain observable effects that are detected as an indication of the nature of the formations. Accordingly, it is a general object of the present invention to provide improvements in radioactivity well logging wherein a source of neutrons is employed to produce observable effects indicative of the nature of the earth formations along the borehole.

3,510,655
REMOVAL OF BACKGROUND RADIATION COMPONENT FROM PULSED NEUTRON MEASUREMENTS

Wyatt W. Givens, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed Mar. 14, 1968, Ser. No. 712,972
Int. Cl. G01t 1/16
U.S. Cl. 250—83.3 17 Claims



The specification discloses a background-correcting technique wherein a logging tool, including a pulsed neutron source, is inserted in a borehole for pulsed neutron logging operations. Measurements are made of the quantity of radiation detected within a logging time window and within a secondary counting period during each cycle of operation of the source. Prior to logging, the counts observed within the same secondary counting period, in preliminary operations, are employed to form a count-dependent ratio. This ratio, along with a time-dependent ratio formed between the time of the logging window and another period, is multiplied with the counts observed in the secondary counting period, while logging, to form a correcting function. This correcting function is subtracted from the total counts observed within the logging window during logging operations.

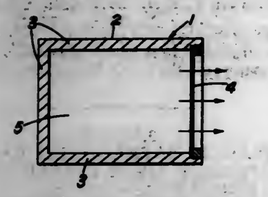
3,510,656
X-RAY SOURCE

John Laurence Linsley Hood, West Monkton, Somerset, England, assignor to British Cellophane Limited, Somerset, England, a British company

Filed Dec. 13, 1965, Ser. No. 513,425
Claims priority, application Great Britain, Dec. 17, 1964, 51,430/64
Int. Cl. H05g 1/00, 3/00
U.S. Cl. 250—84 14 Claims

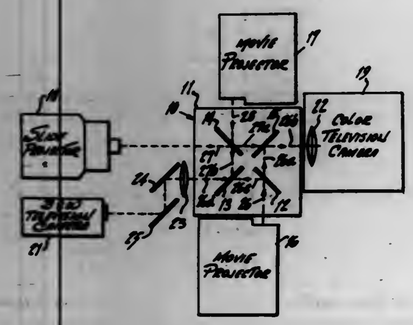
An X-ray source includes a radioactive material and a target for generating the X-rays wherein the radioactive material is chosen from a gaseous beta-particle emitting element, which element and the decay products thereof do not emit gamma radiation or internally generated X-rays. The target material may also be in the

form of a gas. The radioactive material and the target material are confined in a cylindrical stainless steel



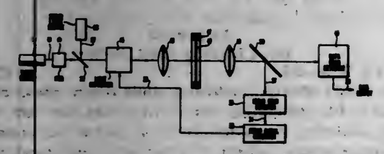
container having a beryllium window for emitting the X-rays.

3,510,657
OPTICAL MULTIPLEXING APPARATUS
Charles J. Mangiaracina, Cherry Hill, N.J., and Charles B. Meyer, Ardmore, Pa., assignors to RCA Corporation, a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,063
Int. Cl. H04n 5/24; G02b 27/10; G03b 21/28
U.S. Cl. 250—201 8 Claims



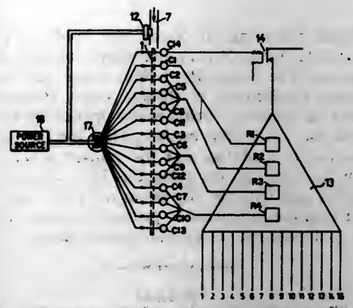
A plurality of mirrors movable between upper and lower positions selectively control light paths from any one of a plurality of film projectors to one or more television cameras. Each mirror is raised and lowered by movement, in a horizontal supporting bracket slot, of a pin in a motor driven vertically rotating crank. Each motor 14 automatically deenergized by interrupting light to a photocell at each upper and lower mirror positions.

3,510,658
LIGHT BEAM SERVOING SYSTEM WITH MEMORY ELEMENT HAVING WAVELENGTH-DISCRIMINATING GUIDE AND DATA TRACKS
Melbourne E. Rabedeau, Saratoga, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 6, 1967, Ser. No. 680,806
Int. Cl. G01j 1/36, 1/20
U.S. Cl. 250—202 11 Claims



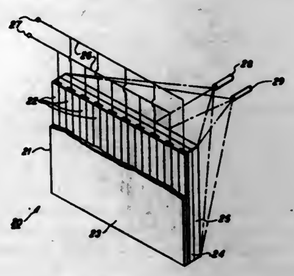
A servo tracking system for guiding a light beam across a memory element for reading information thereon, wherein the element includes a target comprising predefined tracks which absorb a portion of the beam, which portion can be detected to signal a beam tracking system for maintaining the beam in track alignment.

3,510,659
SET OF DIFFERENTLY CODED COUNTERPIECES AND APPARATUS FOR SENSING THE SAME
Bengt Ison Trehn, Stockholm, Sweden, assignor to Metior AB, Stockholm, Sweden
Filed Dec. 8, 1966, Ser. No. 600,248
Claims priority, application Sweden, Dec. 10, 1965, 16,028/65
Int. Cl. H01j 39/12, 3/14; G06k 9/08
U.S. Cl. 250—209 7 Claims



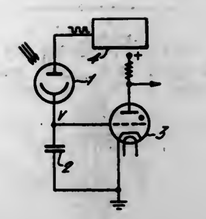
A set of differently coded counterpieces in the form of circular discs which have apertures through the same along concentric circumferential paths which lie at different distances from the center of the disc. The apertures along the different circumferential paths constitute different elements in the final code for each disc and the code carried by each disc is sensed by an apparatus which includes photocells coordinated positionwise to all of the various apertures with which a particular disc may be coded.

3,510,660
METHOD FOR VISUAL COMPARISON OF INFORMATION
Benjamin Kazan, Pasadena, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 582,863
Int. Cl. H01l 17/00
U.S. Cl. 250—213 16 Claims



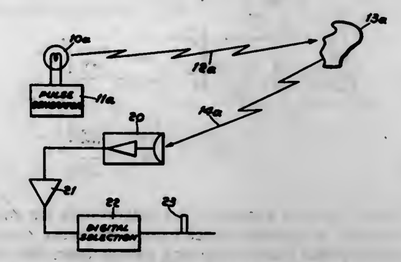
An invention relating to electroluminescent devices and, in particular, to an imaging system making use of such devices. Additionally, the present invention relates to a method for the use of such a storage device which involves producing a stored image and one or more non-stored images.

3,510,661
PHOTOELECTRIC TIMING CONTROL APPARATUS
Keith Aston, 127 Marlow Drive, North Cheam, England
Filed Dec. 5, 1967, Ser. No. 688,252
Claims priority, application Great Britain, Dec. 5, 1966, 54,404/66
Int. Cl. H01j 39/12
U.S. Cl. 250—214 11 Claims



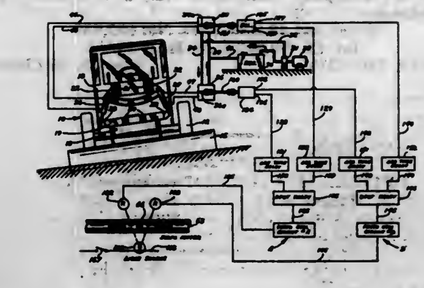
Photoelectric timing control apparatus for controlling the amount of light provided by a light source includes a photelectric device adapted to charge a timing capacitor at a rate dependent upon the intensity of the light source. An operating voltage is applied periodically to the photoelectric device to render it alternatively operative and inoperative, with the ratio of operative to inoperative periods determining the charging rate of the capacitor, and permitting a wide range of control.

3,510,662
OPTICAL RADAR SYSTEM WITH PHOTOMULTIPLIER AND ASSOCIATED CIRCUITRY HAVING TIME CONSTANT LONG ENOUGH TO PERMIT "PILE-UP" OF SIGNAL PULSE BUT SHORT ENOUGH TO KEEP NOISE PULSES SEPARATED
Edward H. Eberhardt, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Oct. 24, 1965, Ser. No. 504,521
Int. Cl. H01s 39/12
U.S. Cl. 250—214 8 Claims



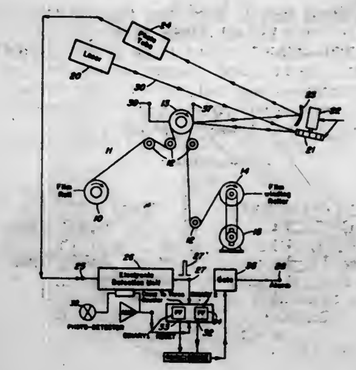
A light pulse generator transmits narrow pulses which after reflection are detected by a photomultiplier and amplified. The amplifier has a bandwidth sufficient to pass noise current pulses produced by random photoelectrons that are separated in time by at least the width of a noise pulse. The photoelectrons induced by the reflected light pulses are more numerous and cause closely spaced and overlapping current pulses to exist, which due to the restricted bandwidth of the amplifier, yield pulses greater in amplitude than the noise pulses. The output of the amplifier is connected to a pulse amplitude discriminator for final detection.

3,510,663
RADIATION SENSITIVE GRADE INDICATING AND REGULATING DEVICE
Grayson F. Wyly, 6916 65th Ave. N., Minneapolis, Minn. 55428
Filed Oct. 21, 1968, Ser. No. 769,310
Int. Cl. H01j 39/12; E02f 3/76
U.S. Cl. 250—215 9 Claims



An apparatus for use with a road grader to regulate the grading blade thereof consisting of a grading angle indicating meter, a pair of photocells responsive to changes in the reading of said meter beyond predetermined limits, said cells being included in a circuit including means to regulate and maintain the angle of said blade to provide a grade within said predetermined limits.

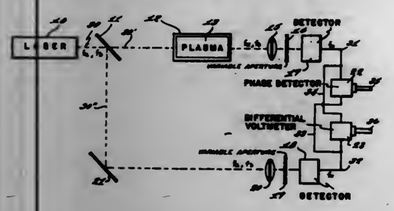
3,510,664
AUTOMATIC LASER BEAM SCANNING FILM FLAW DETECTOR
Gordon W. Nichols, Binghamton, N.Y., assignor to GAF Corporation, a corporation of Delaware
Filed Jan. 8, 1968, Ser. No. 696,284
Int. Cl. H01j 39/12; G01n 21/16, 21/30
U.S. Cl. 250—217 11 Claims



A laser beam is scanned across a guide roller over which the film runs; at the beginning and end of each scan, a sharp pulse will be generated due to the discontinuity of the film with respect to the guide drum; these pulses will be similar to defect pulses. All pulses, for each scan, are applied to a count-to-three counter; if the count-to-three counter reaches three, a defect is indicated otherwise, if only two counts are reached, only the beginning and end have been detected. A reset is provided actuated

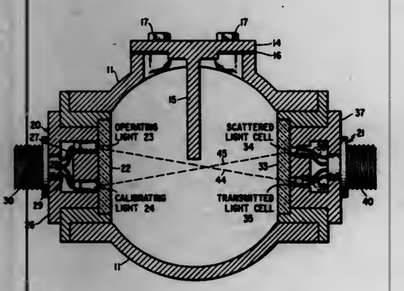
by the scanning mechanism, so that the testing apparatus is non-responsive to edge discontinuity, independently of film width. The pulses are dynamically compared with noise signals to eliminate response to stray pulses.

3,510,665
APPARATUS FOR PLASMA MEASUREMENT
Patrick F. Goolsby, Florence, Ala., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 12, 1967, Ser. No. 652,889
Int. Cl. G01n 21/26; H01j 39/12
U.S. Cl. 250—218 16 Claims



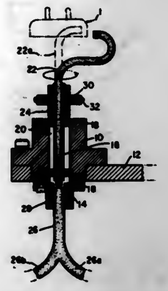
Apparatus for measuring instantaneous and long term electron densities and collision frequencies of plasma. A laser having at least two output modes is split into separate beams. The first beam is directed through the plasma thereby incurring a phase shift which is a function of electron density and a signal intensity attenuation which is a function of the collision frequency. The second beam is shunted past the plasma to an arrangement for comparing this beam with that existing from the plasma, thereby providing a measurement of electron density and collision frequency.

3,510,666
TURBIDITY METER HAVING CALIBRATING LIGHT SOURCE
George J. Topol, Hamilton, Ontario, Canada, assignor to Bowser, Inc., Cookeville, Tenn., a corporation of Indiana
Filed May 5, 1967, Ser. No. 636,431
Int. Cl. G01n 21/12
U.S. Cl. 250—218 6 Claims



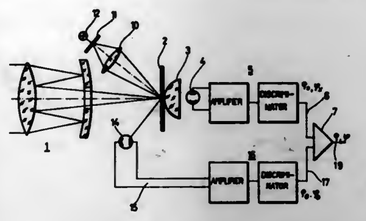
Two light sensitive devices, a light source, and a shield are arranged along the path of a fluid whose turbidity is to be measured. One light sensitive device receives only scattered light from the source and the other light sensitive device receives both scattered and directly transmitted light from the source. The ratio of the electrical outputs of the two light sensitive devices is supplied to an indicating meter which provides a linear indication of turbidity over a relatively wide range.

3,510,667
INSPECTION APPARATUS COMPRISING ROTATABLE AND RECIPROCABLE LIGHT-TRANSMITTING FIBER BUNDLE
Robert E. Cleveland, Danvers, and Marcellus N. Gilbert, Jr., Lynnfield, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 23, 1967, Ser. No. 648,425
Int. Cl. G02b 5/14; B07c 5/342
U.S. Cl. 250—227 1 Claim



A method of and apparatus for inspecting articles of work by means of a fiber optic device in which a rotating fiber optic bundle scans a stationary article of work.

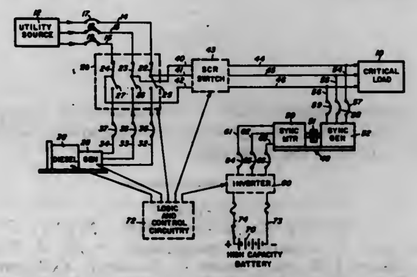
3,510,668
GONIOMETER WITH REFERENCE LIGHT SOURCE FOR COMPENSATING FOR INACCURACIES IN RETICLE
Joachim Hermann, Munich, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany
Filed Sept. 27, 1965, Ser. No. 490,511
Claims priority, application Germany, Oct. 6, 1964, B 78,812
Int. Cl. G01d 5/36
U.S. Cl. 250—233 10 Claims



Optical tracking apparatus, for determining the angular deviation of a scanned object from a reference direction includes optical means directing energy from the object onto an image plane and having an optical axis centered on the reference direction. Converter means adjacent the image plane convert optical indications into corresponding electrical signals. A single diaphragm at the image plane scans the field of view of the optical means and provides an optical indication of the angular deviations of the object from the reference direction. The single diaphragm modulates the energy incident upon the converter means to provide a frequency modulated angular deviation electrical signal representing the polar coordinates of the scanned object relative to the reference direction. Null signal generating means includes a light source, means directing light from the source to the image plane at the optical axis, and a second converter means

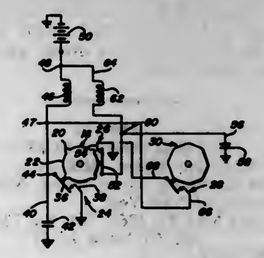
converting light from the source into corresponding electrical signals. The single diaphragm modulates the light incident upon the second converter means to provide a frequency modulated null electrical signal representing the polar coordinates of error deviations of the single diaphragm relative to the reference direction. The angular deviation signal and the null deviation signal are combined to correct the angular deviations signal for the error deviations of the diaphragm relative to the reference direction.

3,510,669
TELEVISION SYSTEM
John Peraza, New York, N.Y., assignor to Photronics Corporation, Flushing, N.Y., a corporation of New York
Filed Aug. 4, 1967, Ser. No. 658,397
Int. Cl. H04n 3/22
U.S. Cl. 178—6.8 10 Claims



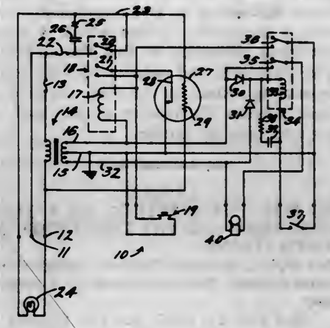
A television system in which video information is precisely positioned on a cathode ray receiver tube screen. The precise positioning is effected by including, in the video information signal, pulses representing picture position information. The pulses are separated from the video information as photographed by a camera and are also separated from the picture produced in the receiver tube. The respective sets of pulses are applied to associated digital counters and the contents of the counters are compared in digital comparison means. Any difference in the aforesaid contents, as indicated in the comparison means, is applied as a modifying signal to the receiver tube horizontal ramp signal to precisely position the picture on the cathode ray tube screen.

3,510,670
TWO COIL, TRIPLE POINT IGNITION SYSTEM
Floyd M. Uhland, 73 Center Granview, Quincy, Ill. 62301
Filed Mar. 15, 1968, Ser. No. 713,519
Int. Cl. H01h 1/60
U.S. Cl. 307—10 7 Claims



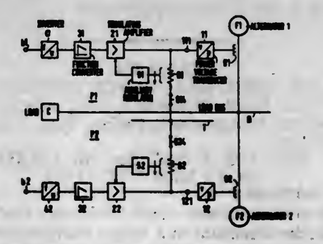
A voltage source is connected in parallel to first and second primary windings of two ignition coils. A current reversing, dual point assembly is connected to a circuit breaking single point assembly so that opening of the latter causes spark plug firing. Arc current developing across the contacts of the point assembly is reversed during alternate actuation thereby preventing unidirectional transfer and accumulation of deposits on the contact surface.

3,510,671
LAMP AND BELL CONTROL CIRCUIT
Donald A. Stratton, Fort Wayne, Ind., assignor to Test Quip Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Nov. 29, 1968, Ser. No. 780,115
Int. Cl. H05b 41/36
U.S. Cl. 307—39 7 Claims



A control circuit for operating a yard light and a bell. A switch such as a pneumatic driveway switch or a photoelectric switch energizes a bell control relay for ringing the bell. An R-C timing network keeps the bell relay closed for several seconds after the switch is opened. A light control relay is energized by either the energization of the bell control relay or by a manual push button switch to turn on the yard light. Once energized, a delay relay keeps the light control relay energized for several minutes.

3,510,672
REGULATING SYSTEM FOR UNIFORMLY DISTRIBUTING THE LOAD UPON PARALLEL OPERATING ALTERNATORS
Herbert Poppinger, Munich, Heinz Latge, Erlangen, and Manfred Liska, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Nov. 19, 1968, Ser. No. 777,120
Claims priority, application Germany, Dec. 20, 1967, 1,588,808
Int. Cl. H02j 3/46
U.S. Cl. 307—53 8 Claims



An electric power generating system in which two or more alternators which are individually driven supply electric power in parallel relation to the same bus conductors, there is provided a regulating system for uniformly distributing upon the parallel alternators the load

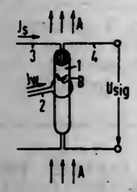
with respect to the active power supplied to the bus. Each alternator drive for this purpose is provided with a speed regulator for varying the generated power output of the individual alternator. Each alternator is further provided with a power regulator in response to the power furnished to the bus provides a datum quantity or reference value for the operation of the speed regulator. The power regulator has input means equipped with a power sensing means which responds to the alternator output and supplies a datum quantity that is indicative of the difference between a first magnitude inversely proportional to the active power issued by the alternator, and a second magnitude proportional to the alternator frequency. Each alternator regulating system further comprises a regulating amplifier whose gain is variable, the gain control means being connected to and responsive to a voltage drop across a decoupling resistor which is connected to the appertaining alternator so that the amplifying gain varies as to magnitude and polarity with the voltage drop of the decoupling resistor in the sense required to secure the desired uniform distribution of the load upon the alternators operating in parallel.

3,510,673

METHOD FOR THE CONTROL OF A THIN FILM TRANSFORMER FOR THE EXECUTION OF LOGICAL OPERATIONS

Karl-Heinz Walter, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Feb. 13, 1967, Ser. No. 615,628
Claims priority, application Germany, Feb. 16, 1966, S 102,036
Int. Cl. G11c *11/14*; H01f *40/00*; H03k *19/168*
U.S. Cl. 307—88 4 Claims



A method of controlling a transformer for executing logical operations, comprising a hollow cylinder covered with a magnetizable layer, at least one input line encircling the transformer, and control and output lines threading said cylinder, and effecting the pass or blocking condition, prior to the appearance of an input signal, in the presence or absence of a signal on the control line, whereby the direction of the magnetization of such layer accordingly extends in a pass or blocking direction.

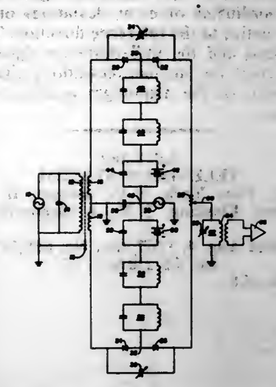
3,510,674

LOW NOISE REACTANCE AMPLIFIER

James Robert Biard, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Aug. 9, 1967, Ser. No. 659,456
Int. Cl. H03f *7/04*, *11/00*
U.S. Cl. 307—88.3 8 Claims

A low noise reactance amplifier having four semiconductor diodes connected in a bridge configuration. A high frequency pump source drives each of the diodes through regions of capacitance nonlinearity while the overall capacitance of selected pairs of the diodes is maintained constant. Tuned circuits are coupled to the diode bridge configuration to substantially eliminate charge transfer from the diodes at the frequency of the pump source. Input signals having frequencies substantially lower than the frequency of the pump source are introduced into the diode bridge configuration for interaction with the



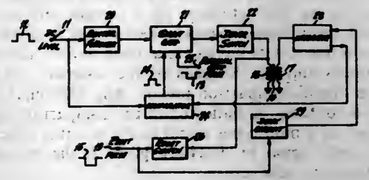
capacitance nonlinearities. A resonant circuit output coupled to the diode bridge configuration provides an amplified replica of the input signal.

3,510,675

LINEAR FLUX CONTROL CIRCUIT

Douglas A. Johnson, Cinnaminson, Robert J. Tomsic, Cherry Hill, and Hunter C. Goodrich, Collingswood, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Dec. 8, 1967, Ser. No. 689,036
Int. Cl. H01f *13/00*
U.S. Cl. 307—101 9 Claims



An improved flux drive circuit is provided for inducing a flux in a magnetic material that is directly proportional to the applied input voltage. This linear control of the flux is provided by controlling the volt-time product applied to the control windings which does not require a constant voltage or constant time but can be used with any combination of voltage and time variations. The drive pulse amplitude E is derived from input voltage level. The induced flux is measured directly at the control windings and the measured output varies the pulse width ΔT to shut off the flux driver when the flux has reached the desired level.

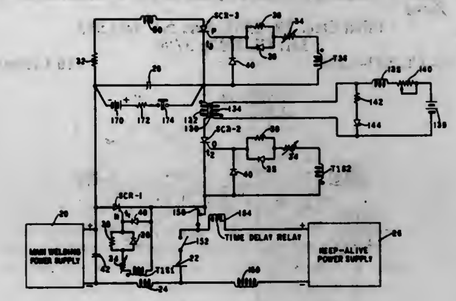
3,510,676

PULSED POWER SUPPLY

Willis C. Pierce, Jr., Murray Hill, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 22, 1968, Ser. No. 731,045
Int. Cl. H03k *3/335*
U.S. Cl. 307—108 11 Claims

Pulses of power, regulated as to frequency and duty cycle, are passed from a power supply source to an electric welding arc through a first controlled rectifier acting as a switch. Second and third controlled rectifiers are used in a timing system for starting and stopping conduction through the first rectifier. A novel multivibrator, linearly adjustable as to frequency and duty cycle independently, predetermines the necessary time intervals. At the end of a first time interval after the start of a power pulse, the second rectifier is fired in a circuit which applies a capacitor charge to the first rectifier in such polarity as to back-bias the first rectifier. The capacitor, discharging through an oscillatory circuit including a welding inductor, the arc and power source, finally becomes charged in reverse polarity in the process of turning off the first rectifier,



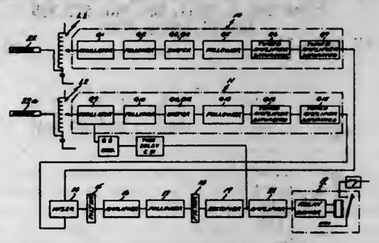
thereby opening the arc circuit and ending the power pulse. The capacitor, reversed in charge, back-biases the second rectifier, turning it off. The third rectifier, in series in an oscillatory circuit comprising an inductor, a resistor, and the capacitor, is fired at the end of a second time interval, to permit a half-cycle of oscillation, thereby restoring the capacitor to its original charge and polarity, and turning off the third rectifier. Any excess charge is dissipated in the resistor while the capacitor is re-charging. At the next firing of the first rectifier the cycle starts again.

3,510,677

ELECTRONIC DETECTION SYSTEM

George H. Lister, Cleveland, Ohio, assignor to The Euclid Electric & Manufacturing Co., Madison, Ohio, a corporation of Ohio

Filed Aug. 12, 1966, Ser. No. 572,007
Int. Cl. G08b *13/26*
U.S. Cl. 307—116 2 Claims



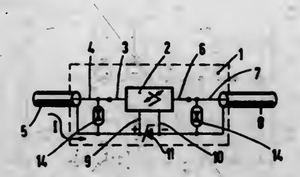
An electronic detection system for detecting the presence or proximity of an object thereto and which has a pair of signal generators operable to generate a signal of a different frequency and which signals are mixed to produce a beat frequency signal. Tuned amplifiers in each generator are operated in a saturated condition whereby the output signal therefrom and the resultant beat frequency signal are of a constant amplitude. Filter means and rectifier means receive the beat frequency signal and provide a control signal whose value is solely responsive to frequency changes.

3,510,678

ARRANGEMENT WITH CIRCUIT NETWORKS BUILT UP IN INTEGRATED CIRCUIT TECHNIQUE

Ewald Braun, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed Mar. 31, 1967, Ser. No. 629,520
Claims priority, application Germany, Apr. 1, 1966, S 102,994
Int. Cl. H02k *7/20*
U.S. Cl. 307—202 13 Claims



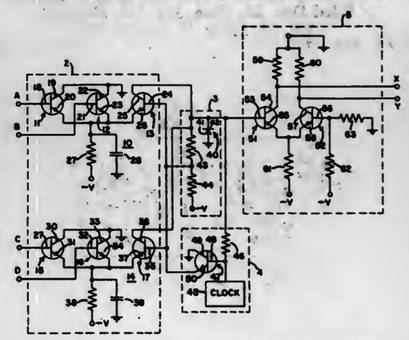
A circuit network built up in integrated circuit technique, especially power repeaters, particularly for use on coaxial lines, wherein the circuit network is disposed in a tube, the diameter of which corresponds approximately to the outer diameter of the associated coaxial lines, the feed current supply being effected over at least two sections of the tube, which sections are connected by a Zener diode, which in operation is connected in parallel with the currrent supply terminals of such circuit network.

3,510,679

HIGH SPEED MEMORY AND MULTIPLE LEVEL LOGIC NETWORK

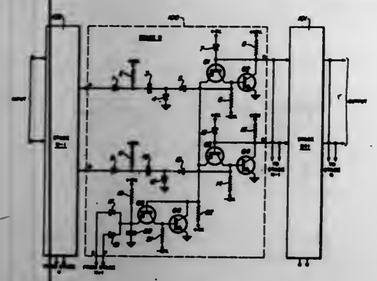
William Pell, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York

Filed Oct. 26, 1966, Ser. No. 589,722
Int. Cl. H03k *19/08*, *19/22*, *19/30*
U.S. Cl. 307—288 9 Claims



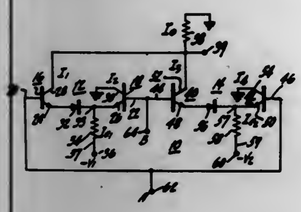
High speed, low power digital logic network for performing multiple level logic operations with memory at greatly improved speeds and with low power requirements. The network includes a bistable tunnel diode circuit, a source of clock signals and a multi-input logic gate circuit for generating logic signals in response to its applied inputs and said clock signals, said logic and clock signals being coupled to said tunnel diode circuit for driving said diode circuit into a first stable state with said clock signals solely applied and into a second stable state wtih said clock and logic signals applied concurrently.

3,510,680
ASYNCHRONOUS SHIFT REGISTER WITH DATA CONTROL GATING THEREFOR
George E. Cogar, Frankfort, N.Y., assignor to Mohawk Data Sciences Corp., East Herkimer, N.Y., a corporation of New York
Filed June 28, 1967, Ser. No. 649,707
Int. Cl. H03k 23/30, 21/30
U.S. Cl. 307—221 4 Claims



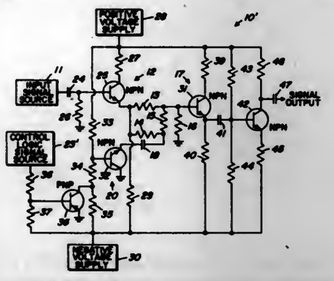
An asynchronous shift register, each stage of which has binary inputs and outputs. In each stage associated inputs and outputs are contained within a signal channel and information supplied to each channel is stored by a pair of interconnected transistors which form a latching network. The interconnected transistors are controlled by a condition feedback network which is responsive to the state of the next successive stage of the register, whereby data applied to the input of the register is automatically shifted into a que at the output end of the register.

3,510,681
CURRENT STEERING NETWORKS PROVIDING THE EXCLUSIVE OR FUNCTION
Michael Cooperman, Cherry Hill, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Dec. 23, 1966, Ser. No. 604,343
Int. Cl. H03k 19/20, 19/32
U.S. Cl. 307—216 5 Claims



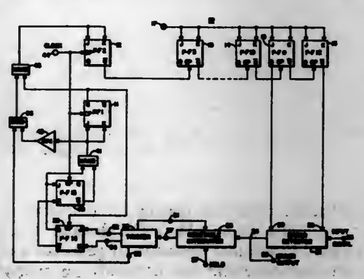
An EXCLUSIVE OR gate comprises a pair of current steering networks with each including first and second emitter-coupled transistors. A threshold element, such as a diode, is coupled to each emitter of the first transistors in the current steering networks to provide an unbalance in the threshold of conduction between the first and second transistors in each of the current steering networks. Constant currents of substantially equal magnitudes are applied respectively to the pair of current steering networks. A first binary input signal is applied to both the input electrode of the first transistor in the first current steering network and the input electrode of the second transistor in the second current steering network, whereas a second binary input signal is applied to both the input electrode of the second transistor in the first current steering network and the input electrode of the first transistor in the second current steering network. A binary output signal is derived only when the binary input signals are of opposite value to provide the EXCLUSIVE OR function.

3,510,682
DIGITAL CONTROLLED VARIABLE GAIN CIRCUIT
Richard A. Nichols, Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 29, 1967, Ser. No. 694,583
Int. Cl. H03g 3/00
U.S. Cl. 307—230 16 Claims



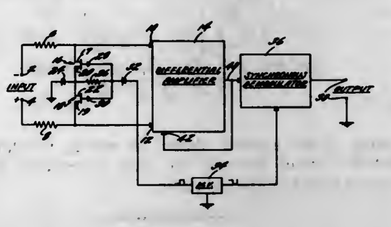
A variable gain circuit subject to logic number control from a digital computer with controlled gain changes accomplished in a microsecond or less, and with differential time delay through the circuit very low. It includes variable gain circuit sections each with a gain control circuit network interconnecting signal input and output amplifiers with attenuation through the network subject to step variation with opening and closing of an AC current path to ground from a point in a triangular resistive loop of the network as controlled by a switch for each section.

3,510,683
CONTROL APPARATUS HAVING INTEGRATING MEANS FOR SYNCHRONIZING AND ADJUSTING THE PHASE OF INPUT AND COUNTER SIGNALS
Donald J. Rotier, St. Paul, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 2, 1967, Ser. No. 672,359
Int. Cl. H03k 5/20
U.S. Cl. 307—232 10 Claims



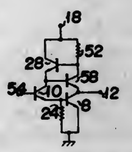
A synchronizer wherein information or a signal is stored in the phase of a counter is shown. An error signal is generated by comparing the phase of the counter to the phase of an input signal which is used either to adjust the phase of the counter (synchronize mode) or as a control signal (hold mode).

3,510,684
SOLID STATE DIFFERENTIAL INPUT CHOPPER
Henry E. Martin, Wappinger, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 3, 1967, Ser. No. 650,694
Int. Cl. H03k 17/00
U.S. Cl. 307—240 1 Claim



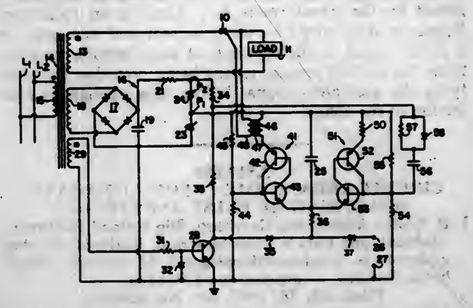
A pair of field-effect transistors are serially connected, source to source, between the input terminals of a differential amplifier. The gates are connected through a common resistance to the junction of the two sources; the sources are referenced to ground through a diode, and the gates are driven through a diode by a multivibrator, the complementary output of which may be utilized to operate an out-of-phase synchronous demodulator in a well known way.

3,510,685
HIGH SPEED SEMICONDUCTOR SWITCHING CIRCUITRY
Makoto Watanabe, Kodaira-shi, Hisakazu Mukai, Musashino-shi, and Keisuke Katsuka, Nerima-ku, Tokyo, Japan, assignors to Nippon Telegraph and Telephone Public Corporation, Musashino-shi, Tokyo, Japan, a corporation of Japan
Filed Feb. 14, 1967, Ser. No. 616,045
Claims priority, application Japan, Feb. 16, 1966, 41/8,890; Apr. 11, 1966, 41/22,435; May 23, 1966, 41/32,505
Int. Cl. H03k 17/00
U.S. Cl. 307—248 6 Claims



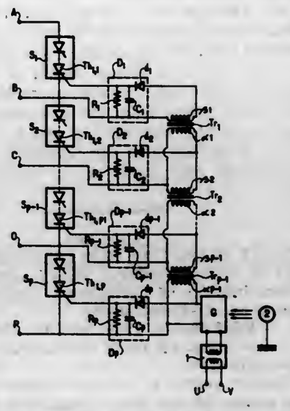
A high speed semiconductor switching circuitry having an emitter grounded transistor inverter, a driving circuit to drive the transistor inverter and an auxiliary control circuit connected between the driving circuit and the output terminal of the transistor inverter. The auxiliary control circuit comprises a sub-driver circuit including at least one PN junction which is able to carry the forward current toward the driving circuit as viewed from a source of supply and a circuit to transfer the potential at the output terminal of the transistor inverter to the sub-driver circuit with a certain level shift which is proportional to the PN junction contact potential and functions to increase the driving current supplied to the transistor inverter via the driving circuit during forward recovery period in which the transistor inverter is switched from nonconducting state to conducting state whereby decreasing power consumption of the circuitry and increasing the switching speed of the transistor inverter.

3,510,686
CONTROLLED RECTIFIER FIRING CIRCUIT
Wilhelm J. Zeg, Raleigh, N.C., assignor, by mesne assignments, to ESB Incorporated, Philadelphia, Pa., a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 614,268
Int. Cl. H02m 5/22; H03k 17/72
U.S. Cl. 307—252 5 Claims



This invention provides a firing circuit which allows a full 180° firing angle phase shift. The firing pulses are triggered by the voltage across a capacitor the charging of which is controlled by synchronous switching means in such a manner that the capacitor charges at a rate proportional to a control signal during the 180° preceding the 180° firing angle excursion and at a predetermined rate during the firing angle excursion. In this way the control voltage sets the point of departure for the predetermined charging rate of the capacitor during firing angle excursion thereby controlling the firing angle phase shift.

3,510,687
CONTROL ARRANGEMENT FOR SERIES CONNECTED THYRISTORS
Jacques Toulemonde, Versailles, France, assignor to Compagnie Generale d'Electricite, Paris, France, a French corporation
Filed Aug. 23, 1967, Ser. No. 662,820
Claims priority, application France, Aug. 23, 1966, 73,891
Int. Cl. H03k 17/00
U.S. Cl. 307—252 6 Claims



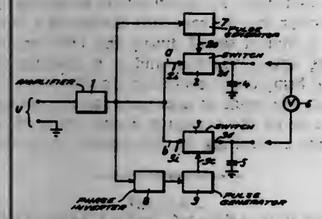
A device for switching on a chain of sections in series each section comprising at least one thyristor, each of the said sections being associated with an individual excitation

transformer, the primary windings of each of the said transformers except the first being connected to the secondary winding of the preceding transformer and the excitation being controlled by the application of an oscillatory signal supplied by a generator to the primary winding of the first transformer; in which device the generator is controlled by a control source of impulses and the oscillatory signal issuing from the generator and transmitted by the transformers is a signal at an oscillatory frequency determined by the generator and sustained for a period equal to the duration of each impulse received from the control source, means being provided for rectifying the oscillatory signal before it is applied to each section of the chain.

3,510,688
CIRCUIT ARRANGEMENT FOR AUTOMATIC MEASURING OF PULSE AMPLITUDES

Leif Walter Andersson, Goteborg, Stig Roland Hollstrom, Molndal, and Lars Werner Sjostrom, Kollered, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed July 20, 1967, Ser. No. 654,923
Claims priority, application Sweden, Aug. 5, 1966, 10,669/66
Int. Cl. H03k 5/20, 4/08; G01r 19/16
U.S. Cl. 307—235 1 Claim



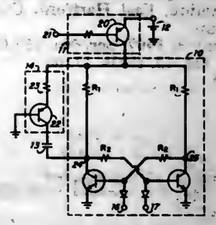
There is disclosed circuit arrangement for the automatic measuring of the amplitude of a periodic pulse signal. The signal is supplied to two electronic switches each having a capacitor connected to its output, a voltmeter being connected across the capacitors. The pulse signal is also supplied to a first pulse generator which controls one of the switches and via a phase inverter to a second pulse generator which controls the other switch. The pulse generators each comprise a saw-tooth signal generator which generates a ramp signal during the pulse or pulse interval respectively, a hold-circuit and a voltage divider from which a certain portion of the average peak value of the saw-tooth signal is obtained and a comparator which activates the appertaining switch when the amplitude values from the saw-tooth generator and the voltage divider coincide, i.e. when a portion of the pulse (or pulse interval) corresponding to said portion of the average peak value of the saw-tooth signal has elapsed.

3,510,689
BISTABLE FLIP-FLOP CIRCUIT WITH MEMORY

Richard H. Baker, Bedford, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

Filed Nov. 1, 1966, Ser. No. 591,231
Int. Cl. H03k 17/00, 3/15
U.S. Cl. 307—238 4 Claims

A bistable circuit is energized from a pulsed D.C. energy source of low duty cycle. The bistable circuit is triggered to assume one of two states while the energy is applied. A capacitor is connected to the bistable circuit and assumes a voltage dependent upon the state of the bistable circuit. A switch electrically disconnects said capacitor from the bistable circuit during the time the

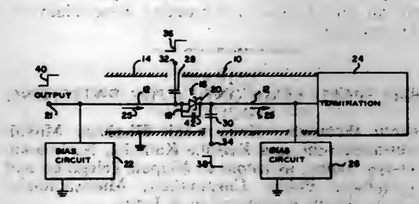


energy is not applied. When the energy is applied, the bistable circuit assumes the state corresponding to the voltage stored on the capacitor.

3,510,690
TRANSMISSION LINE COUPLED TUNNEL DIODE PULSE GENERATOR

Frederick Y. Kawabata, Beaverton, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed July 17, 1967, Ser. No. 653,743
Int. Cl. H03k 17/58
U.S. Cl. 307—258 11 Claims

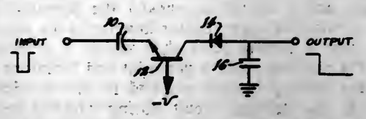


A tunnel diode is located in series with the central inner conductor of a coaxial transmission line, with one end of the transmission line providing an output terminal and the opposite end of the transmission line being terminated in its characteristic impedance. The transmission line provides a substantially constant and predictable load for the tunnel diode so as to minimize output aberrations. Balanced drive means for the tunnel diode are disposed adjacent the diode, and comprise capacitive probes extending proximate the transmission line inner conductor immediately adjacent either side of the tunnel diode. A balanced drive is supplied to the probe so that the drive current flows between the probes and does not appear elsewhere in the transmission line.

3,510,691
PULSE-STRETCHING CIRCUIT

Robert N. Larsen, Houghton, Mich., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 13, 1967, Ser. No. 609,731
Int. Cl. H03k 5/04
U.S. Cl. 307—267 4 Claims



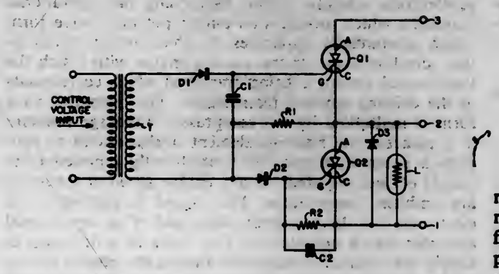
The present voltage pulse-stretching circuit has a capacitive differentiator to convert an applied voltage pulse to a current pulse. A diode switching circuit applies the

current pulse to a storage capacitor to provide thereacross a voltage pulse having a duration determined by the discharge rate of the storage capacitor and a value which is the integral of the current pulse.

3,510,692
HIGH CURRENT SWITCHING CIRCUIT UTILIZING TWO SILICON CONTROLLED RECTIFIERS

Marvin A. Hufford, Richmond, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware

Filed June 22, 1967, Ser. No. 648,082
Int. Cl. H03k 3/35
U.S. Cl. 307—284 7 Claims

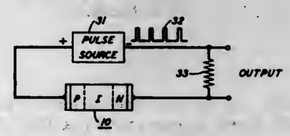


Two silicon controlled rectifiers are utilized for connecting a source to a load in a fail safe manner. The two rectifiers are connected in series across the source. In the absence of a control voltage, but in the presence of stray voltages appearing across the load, one of the silicon controlled rectifiers is in its high impedance state while the second is in its low impedance state. The load is connected across the rectifier which is normally in its low impedance state so that stray currents are short-circuited away from the load. In response to a control voltage the states of the rectifiers are reversed and any existing voltage provided by the source is connected to the load through the one rectifier while the second rectifier is made an open circuit.

3,510,693
SEMICONDUCTOR DIODE COUNTING APPARATUS

Barry G. Cohen, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed June 19, 1967, Ser. No. 647,041
Int. Cl. H01l 9/10
U.S. Cl. 307—287 11 Claims



A semiconductor diode with a P-I-N structure, in which the I zone contains many trapping levels, is used as a pulse counter with prescribed time delay. Forward voltage pulses are applied to the diode; the resulting current output is appreciable only after a prescribed number of pulses, after a prescribed time delay, have been applied to the diode.

3,510,694
VOLTAGE TO CURRENT CONVERTER

Richard W. Michael, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

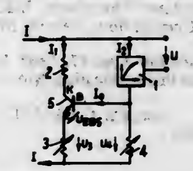
Filed Mar. 6, 1967, Ser. No. 620,982
Int. Cl. H03k 3/395
U.S. Cl. 307—290 5 Claims

A compact electrical circuit having a plurality of directly-coupled transistors for converting a low level, direct voltage signal to a regulated current output. The first stage transistor is connected so as to act as a comparator between the input signal and a voltage across a precision resistor. Current changes through the multiple-stage transistors compensate for current variations through the precision resistor induced by impedance variations in an external current receiver.

3,510,695
APPARATUS PROVIDING CONSTANT ADJUSTMENT OF THE PARTIAL CURRENT IN A NON-LINEAR RESISTANCE NETWORK

Paul Leuper, Fribourg, Switzerland, assignor to Maschinenfabrik Oerlikon, Zurich, Switzerland

Filed July 6, 1967, Ser. No. 651,514
Claims priority, application Switzerland, July 6, 1966, 9,988/66
Int. Cl. H03k 1/00, 1/02, 1/12
U.S. Cl. 307—296 3 Claims



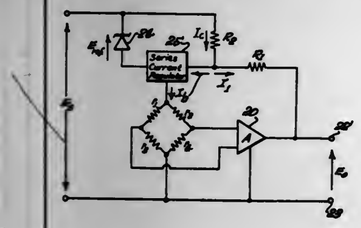
A non-linear resistance network is part of apparatus providing for constant adjustment of the partial current therein. An input current line and an output current line are connected by a pair of branch circuits each having a partial current flowing therethrough, with the non-linear resistance network being connected in one branch circuit and with a transistor having its collector-emitter circuit connected in the other branch circuit and its base connected to the one branch circuit.

The transistor controls the current distribution in the two branches, so that the ratio of the partial current, in the non-linear resistance network, to the input current is maintained constant.

An adjustable resistance is connected in series in each branch circuit, and the partial currents in the two branch circuits are inversely proportional to the adjustable resistances therein. A diode may be connected in series with

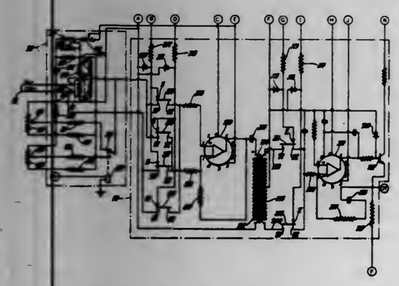
the non-linear resistance network to match the relatively small voltage drop in the base-emitter circuit of the transistor. Alternatively, a second transistor can have its collector-emitter circuit connected in series with the non-linear resistance network, and its base connected to the base of the first-mentioned transistor. In this case, the control current for the two transistors is supplied through a further resistor connected between the input current line and the line connecting the bases of the two transistors.

3,510,696
TRANSDUCER OUTPUT CORRECTION CIRCUITRY
David W. Bargen, Pasadena, Robert H. Russell, Altadena, and Richard J. Zollinger, Sierra Madre, Calif., assignors, by mesne assignments, to Whittaker Corporation, Los Angeles, Calif.
Filed Aug. 7, 1967, Ser. No. 658,887
Int. Cl. G01n 27/00
U.S. Cl. 307—308 6 Claims



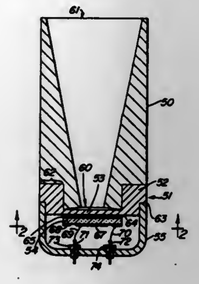
Output correction circuitry for transducers having electrically excited sensor elements connected in an electrical measuring circuit. The transducer electrical output is fed through an amplifier, the amplifier output being sampled and fed back to alter the electrical excitation of the sensors to introduce a desired second order (quadratic) correction of the transducer electrical output.

3,510,697
ELECTRONIC FUEL CONTROL SYSTEM
Robert E. Nelson and Russell D. Green, Indianapolis, and Robert K. Sanders, Whitestown, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Aug. 17, 1967, Ser. No. 661,342. Divided and this application Nov. 1, 1968, Ser. No. 772,615
Int. Cl. G01k 7/02
U.S. Cl. 307—308 2 Claims



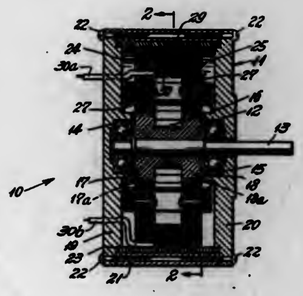
The circuit of this invention operates to control the rate of fuel flow to jet type engines and is described with reference to a fan jet engine. Conventional magnetic type pick-up units of the type which produce substantially sinusoidal alternating current signals which increase in frequency within increases in speed are mounted upon the turbine shaft and the fan shaft. The alternating current signals produced by these magnetic pick-up units are converted into respective direct current signals which increase substantially linear in magnitude with increases in frequency by respective electronic converter circuits to produce a direct current engine speed signal and a direct current fan speed signal, respectively. Mounted in the compressor inlet air stream is a compressor inlet air temperature sensor, such as a thermistor device, which produces a direct current signal which is proportional to the compressor inlet air temperature. The direct current engine speed signal and the direct current compressor inlet air temperature signal are applied to an electronic acceleration schedule circuit comprising two operational amplifiers which produces an output potential wave form which substantially duplicates the characteristic acceleration schedule curve of the specific engine with which the fuel control system is being employed which corresponds to the existing ambient temperature. This potential wave form is multiplied by the compressor discharge pressure in a piezoelectric resistive element bridge circuit to produce a potential signal which electrically represents the weight of fuel required for any engine speed at the existing ambient temperature. This signal is applied to an electronic fuel driver circuit comprised of an operational amplifier which operates the fuel valve in a direction to supply the computed weight of fuel to the engine at any engine speed. For safety reasons, the fan speed signal and a turbine temperature signal produced by a thermocouple device mounted upon the turbine are employed to reduce the amount of fuel flow to the engine under conditions of over-speed or over-temperature.

3,510,698
ELECTROACOUSTICAL TRANSDUCER
Frank Massa, Cohasset, Mass., assignor to Massa Division, Dynamics Corporation of America, Hingham, Mass.
Filed Apr. 17, 1967, Ser. No. 631,384
Int. Cl. H01v 7/00
U.S. Cl. 310—8.5 15 Claims



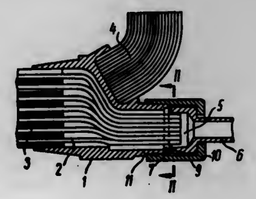
A metallic cup is machined to have a massive cylindrical wall closed at one end by a thin vibratile disk. A piezoelectric ceramic transducer element is cemented to the vibratile disk. The bonded side has a continuous electrode across the face of the ceramic, and the unbonded side of the ceramic has a central electrode concentrically surrounded by an annular band electrode. When an A.C. signal is applied across the central and annular electrodes, the central part of the ceramic is compressed and the peripheral part is put in tension. This drives the vibratile disk to generate acoustical frequencies at the natural resonant frequency of the disk.

3,510,699
VARIABLE RELUCTANCE ELECTRIC STEPPING MOTOR WITH BIAS WINDING AND FIELD ENERGIZING CIRCUITRY
Gustav O. Fredrickson, Granby, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Feb. 10, 1969, Ser. No. 798,047
Int. Cl. H02k 29/02, 37/00
U.S. Cl. 310—49 5 Claims



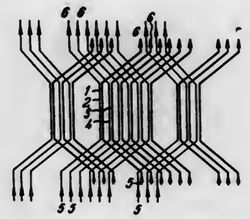
An electric stepping motor having a stator formed with a plurality of poles with teeth being formed on the pole's peripheries and with a winding associated with each pole; a rotor having end caps formed with teeth; in which the windings are sequentially energized to produce an altering magnetic flux while a unidirectional magnetic flux is produced by an electromagnetic coil in the stator with the fluxes coacting through the teeth to produce stepping movement when the magnetic flux is altered.

3,510,700
DEVICE FOR FEEDING COOLANT TO HOLLOW CONDUCTORS OF STATOR BAR WINDING IN ELECTRIC MACHINES
Nikolai Grigorievich Grinchenko, Ulitsa Vatutina 16/25; Oleg Borisovich Gradov, Ulitsa Kosiora 6, kv. 1; Vasily Semenovich Kildishev, Ulitsa Plekhanovskaya 41/43, kv. 55; Vladimir Vasilievich Kramarenko, Ulitsa Plekhanovskaya 41/23, kv. 24; Moisei Abramovich Katznelson, Ulitsa III Internatsionala 7, kv. 50; Ivan Eliseevich Makogonenko, Ulitsa Metallistov 8, kv. 90; Mikhailovich Rudnitsky, Ulitsa Mira 100, kv. 91; Lazar Yankelevich Stanislavsky, Ulitsa Mayakovskogo 11, kv. 24; Mikhail Iosifovich Semernin, Ulitsa Kultury 16, kv. 64; Alexandr Abramovich Chigirinsky, Ulitsa Kulbyakeva 11, kv. 8; and Andrei Leontievich Shulga, Ulitsa Mokhnachanskaya 12, all of Kharkov, U.S.S.R.
Filed Feb. 24, 1969, Ser. No. 801,676
Int. Cl. H02k 3/24
U.S. Cl. 310—54 2 Claims



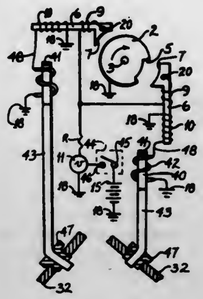
Disclosed is a device for feeding coolant to the hollow stator windings of a dynamoelectric machine. The hollow conductors are gripped by a sleeve within a hollow metal tip, the tip being jointed with a connecting pipe.

3,510,701
ROTOR OF A HIGH-SPEED SYNCHRONOUS MACHINE SUCH AS TURBOGENERATOR
Nikolai Pavlovich Ivanov, Moskovsky prospekt 153, kv. 154, Leningrad, U.S.S.R.
Filed Mar. 3, 1967, Ser. No. 620,452
Int. Cl. H02k 1/32
U.S. Cl. 310—64 4 Claims



A rotor of a high-speed synchronous machine, preferably of a turbogenerator, provided with inner-cooled conductors of the exciting winding, in which the exciting winding is made of separate sections distributed along the rotor circumference and laid at least in two rows, the cooling of said exciting winding in each section being effected separately.

3,510,702
PERIODIC HIGH VOLTAGE SOURCE
Martin E. Gerry, Santa Ana, Calif. (828 Lindale Ave., Drexel Hill, Pa. 19026)
Filed Mar. 11, 1968, Ser. No. 712,275
Int. Cl. H02k 11/00
U.S. Cl. 310—70 9 Claims

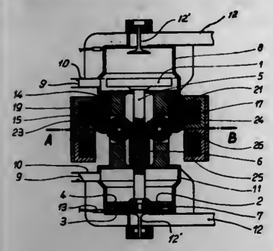


The invention makes use of a periodically resonant circuit wherein the resonant current and magnetic flux caused thereby is interrupted to produce a high induced electromotive force. This source is usable as an ignition system, as a laser ignition system, as a high voltage photographic flash, and as a unit in other related applications.

3,510,703
ELECTRIC GENERATOR
Hermann Klaue, Avenue des Planches 3, Montreux, Switzerland
Filed Apr. 1, 1968, Ser. No. 717,638
Int. Cl. H02k 11/00; H02p 9/04
U.S. Cl. 310—70 11 Claims

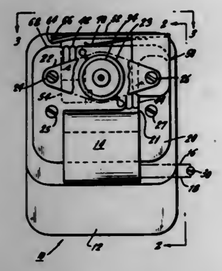
An electric generator of the type having a movable armature actuated by an internal combustion engine. The armature surrounds and is coaxial with a rod connected to the piston of the internal combustion engine. Gears support and drivingly engage the armature and the rod

such that they reciprocate in opposite directions. The mass of the armature, the piston and the piston rod are selected such that forces created by movement of the pis-



ton and piston rod in one direction are balanced by forces created by the movement of the armature in the opposite direction.

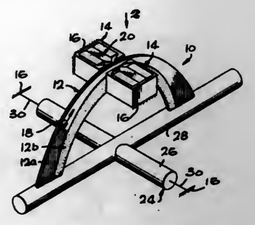
3,510,704
AUTOMATIC ELECTRIC BRAKE FOR ELECTRIC MOTOR
Howard E. Shaffer, Glenside, Pa., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 8, 1967, Ser. No. 689,041
Int. Cl. H02k *11/00*
U.S. Cl. 310—77 2 Claims



An electric motor having a rotating armature and having a shading coil associated with the main motor coil, which shading coil redirects leakage magnetic flux of the motor into its own vicinity; a motor brake including a pivotable support having a magnetizable portion, which portion is located in the vicinity of the shading coil and is attracted to the shading coil when flux is concentrated in its vicinity, thereby pivoting the brake support; a brake shoe on the brake support, which shoe is pivoted into engagement with the motor armature to halt rotation of same; the brake shoe being so positioned on the support as to pivot away from the armature when the magnetizable portion is attracted to the shading coil; and a biasing means for normally biasing the brake shoe into engagement with the armature when there is no flux in the vicinity of the shading coils.

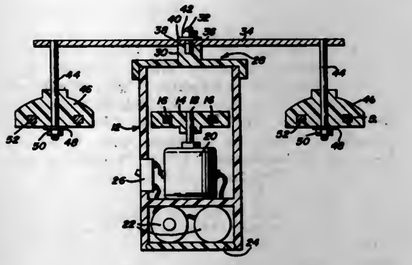
3,510,705
VARIABLE FORCE MAGNETIC HYSTERESIS DEVICE
James P. O'Neill, Playa Del Rey, and William S. Tierney, Torrance, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Aug. 14, 1967, Ser. No. 660,305
Int. Cl. H02k *49/04*
U.S. Cl. 310—93 18 Claims

A magnetic hysteresis device having a magnetic hysteresis member and at least one magnetizing head supported for relative movement in such a way that energy is dissipated within the member by magnetic hysteresis to produce a hysteresis drag force opposing the relative movement, and drag force modulating means, whereby the hysteresis drag force varies in accordance with a predetermined function of the relative displacement of the member and head. A magnetic hysteresis device of this kind wherein the hysteresis member varies in effective cross-section to provide the drag force modulating means



and includes a mass of magnetic material characterized by a low hysteresis loss and varying effective cross-section for providing a non-dissipative compensating magnetic spring force opposing the non-dissipative magnetic spring bias force active between the member and magnetizing head in the direction of their relative movement as a consequence of the varying effective cross-section of the hysteresis material of the member.

3,510,706
MAGNETIC SPINNING BODY APPARATUS
David A. Agaba, 800 Borite Circle, Reno, Nev. 89502
Filed Feb. 23, 1968, Ser. No. 707,780
Int. Cl. H02k *49/10*
U.S. Cl. 310—103 3 Claims

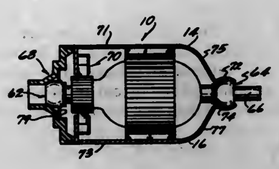


A motor driven magnetic sun member is mounted within a housing and, through the magnetic field generated thereby, both spins carrier mounted planet members and orbits the members about a fixed path defined by the carrier. Each of the planet members includes magnets which cooperate with the magnets within the sun member in effecting the spinning and orbiting.

3,510,707
MOTOR AND METHOD OF ASSEMBLING
Thomas W. Stone and Edward Latta, Owosso, Mich., assignors to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed July 27, 1966, Ser. No. 568,200
Int. Cl. H02k *7/20, 21/10*
U.S. Cl. 310—112 3 Claims

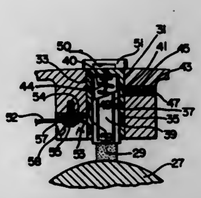
A gang motor is made up of two shell sections each having a plurality of arcuate portions in confronting relationship with arcuate portions on the other to thereby

form armature receiving openings. Magnets are supported at each opening between offsets in the arcuate portions. An armature assembly is suppported in each opening by bearing retaining portions integrally formed with end portions of the shell sections, which end portions are an integral part of the shell sections. The gang motor can also include integrally formed mounting tabs at one end of



the joined shell sections, flexible shaft attachments integral with the bearing retaining portions, a common end plate closing a common end of a number of armature receiving openings and connected in the gang motor through mounting tabs integral with the shell sections, and a resilient insert between the armature assembly bearings and their respective bearing retaining portions.

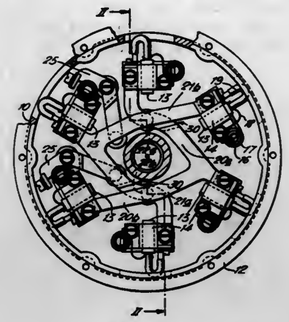
3,510,708
MODULAR BRUSH HOLDER ASSEMBLY
William H. O'Connor III, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Sept. 25, 1968, Ser. No. 762,503
Int. Cl. H01r *39/38*
U.S. Cl. 310—242 15 Claims



The device disclosed herein is a brush holder assembly for use in an electric motor device. The assembly includes an insulating outer body which houses a conductive insert, a carbon brush and a spring. The assembly is removably secured in place on a motor housing and, when in place, the insert makes electrical contact with the internal circuitry of the electric motor device.

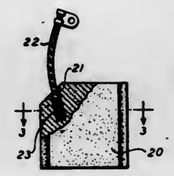
3,510,709
DYNAMOELECTRIC MACHINES
John L. Walker, Twickenham, and William Henry Moore, Wembley, England, assignors to C.A.V. Limited, London, England, a British company
Filed July 23, 1968, Ser. No. 746,875
Claims priority, application Great Britain, Aug. 3, 1967, 35,749/67
Int. Cl. H01r *39/38*
U.S. Cl. 310—239 2 Claims

A dynamoelectric machine including a commutator and a plurality of brushes for cooperation with the periphery of the commutator and through which electric current flows to and from the armature windings of the machine. At least a pair of such brushes are electrically inter-connected and this interconnection is achieved by connecting



links which are formed integrally with the brush boxes supporting the brushes. Conveniently the brush boxes and connecting links are formed as a cast structure.

3,510,710
CONNECTION FOR CARBON BRUSHES
William E. McCafferty, St. Marys, Pa., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 515,690, Dec. 22, 1965. This application Nov. 27, 1968, Ser. No. 779,659
Int. Cl. H01r *39/26;* C04b *35/66*
U.S. Cl. 310—249 4 Claims

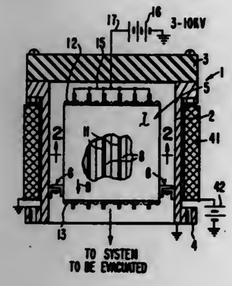


A carbon brush comprising in combination a carbon block having a cavity formed therein, an electrical conductor having an end portion disposed in said body cavity, and a body of conductive silver coated graphite-based granules compacted between said portion of the cable and the cavity wall to provide a mechanical and electrical connection therebetween.

3,510,711
MULTIPLE CELL ELECTRON ORBITING GETTER VACUUM PUMP
Robert M. Phillips, Redwood City, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Nov. 17, 1967, Ser. No. 683,875
Int. Cl. H01j *7/16;* F04b *37/02*
U.S. Cl. 313—7 8 Claims

An electron orbiting type getter vacuum pump is disclosed. The pump includes an envelope structure containing anode and cathode pumping elements. The cathode structure includes a cathode electrode partitioned into a multitude of individual elongated cathode cells with each cell containing a centrally disposed elongated anode electrode. The space within each of the cathode cells, which surrounds the anode electrode, defines an ionization region for ionizing gas particles within the

pump envelope. Electrons within the cathode cells are caused to enter into relatively stable spiral orbits about the individual centrally disposed anode electrodes resulting in a spiraling cloud of orbiting electrons which collide with gas particles within the pump, thereby ionizing same. Positively ionized gas particles are driven into the cathode structure to be gettered by the reactive getter



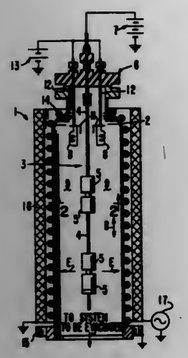
material of the cathode cell structure or to be buried in the cathode cell structure and covered over by getter material evaporated from the centrally disposed anode electrode structure. Getter material is evaporated from the anode due to electron bombardment of the anode structure by a certain fraction of the orbiting electrons which eventually are collected on the anode structure.

3,510,712

ELECTRON ORBITING GETTER VACUUM PUMP EMPLOYING A TIME VARYING MAGNETIC FIELD

Mario Rabinowitz, Menlo Park, and Lawrence T. Lamont, Jr., Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Oct. 20, 1967, Ser. No. 676,935
Int. Cl. H01j 7/16
U.S. Cl. 313—7 5 Claims



An electron orbiting getter vacuum pump is disclosed. The pump includes a cylindrical cathode electrode structure surrounding a centrally disposed anode electrode structure. Electrons from a source of electrons are injected into the radial electric field between the anode and cathode structures with a substantial tangential velocity component such that the electrons go into spiral orbits around the anode electrode for ionizing gas in the region surrounding the anode. One or more slugs of getter material are carried on the anode structure for collecting a certain fraction of the orbiting electrons. The collected electrons heat the slugs of getter material, typically titanium, to sublimation temperatures causing the titanium getter material to be sublimed from the slugs and collected on the interior surfaces of the cathode structure. The condensed titanium getter material serves to getter the gases coming into contact therewith and thus to produce a vacuum within the pump envelope and within structures in gas communication with the pump envelope. A solenoid surrounds the pump envelope for producing an axially directed magnetic field in the region between the anode and cathode structures. The solenoid is energized with an alternating current to produce a time varying magnetic field which has a substantial component at a low audio frequency which is orthogonal to the electric field between the anode and cathode structures for periodically increasing the path length of the orbiting electrons and, thus, periodically increasing the ionization of gases within the pump. The periodic increase in the ionization of the gases within the pump substantially increases the pumping speed of the pump for insert gases such as argon which must be ionized in order to be pumped. It is also found that the periodic magnetic field produces a lesser increase in the pumping speed for active gases such as nitrogen. The peak amplitude of a periodic magnetic field is caused to have an intensity greater than a certain minimum field intensity B_o, where B_o is the minimum magnetic field intensity required to cause an electron emitted from the cathode electrode structure to be sufficiently deflected such as to just miss the anode structure.

3,510,713

METHOD OF AND APPARATUS FOR PRODUCING A HIGHLY CONCENTRATED BEAM OF ELECTRONS

Willard H. Bennett, 5500 North Hills Drive, Raleigh, N.C. 27609

Filed July 19, 1966, Ser. No. 569,549
Int. Cl. H01j 35/00
U.S. Cl. 313—57 17 Claims



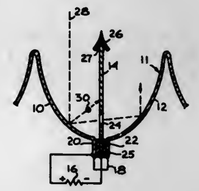
The invention, hereinafter, described in greater detail, relates to means for and a method of concentrating a beam of electrons. The beam is generated in any suitable manner, although preferably by electron discharging apparatus, and is directed into and in alignment with a column of ionized gas. The gas in said column having been ionized prior to the time that the beam is initiated, causes the beam to be pinched and thereby concentrated.

3,510,714

SOLAR ENERGY CONVERTER WITH TROUGH-SHAPED CATHODE AND SHIELDED, PLANAR ANODE

Charles Willard Geer, Santa Ana, Calif., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York

Filed May 1, 1967, Ser. No. 634,961
Int. Cl. H01j 39/04, 39/06
U.S. Cl. 313—94 6 Claims



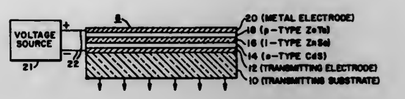
A solar energy converter of the type wherein electrons are emitted from an illuminated cathode and captured by an anode. A parabolic cathode is employed so that any light not absorbed is concentrated at its focus. An anode is disposed at the center of the cathode with a hole being provided in the anode at the parabolic cathode focus so that light reflected from the cathode does not strike the anode. The anode is constructed of low work function material so it readily absorbs electrons, and there is included a reflective shield on the anode to prevent light from striking it by instead directing it at the cathode.

3,510,715

INJECTION-ELECTROLUMINESCENT DEVICE WITH GRADED HETEROJUNCTIONS AND METHOD OF MANUFACTURING SUCH DEVICES

Willi Lehmann, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 24, 1967, Ser. No. 662,958
Int. Cl. H01j 1/62, 63/04
U.S. Cl. 313—108 18 Claims



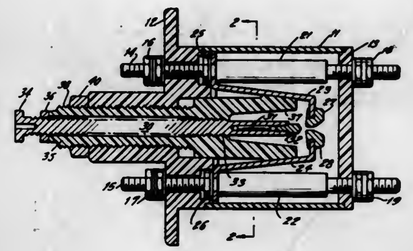
Visible recombination radiation is generated by injecting holes and electrons into a layer of luminescent ZnSe (or a ZnS-ZnSe composite) from thin films of p-type ZnTe and n-type CdS disposed on opposite sides of the ZnSe layer. The semiconductor films are partially interdiffused with the ZnSe layer to provide graded heterojunctions and sloped band gaps which facilitate the injection of the holes and electrons. The heterojunctions are of predetermined thickness (approximately 0.1 to 1 micron) and are formed in situ by vapor deposition in a vacuum. The thickness of the junctions is controlled by concurrently heating the substrate to a temperature of from 300° C. to 600° C. for from several minutes to several hours, by heating the substrate after the vapor-deposition operation, or by varying the rates at which the materials are vaporized and condensed to effect a gradual transition from one material to the other in the juncture regions.

3,510,716

ADJUSTABLE THREE ELECTRODE SPARK GAP

William A. Carter, Devon, Pa., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Nov. 17, 1967, Ser. No. 684,033
Int. Cl. H01j 1/88
U.S. Cl. 313—147 5 Claims



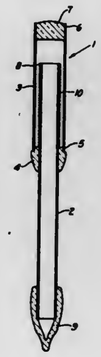
A spark gap switch is provided with three adjustable electrodes making it useful over a wide range of voltages and making it possible to readjust the gap spacings between the trigger electrode and the main electrodes and between the main electrodes themselves. The trigger electrode is further provided with a sealed source of radioactive material which stabilizes the flashover voltage value and insures consistency by nullifying the effect of any random ionization in the gaps. The electrodes are further arranged to produce magnetic movement of the arc away from critical surfaces. The spark gap switch is also provided with terminals at opposite ends of the switch to make high voltage connection possible from either end.

3,510,717

ELECTRIC GLOW DISCHARGE DEVICE WITH TELESCOPED ELECTRODES

Ted E. Foulke, Mayfield Heights, Ohio, assignor to General Electric Company, a corporation of New York

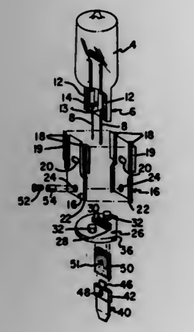
Filed Aug. 2, 1967, Ser. No. 657,881
Int. Cl. H01j 61/04, 61/30
U.S. Cl. 313—210 9 Claims



A crater-type electric glow discharge device having an envelope containing a rare gas and comprised of a pair

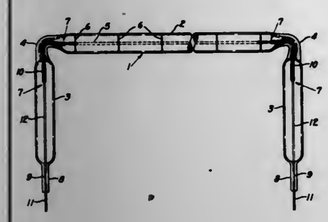
of cold electrodes consisting of telescoped outer and inner metal tubes with a glass seal hermetically joining the inner electrode tube to one end of the outer electrode tube and supporting them in spaced concentric relation with the inner tube terminating short of a glass window hermetically sealing off the other end of the outer electrode tube. The outer end of the inner electrode tube is also hermetically sealed off.

3,510,718
INCANDESCENT LAMP
John J. Vetere, Beverly, Mass., assignor to Sylvania Electric Products, Inc., a corporation of Delaware
Filed Nov. 6, 1967, Ser. No. 680,855
Int. Cl. H01j 5/48, 5/00
U.S. Cl. 313—318 4 Claims



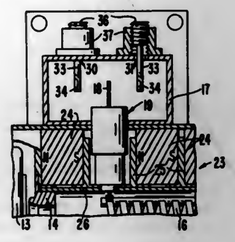
An automotive head lamp comprising, a single ended quartz halogen lamp with a base of mating seal covers adapted to fit over the press-seal portion of the lamp and also to form a housing for an insulated electrical spade. The spade and seal covers are firmly locked together by an insulated rivet.

3,510,719
BENT END ELECTRIC LAMP
Victor N. Iaciancl, Cleveland, and Victor A. Levand, Jr., Lyndhurst, Ohio, assignors to General Electric Company, a corporation of New York
Filed June 14, 1968, Ser. No. 737,052
Int. Cl. H01j 5/46
U.S. Cl. 313—333 4 Claims



In an incandescent lamp comprising an elongated tubular envelope of vitreous material having sharply bent ends with hermetic seals at the extremities of the bent ends and with compressed pinch portions at the areas of the bends, the current supply conductors extending from the exterior through the hermetic seals, through the bent ends and through the bends to the respective ends of a coiled filament extending longitudinally of the main body portion of the envelope, the portion of each current supply conductor which extends through a bend is composed of a flexible helical coil of wire which is substantially thicker than the wire of the filament and which has its surface embedded in the compressed pinch portion at the bend.

3,510,720
TRAVELING WAVE TUBES HAVING FREQUENCY DEPENDENT ATTENUATIVE GAIN EQUALIZERS
John L. Putz, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed July 3, 1967, Ser. No. 650,892
Int. Cl. H01j 25/34; H01g 1/20
U.S. Cl. 315—3.5 7 Claims



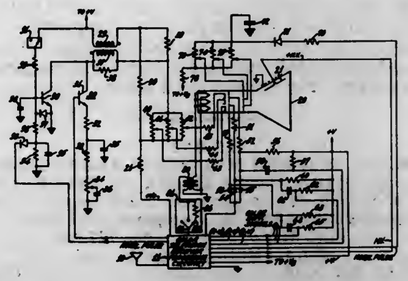
Taveling wave tubes having improved gain vs. frequency characteristics are realized by direct incorporation as a part of the tube input or output waveguide circuitry of lossy resonant probe means having variable loss vs. frequency characteristics which can be adjusted to provide a tailored gain vs. frequency characteristic for the traveling wave tube as desired with a minimum of reactive perturbation due to the introduction of the probes into the tube waveguide coupling port or ports. The probes in a preferred embodiment include a pair of dielectric tubes each having a lossy resonant helical-like conductive stripe integrated therewith. The probes protrude into the waveguide with the central axis of the probes oriented such as to lie parallel to the E-fields of the dominant wave in the waveguide.

3,510,721
STAGGERED ATTENUATOR FOR TRAVELING-WAVE TUBES
Hinrich Heynisch, Grafelfing, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Dec. 6, 1967, Ser. No. 688,587
Claims priority, application Germany, Dec. 29, 1966, S 107,659
Int. Cl. H01j 25/34
U.S. Cl. 315—3.5 5 Claims



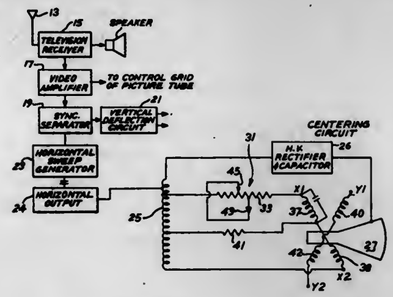
An attenuation for a traveling-wave tube having a delay line with the attenuator formed of at least two portions arranged along the longitudinal axis of the tube and mounted at different points. The attenuator portions may have tapered characteristics to minimize reflections.

3,510,722
PROTECTION CIRCUITS OR KINESCOPES
Edward W. Curtis, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed Feb. 16, 1968, Ser. No. 706,015
Int. Cl. H01j 29/52
U.S. Cl. 315—20 9 Claims



A television receiver includes a transistor circuit in shunt between a kinescope's cathode and a point of reference potential for rapidly discharging the high voltage stored across the second anode capacitance of the kinescope when the television receiver is deenergized.

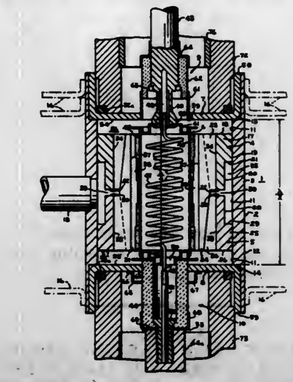
3,510,723
CENTERING CIRCUIT
Christ J. Dumas, Forest View, Ill., assignor to American Plasticraft Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 20, 1969, Ser. No. 801,078
Int. Cl. H01j 29/76
U.S. Cl. 315—27 7 Claims



The invention discloses a circuit for centering the raster produced on a cathode ray tube and, more specifically, a television picture tube.

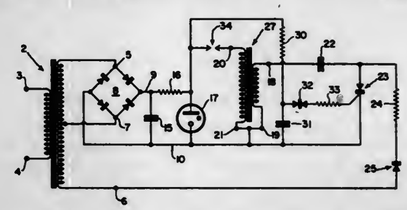
3,510,724
CROSSED-FIELD DISCHARGE DEVICE AND MEANS FOR BALANCING THE RF ANODE-CATHODE VOLTAGES THEREOF
James E. Staats, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Nov. 14, 1967, Ser. No. 682,753
Int. Cl. H01j 25/50
U.S. Cl. 315—39.51 14 Claims

A magnetron of the type having axial propagating waves includes a first frequency determining cavity defined by the anode structure and a second frequency determining cavity defined by the end spaces and interaction space, both cavities being resonant at the same frequency. The cathode is hollow and the heater is mounted therein, being electrically connected to the cathode at one end and insulated from the cathode of the other to form a transmission line which is one quarter the wave length of the determined frequency. Output connections are coupled to the anode and cathode. They form a transmission line section shorted at a remote end, which is one half the



wave length at the determined frequency. The end of the heater insulated from the cathode is provided with a connection forming a transmission line, shorted at its remote end. This line is one quarter the wave length at the determined frequency.

3,510,725
IGNITION CIRCUIT FOR AN ARC DISCHARGE LAMP
Tommy N. Tyler, Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 16, 1968, Ser. No. 784,010
Int. Cl. H05b 41/14
U.S. Cl. 315—183 3 Claims

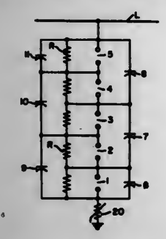


An ignition circuit is disclosed wherein an arch discharge lamp is series-connected with a circuit-limiting resistor between the terminals of a D.C. power supply. Electrical means responsive to the lamp voltage drop are included which are operative to generate spark discharges across a spark gap whenever the lamp is extinguished. The spark gap is connected across the electrodes of the arch discharge lamp so that the lamp is ignited or reignited in response to the spark discharges.

3,510,726
GRADING AND CASCADING CIRCUIT FOR LIGHTNING ARRESTERS HAVING A PLURALITY OF SPARK GAPS
John E. Harder, Bloomington, Ind., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 31, 1967, Ser. No. 679,315
Int. Cl. H05b 37/00, 39/00
U.S. Cl. 315—189 10 Claims

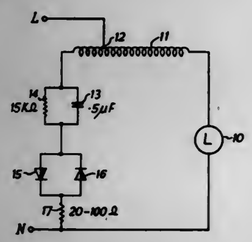
The invention comprises a circuit for voltage grading and cascading a plurality of spark gaps in a lightning arrester with minimum use of precisely made control gaps.

The circuit comprises two groups of serially connected capacitors with each capacitor in each group being alternately connected across at least two adjacent, serially con-



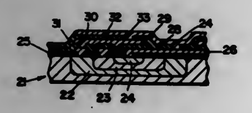
nected spark gaps. At least one resistor may be connected in series with at least one of the capacitor groups to enhance further voltage cascading.

3,510,727
DISCHARGE-LAMP STARTING CIRCUITS PRODUCING HIGH VOLTAGE PULSES
Kenneth Whittier Ogden and Donald Frederick Chapman, London, England, assignors to British Lighting Industries Limited, London, England
Filed Nov. 29, 1966, Ser. No. 597,825
Claims priority, application Great Britain, Dec. 14, 1965, 53,106/65
Int. Cl. G05f 1/08; H05b 41/231, 41/232
U.S. Cl. 315—194 3 Claims



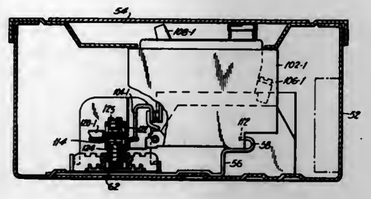
An electric discharge lamp starting circuit having a pair of semiconductor A.C. switches of opposite polarities in shunt to each other with a resistance a condenser and one part of a choke coil in series with the switch combination, the other part of the choke coil being in series with the lamp to be started, and a resistor across the condenser to regulate the phase of the starting voltage pulses produced.

3,510,728
ISOLATION OF MULTIPLE LAYER METAL CIRCUITS WITH LOW TEMPERATURE PHOSPHORUS SILICATES
Donald L. Tolliver, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 8, 1967, Ser. No. 666,426
Int. Cl. H01l 5/06; H02b 9/00
U.S. Cl. 317—101 3 Claims



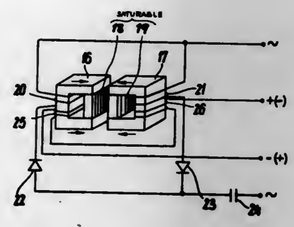
Multilevel crossover metallization for an integrated circuit structure is provided by a series of steps involving the vapor disposition of phosphorous silicate glass to isolate interconnecting metal conductor layers. A phosphorus silicate insulating layer is formed by exposing a metallized substrate to a gaseous mixture of silane, phosphine and oxygen at approximately 450° C. The ratio of phosphine to silane is selected to provide a glass film having from 10^{18} to 10^{21} atoms of phosphous per cubic centimeter of silicon, and preferably about 10^{20} atoms per cc. based on analysis made by solid state diffusion techniques. The deposition of phosphorus silicate glass to a thickness of about 7000 angstroms proceeds smoothly and rapidly to provide a highly uniform, pinhole-free dielectric film between metal layers.

3,510,729
CIRCUIT BREAKER MOUNTING ARRANGEMENT
Carl E. Grycrko, Haddon Heights, and Felix E. Myers, Cherry Hill, N.J., assignors to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 9, 1968, Ser. No. 727,960
Int. Cl. H01r 7/12; H02b 1/04
U.S. Cl. 317—119 2 Claims



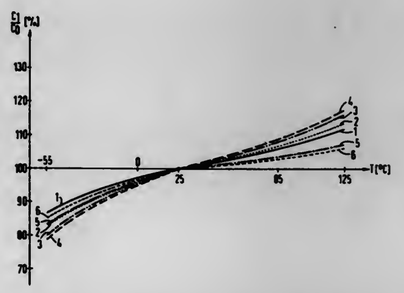
A terminal conversion arrangement is shown, which selectively permits accommodation of either bolt-in or plug-in type circuit breakers, or a combination of such types. Embodiments are shown in conjunction with a circuit breaker panelboard and an individual enclosure.

3,510,730
ELECTROMAGNETIC ACTUATOR
Dan Teodorescu, Strada Trandafirilor 2, Timisoara, Rumania
Filed Jan. 26, 1968, Ser. No. 700,949
Claims priority, application Rumania, Jan. 28, 1967, 52,976
Int. Cl. H01h 47/00
U.S. Cl. 317—137 10 Claims



Two electromagnets with working and control windings on their U-shaped cores are magnetically short-circuited by respective bridge pieces of saturable ferromagnetic material; these cores form part of a substantially closed magnetic circuit with one or more airgaps which may also include two armature members extending between opposite poles of the two cores. The working windings are alternately energized by unipolar current pulses supplied via respective rectifiers from a common source of alternating current; a direct current traversing the control windings modulates the amplitude of these current pulses and, when of the proper polarity, drives the bridge pieces to saturation whereby the short circuit becomes ineffectual and the flux traverses the airgaps to attract the armature members onto the electromagnetic poles or to draw the two cores toward each other. A condenser in series with the A-C source substantially resonates the working windings under saturating conditions so as to bring about a sharp rise in working current in response to a relatively small control-current increment, thereby increasing the flux available for narrowing the airgaps.

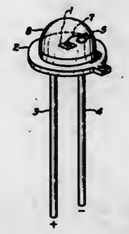
3,510,731
ELECTROLYTIC CAPACITOR WITH ELECTROLYTE HAVING A SOLVENT CONTAINING DIMETHYL FORMAMIDE AND γ-BUTYROLACTONE
Sigrid Thiem and Dieter Thiem, Cleveland, Ohio, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Apr. 12, 1968, Ser. No. 720,842
Claims priority, application Germany, Apr. 12, 1967, S 109,297
Int. Cl. H01g 9/00
U.S. Cl. 317—230 15 Claims



An electrolytic capacitor and electrolyte effective over a temperature range of −55° C. to +125° C. comprising an anode body of aluminum foil having a dielectrically effective oxide layer thereon and being contacted by an electrolyte consisting essentially of a solvent mixture of γ-butyrolactone, and dimethyl formamide having ionogenic substances, such as a mixture of water, tri-n-butylamine and boric acid dissolved therein and having a cathode current supply connected to said electrolyte. The preferred electrolyte consists of a solvent mixture of 5 to 40% by weight of dimethyl formamide and 95 to 60% by weight of γ-butyrolactone and having, per kilogram of solvent mixture, ionogenic substances consisting of up to 2 moles of water, 0.10 to 0.25 mole of tri-n-butylamine and 0.3 to 1.2 moles of boric acid.

3,510,732
SOLID STATE LAMP HAVING A LENS WITH RHODAMINE OR FLUORESCENT MATERIAL DISPERSED THEREIN
Robert L. Ansaus, Lyndhurst, Ohio, assignor to General Electric Company, a corporation of New York
Filed Apr. 22, 1968, Ser. No. 723,157
Int. Cl. H01l 3/00, 1/02
U.S. Cl. 317—234 5 Claims

A solid state lamp comprising a silicon carbide p-n junction diode mounted on a header and capped by a hemispherical plastic lens. Within the lens is dispersed rhodamine or other daylight fluorescent material. The cut-off angle within the diode material is thereby increased, and the emission is shifted from the yellow to

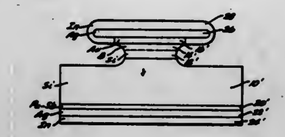


orange-red or red depending upon the concentration of fluorescent material in the lens.

3,510,733
SEMICONDUCTIVE CRYSTALS OF SILICON CARBIDE WITH IMPROVED CHROMIUM-CONTAINING ELECTRICAL CONTACTS
Arrigo Addamiano, Willoughby, Ohio, assignor to General Electric Company, New York, N.Y.
No Drawing. Continuation-in-part of application Ser. No. 549,787, May 13, 1966. This application Dec. 23, 1966, Ser. No. 604,125
Int. Cl. H01l 9/00
U.S. Cl. 317—234 2 Claims

Chromium wire and several chromium-containing alloys including also iron, nickel, or both, are shown to make useful ohmic contacts to n-type silicon carbide, and useful rectifying contacts to p-type SiC semiconductive crystals. Uses include contacts to injection electroluminescent crystals and SiC incandescent resistor devices.

3,510,734
IMPATT DIODE
Ramzy G. Mankarious, Costa Mesa, and David L. English, Garden Grove, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,196
Int. Cl. H01l 1/12, 1/14
U.S. Cl. 317—234 9 Claims

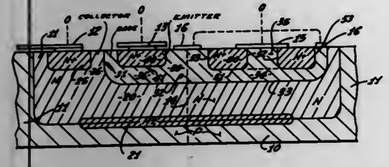


A high-frequency power diode, employing, respectively, thick (50 microns) silver pads as heat sink means at both contact surfaces, dissipates heat from the junction at high operating temperatures and yet retains mechanical strength and stability for high power applications.

3,510,735
TRANSISTOR WITH INTEGRAL PINCH RESISTOR
Gene Barrack Potter, Woodland Hills, Calif., assignor to Scientific Data Systems, Inc., a corporation of Delaware
Filed Apr. 13, 1967, Ser. No. 630,616
Int. Cl. H01l 15/00
U.S. Cl. 317—235 22 Claims

A junction transistor with an integrated circuit type base resistor functioning also as a diode or as a distributed

auxiliary transistor between the base current input terminal and the collector so that excess current bypasses



the base and the transistor is driven to about saturation to eliminate the storage time problem.

3,510,736
INTEGRATED CIRCUIT PLANAR TRANSISTOR
Andrew G. F. Dingwall, Somerville, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Nov. 17, 1967, Ser. No. 684,020
Int. Cl. H01l *11/00, 15/00*
U.S. Cl. 317—235 5 Claims

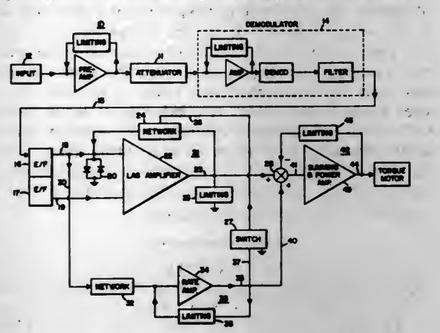


A transistor of the type which includes a substrate layer of one conductivity type on which is grown an epitaxial layer of opposite conductivity type, a part of which functions as the collector region of the device. Emitter and base regions are diffused into the epitaxial layer. A high conductivity pocket is provided within the substrate beneath the base region such that the area directly beneath the emitter region is left free of diffused impurities.

3,510,737
SERVOMECHANISM INCLUDING PARALLELED "LEAD-LAG" CHANNELS AND MEANS TO DISABLE LAG CHANNEL RESPONSIVE TO EXCESSIVE RATE
Robert L. Brown, Largo, and Ronald C. Trump, St. Petersburg, Fla., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 21, 1964, Ser. No. 419,907
Int. Cl. G05b *5/01*
U.S. Cl. 318—18 5 Claims

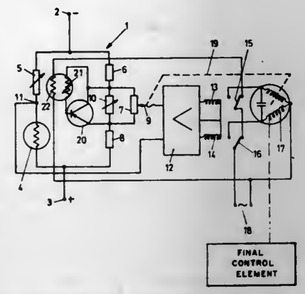
A closed loop servo system applies a control signal to two parallel channels, one channel is responsive to the rate of change of the signal and the second applies a lag effect to the applied signal. The outputs of the two channels are summed and applied to a power amplifier that drives the servo.

The lag channel includes a capacitor or signal storage device which at low frequency for the input signal becomes full charged. The rate channel capacitor output does not contain sufficient energy to discharge the capacitor in the lag channel. The output therefore returns to the polarity appearing on the capacitor before the rate occurred in the rate channel. For a period of time after the rate signal occurs, the output remains in phase with the input until the capacitor charges in the opposite direction. In the closed loop servo system, this represents a positive feedback resulting in an oscillatory condition. Such oscillatory condition is avoided by discharging the capacitor in



the lag channel when the rate of change of the signal passing into the rate channel has a high magnitude as when the signal changes phase.

3,510,738
PROPORTIONAL CONTROLLER WITH NON-LINEAR PROPORTIONAL BAND WIDTH CONTROL
Kristian Iversen, Sonderborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed July 5, 1966, Ser. No. 562,745
Claims priority, application Germany, July 13, 1965, D 47,719
Int. Cl. G05 *6/02, 11/06*
U.S. Cl. 318—18 9 Claims

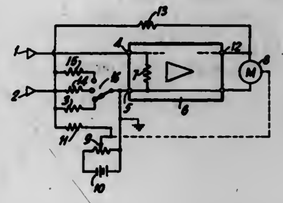


A proportional controller controlling a final control element controlling a manipulated variable. A nonlinear proportional band width control establishes a proportional band width of operation of the final control element adjustably varying in time effective by increasing the proportional band in an "off" condition of actuating means actuating the final control element to maintain the proportional band width sufficiently wide to maintain the controller stable and decreasing the proportional band width at least incrementally when the actuating means is actuating the final control element.

3,510,739
SELF-COMPENSATING SERVO SYSTEM
Berthus Petersen, Delft, Netherlands, assignor to N.V. v/h P. J. Kipp & Zonen, Delft, Netherlands
Filed Nov. 13, 1967, Ser. No. 682,446
Claims priority, applications Netherlands, Nov. 17, 1966, 6616227
U.S. Cl. G05b *6/02*
U.S. Cl. 318—18 3 Claims

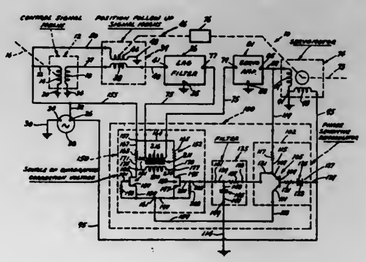
A self-compensating servo system has input terminals connected, through a compensating resistor, to the input

of a servo amplifier driving a means to be adjusted, such as a servo motor. A servo amplifier has a grounded input terminal connected to one output terminal, the other input terminal and the other output terminal being ungrounded. One end of the compensating resistor is connected to the grounded input terminal of the amplifier, and the other end of the compensating resistor is connected through another resistor to the ungrounded output terminal of the amplifier. The servo motor is coupled with a reference circuit which applies a current, depending upon the posi-



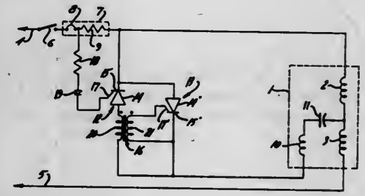
tion of the servo motor, to the compensating resistor so that the system reaches the steady state in a condition in which the voltage across the compensating resistor exactly compensates the voltage at the input terminals of the servo system. The amplifier is designed in such a manner that its output signal is in phase opposition with its input signal so that the strength of the voltage feedback obtained through the additional resistor and the compensating resistor varies inversely in accordance with the source resistance connected to the input terminals of the servo system.

3,510,740
TWO PHASE SERVOMECHANISM WITH A QUADRATURE REJECTION METHOD UTILIZING A SAMPLING PHASE SENSITIVE DEMODULATOR
Frederick B. Sylvander, Rutherford, and Walter Parfomak, Wallington, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Filed July 6, 1967, Ser. No. 651,579
Int. Cl. G05b *11/12*
U.S. Cl. 318—28 15 Claims



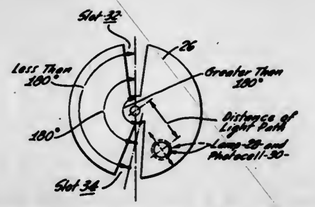
A quadrature rejection method and means for a servomechanism including a two phase servomotor having an input signal means and a follow-up signal means, each of which may be some type of alternating current transducer. The quadrature rejection method and means includes detection of the amount of quadrature voltage at the control winding of the two phase servomotor, that is a voltage of fundamental signal frequency which remains when the follow-up transducer is turned to a position or at a velocity which gives the minimum null at the fundamental signal frequency; and in response to the amount of the detected quadrature voltage controlling a source of quadrature correction voltage so as to feed back from the quadrature correction voltage source into the main signal chain an electrical feedback quadrature correction voltage which is of such a polarity as to buck out the quadrature voltage present.

3,510,741
CAPACITOR START MOTOR CIRCUIT
Harry J. Frank, Box 357C, Rte. 1, Cedarburg, Wis. 53012
Filed Jan. 16, 1967, Ser. No. 609,657
Int. Cl. A02p *1/44*
U.S. Cl. 318—221 8 Claims



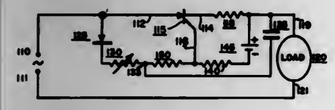
A single phase capacitor start motor includes a run winding and a parallel start winding-capacitor network. A silicon controlled rectifier is connected in series with the start winding. The gate circuit of the rectifier is connected across the resistor of a current responsive protective device commercially available under the mark "Klixon" to trigger the rectifier and automatically cut out the start winding as running speed is approached. The gate is connected to the resistor to the line side of the resistor in series with a resistor and a diode. Alternatively, a pair of voltage dividing resistors connects the gate to the line side of the resistor and a gate protective circuit includes a resistor in series with the silicon controlled rectifiers and a thermistor connected across the gate circuit. Under heavy loads, the current through the protective resistor heats the thermistor, reduces its resistance and bypasses the gate circuit to protect the silicon controlled rectifiers.

3,510,742
MOTOR CONTROL SYSTEM AND APPARATUS
Charles K. Pooley, Franklin Square, N.Y., assignor to Gauss Electrophysics, Inc., Santa Monica, Calif., a corporation of California
Filed Sept. 5, 1967, Ser. No. 665,597
Int. Cl. H02p *5/00*
U.S. Cl. 318—313 5 Claims



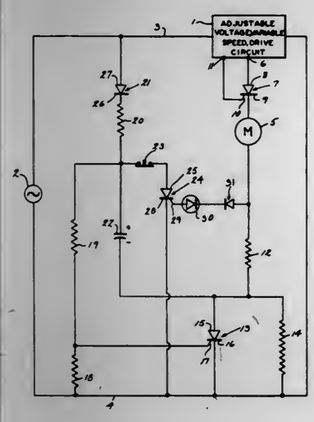
The invention is concerned with an improved control system and apparatus for an electric motor which may, for example, be the drive motor in a magnetic recorder/reproducer. The invention relates particularly to an improved optical tachometer system and apparatus for precisely maintaining the speed of the drive motor at a predetermined value.

3,510,743
LOAD SENSING AND COMPENSATING CONTROL CIRCUITS
Austin J. Mortimer, Oldwick, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,373
Int. Cl. H02p 5/16
U.S. Cl. 318—332 7 Claims



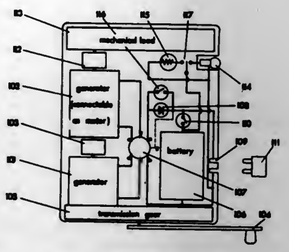
There is disclosed a load sensing and compensating control circuit for use primarily with a motor driven load wherein changes in the power requirements of the load are automatically compensated for by increasing the power supplied to the input terminals of the load. The circuit utilizes a silicon controlled rectifier, variable time delay means for determining the conduction angle of the rectifier, and a feedback element, wherein changes in the power requirements of the load are sensed by the feedback element which then operates to effect the performance of the variable time delay means used to trigger the rectifier in a manner whereby the conduction angle of the rectifier is advanced or retarded.

3,510,744
INSTANTANEOUS PEAK CURRENT LIMIT CIRCUIT
John E. Callan, Milwaukee, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 22, 1968, Ser. No. 754,626
Int. Cl. H02p 7/62
U.S. Cl. 318—434 8 Claims



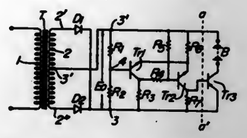
The armature of a permanent magnet motor is connected through an SCR and an adjustable voltage variable speed drive circuit across an A-C source. Two resistors are connected in series with the motor armature and a second SCR shunts across one of the resistors. A capacitor is connected in series with the second SCR and a rectifier across the A-C source. A third SCR is connected across the capacitor such that when the third SCR becomes conductive it imposes the charged capacitor across the second SCR to render the second SCR nonconductive. The gate circuit of the third SCR is connected through a Zener diode to the armature of the motor so that the third SCR will be conducted when a predetermined voltage is terminated across the first of the two resistors in series with the motor armature.

3,510,745
MULTI-PURPOSE POWER PACK
Bodo Futterer, Handelshof, Switzerland, assignor to Interelectric Sachseln A.G., Sachseln, Switzerland, a company of Switzerland
Continuation-in-part of application Ser. No. 493,333, Oct. 6, 1965. This application Mar. 14, 1968, Ser. No. 713,118
Claims priority, application Germany, Oct. 7, 1964, 126,659
Int. Cl. H01m 45/04; H02j 7/14, 7/22
U.S. Cl. 320—7 2 Claims



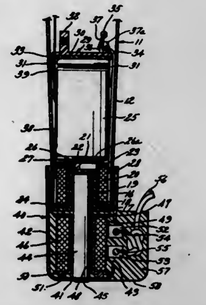
A multi-purpose power pack in which a gas-tight storage battery is recharged by a generator which is manually driven through a transmission, the generator and transmission being designed and constructed such that a charging current of from 10 to 100 times the rated charging current of the battery is produced.

3,510,746
TRANSISTOR CONTROLLED BATTERY CHARGER
Haruhisa Furuishi, Suita-shi, Katsuaki Kawamoto, Yamatokoriyama-shi, and Yoneji Koyama, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed June 2, 1967, Ser. No. 643,118
Claims priority, application Japan, June 9, 1966 (utility model), 41/54,882; Aug. 17, 1966, 41/54,559, 41/54,560
Int. Cl. H02j 7/04
U.S. Cl. 320—39 9 Claims



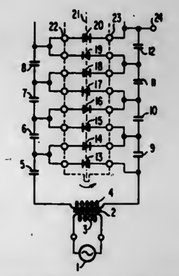
Two transistors are used to form a jumping switch circuit or a modified jumping switch circuit, of which the preceding transistor base is connected with the connection point of dividing resistors connected with the output terminal of a rectifier circuit. The jumping or modified jumping switch circuit also has its output terminal connected with a transistor connected with a secondary battery, which is initially charged at a heavy current. At a point of time when the charge completing voltage is approached, a small current is imparted to the secondary battery in a form of joggling so as not to generate gas, whereby the battery is shifted into a completely charged state while restraining the gas generation.

3,510,747
TWO PART SEPARABLE BATTERY CHARGER
Christie Petrides, Medway, Mass., assignor to General Electric Company, a corporation of New York
Filed Apr. 2, 1964, Ser. No. 356,822
Int. Cl. H02j 7/02
U.S. Cl. 320—59 6 Claims



A battery charger for portable, hand held devices such as an electric toothbrush. A storage receptacle for connection to a convenience A.C. outlet contains the primary winding and core of a transformer. The portable device containing the secondary winding and a rectifier is positioned within the storage receptacle to charge a battery within the portable device.

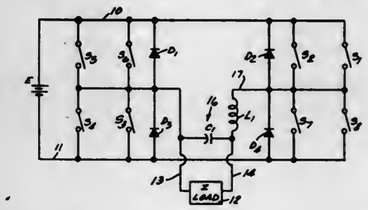
3,510,748
SIMPLIFIED POLARITY REVERSAL SYSTEM FOR D.C. HIGH VOLTAGE GENERATOR
Teiichi Sakamoto and Jun Nishidai, Kyoto, Japan, assignors to Nissin Electric Co., Ltd., Kyoto, Japan
Filed July 5, 1968, Ser. No. 742,608
Claims priority, application Japan, July 8, 1967, 42/59,289
Int. Cl. H02m 7/04, 7/70
U.S. Cl. 321—8 2 Claims



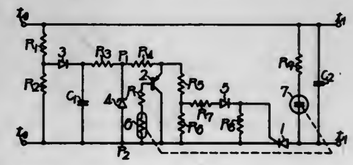
A D.C. high voltage generator, for instance, a Cockcroft type generator, in which the rectifier elements are mounted on a rotatable column with a number of moveable contacts on the column and their mating contacts on the stationary component of the device, rotation of the column allowing polarity reversal of the high voltage generator.

3,510,749
POWER FREQUENCY MULTIPLICATION USING NATURAL SAMPLED QUAD PULSE WIDTH MODULATED INVERTER
Robert J. Resch, Euclid, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 23, 1968, Ser. No. 707,754
Int. Cl. H02m 1/12, 7/44
U.S. Cl. 321—9 11 Claims

A static inverter capable of inverting a direct current source to an alternating current output voltage which utilizes a switching arrangement between the direct current source and the load comprising a high frequency triangle and its complement for the carrier frequency and two reference sinewaves which are vectorially shifted by 90° and which are compared with the triangle carrier frequency signals in operational amplifiers to control switches in the inverter.

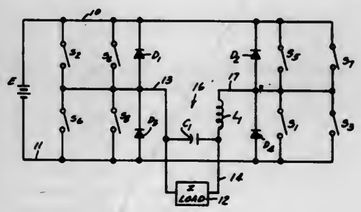


3,510,750
RECTIFIED OUTPUT VOLTAGE CONTROL DEVICE
Masao Horino, 2–11 Nakane-2, Meguro-ku, Tokyo, Japan, and Minoru Takauchi, Saitama-ken, Japan; said Takauchi assignor to said Horino
Filed Nov. 28, 1967, Ser. No. 686,015
Int. Cl. H02m 1/08, 7/20
U.S. Cl. 321—18 9 Claims



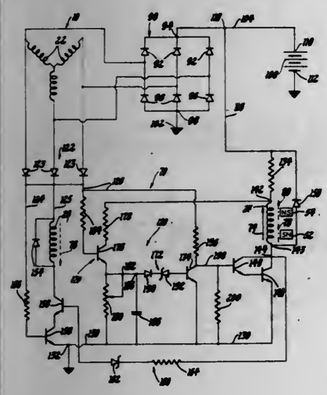
A rectified DC output voltage control device which is adapted to produce a constant rectified output voltage by controlling a gate voltage of a semiconductor controlled rectifier through the use of a photoconductive element actuated by a discharge tube which emits light when the output voltage reaches a predetermined value.

3,510,751
NATURALLY SAMPLED QUAD PULSE WIDTH MODULATED INVERTER
Robert J. Resch, Euclid, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 26, 1968, Ser. No. 708,236
Int. Cl. H02m 1/12, 7/44
U.S. Cl. 321—9 9 Claims



A static inverter capable of inverting a direct current source to an alternating current output voltage which utilizes a switching arrangement between the direct current source and the load comprising a plurality of triangular shaped timing pulses and a reference sine wave.

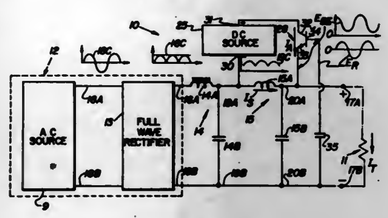
3,510,752
TRANSISTOR VOLTAGE REGULATING SYSTEM FOR GENERATORS HAVING MAIN AND REVERSE FIELD WINDINGS
Louis J. Raver and Gerald H. Stenklyft, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 11, 1968, Ser. No. 759,187
Int. Cl. H02p 9/38
U.S. Cl. 322—28 4 Claims



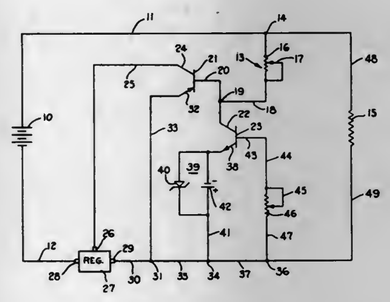
In a preferred embodiment, a voltage regulating system is provided for a generator having an output winding, main and reverse field windings and a permanent magnet field provided by one or more permanent magnets. The regulating system is capable of maintaining the output voltage of the generator substantially constant and includes first and second transistors connected in series respectively with the main and reverse field windings of the generator and across the output winding of the generator. A voltage sensing circuit senses the output voltage of the generator and biases the first transistor alternately conductive and nonconductive as a function of generator output voltage. The voltage appearing across the first transistor, which varies as a function of its state of condition, is utilized to control the conduction of the second transistor. The arrangement provides that when the first transistor is biased conductive the second transistor is biased nonconductive and vice versa. The reverse field winding of the generator when energized by the conduction of the second transistor develops a flux which opposes the effect of the magnetic field provided by generator permanent magnets.

3,510,753
RIPPLE ELIMINATOR FOR PULSATING UNIDIRECTIONAL CURRENT POWER SUPPLY
Francis Lawn, Oakhurst, N.J., assignor to The Rowan Controller Company, Westminster, Md., a corporation of Maryland
Filed Dec. 4, 1967, Ser. No. 687,541
Int. Cl. G05f 1/64
U.S. Cl. 323—1 10 Claims

A circuit for eliminating or at least minimizing the time varying undulations, alternating component or ripple in the output of a pulsating unidirectional current power supply. The ripple eliminator circuit includes an auxiliary direct current source which is connected to the power supply output circuit via a selectively operable switch. The switch responds to the ripple peaks and valleys of the power supply output and meters current from the auxiliary source to the power supply output circuit in an amount necessary to fill the valleys in the power supply output current and thereby produce a total output current which is substantially constant with respect to time and, therefore, free of ripple.



3,510,754
SERIES VOLTAGE REGULATOR EMPLOYING A CONSTANT CURRENT IMPEDANCE BRANCH AND MEANS FOR MAINTAINING SAID CONSTANT CURRENT
Harold F. Barnes, R.R. 1, Box 115-B, Oviedo, Fla. 32765
Filed June 21, 1967, Ser. No. 649,077
Int. Cl. G05f 1/56
U.S. Cl. 323—9 3 Claims

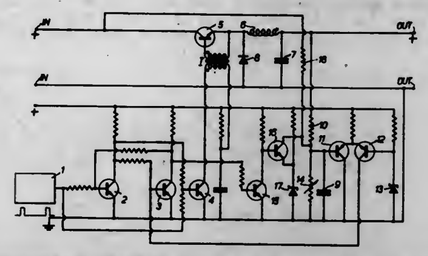


A constant current device is provided for supplying error signals to a D.C. sensing amplifier and a series regulator responsive to voltage changes for maintaining a constant voltage across a load. A compensating circuit is utilized for maintaining a constant flow of current through an impedance circuit so that error signals are supplied to the D.C. sensing amplifier undiminished.

3,510,755
DIRECT CURRENT VOLTAGE STABILISERS
Roger Edwin John Gerard, London, and Thomas James Woodmason, Devon, England, assignors to The Marconi Company Limited, London, England, a British company
Filed Sept. 25, 1967, Ser. No. 670,035
Claims priority, application Great Britain, Oct. 20, 1966, 47,000/66
Int. Cl. G05f 1/56
U.S. Cl. 323—22 10 Claims

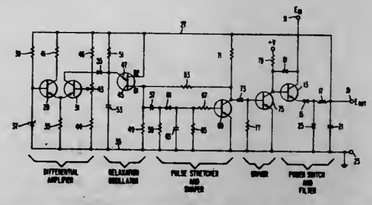
In switched D.C. stabilisers the switch is normally actuated by a multivibrator of continuously variable mark/space ratio controlled by a comparator which compares the output voltage obtained by charging a timing condenser with a reference voltage. Stabilisers continuously

controlling the multivibrator are unstable and complex. In this invention which uses two-state circuits, pulses from a periodic source are applied to trigger a bistable into one of its two states to close the switch. A comparator



completes the discharge circuit for the condenser and when voltage from the condenser equals a reference voltage the comparator triggers the bistable to its other state to open the switch.

3,510,756
SWITCHING MODE VOLTAGE REGULATOR
Robert D. Clute, Southfield, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 13, 1967, Ser. No. 667,428
Int. Cl. G05f 1/56, 1/58
U.S. Cl. 323—22 12 Claims



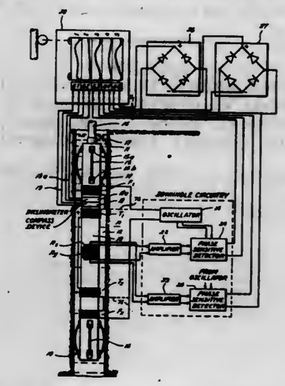
A switching mode voltage regulator in which the switching rate of a power transistor is controlled by the combination of a differential amplifier, a unijunction transistor relaxation oscillator, and a pulse stretcher and shaper, all of which are energized by the regulated output voltage. Isolating components provide drift-free switching frequency control unaffected by changes in temperature or component characteristics. Circuitry for bypassing the pulse stretcher and shaper provides self-starting cyclic operation. To safeguard the regulator circuitry, the differential amplifier is responsive to harmful voltage surges for automatically turning off the relaxation oscillator and thus shutting down the system.

ERRATUM

For Class 324—.5 see:
Patent No. 3,510,832

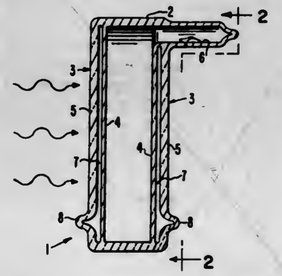
3,510,757
FORMATION DIP MEASURING METHODS AND APPARATUS USING INDUCTION COILS
Owen H. Huston, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Sept. 1, 1966, Ser. No. 576,622
Int. Cl. G01v 3/10
U.S. Cl. 324—6 22 Claims

In accordance with illustrative embodiments of the present invention, an induction coil array having two receiver coils located between two coaxial transmitter coils is moved through a borehole. The receiver coils are mutually perpendicular with each other and the transmitter coils so that only the secondary current set up by the transmitter coils in dipping formation bedding planes or fractures will cause voltage components to be induced into the receiver coils. By placing a transmitter coil on each side of the receiver coils, the effect of currents in



the borehole on the receiver coils is substantially reduced. To provide a measure of the dip angle, the signals induced in the receiver coils are combined to produce one output signal. Both the peak amplitude and elapsed depth interval over which the amplitude of this output signal is greater than a predetermined amplitude level are measured to enable a determination of the dip angle.

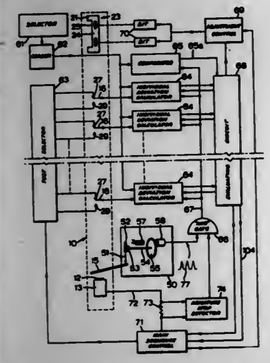
3,510,758
ATOMIC RESONANCE GAS CELL HAVING AN EVACUATED DOUBLE END WALL STRUCTURE
George R. Huggett, Sunnyvale, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Nov. 14, 1967, Ser. No. 682,904
Int. Cl. H01s 3/05
U.S. Cl. 324—.5 5 Claims



The gas cell includes a cylindrical side wall portion and a pair of end wall structures. The end wall structures include an inner and an outer partition with the inner partition facing the gaseous ensemble and the outer partition facing the outside atmosphere. The region between the inner and outer partitions is evacuated such that atmospheric pressure is not transmitted to the atomic vapor through the end wall structures, whereby the atomic resonance frequency of the alkali metal vapor is not substantially influenced by pressure fluctuations in the ambient atmosphere. The inner and outer wall partitions are supported essentially only at their marginal edges from the ends of the cylindrical side wall portion of the gas cell. In a preferred embodiment, the inner end wall partition

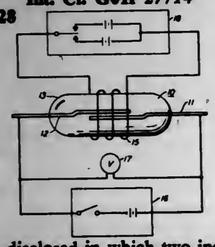
is made substantially thinner than the outer partition such that if the region between the inner and outer partitions leaks up to atmospheric pressure, the innermost partition will fracture causing the gas cell to become inoperative. In this manner, a fail safe feature is provided, inasmuch as erroneous pressure shifted output frequencies are not obtainable. An illustrative atomic resonance frequency standard incorporating the double walled cell is included.

3,510,759
METHOD AND APPARATUS FOR GAUGING AND ADJUSTING MULTIPLE CONTACT RELAYS
Peter Nader, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed July 18, 1966, Ser. No. 566,051
Int. Cl. G01r 31/02
U.S. Cl. 324—28 7 Claims



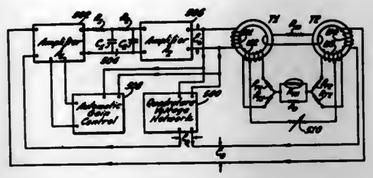
A method and apparatus for gauging and adjusting multiple contact relays in which the movement of the armature between the operation of each individual contact and its contact with a stop is measured by a sequence of pulses. The deviation, from a nominal line, of armature displacement at the time of operation of each contact is reduced by determining the mean line of displacement and rotating the fixed contacts to bring the mean and nominal lines into coincidence.

3,510,760
METHOD FOR MEASURING CONTACT RESISTANCE IN MAGNETICALLY OPERABLE SWITCHES BY ACCOUNTING FOR FLUX INTERACTIONS
Edward C. Hellstrom, Jersey City, and Harold N. Wagar, Madison, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Oct. 14, 1966, Ser. No. 586,891
Int. Cl. G01r 27/14
U.S. Cl. 324—28 5 Claims



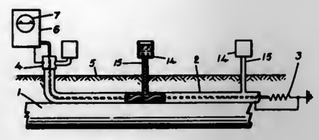
A method is disclosed in which two independent measurements of contact resistance in sealed contact reed switches are combined with a polarity reversal of current in the contacts or flux applied to close the contacts.

3,510,761
COMPENSATED SALINOMETER
Neil L. Brown, San Diego, Calif., assignor to The Bissett-Berman Corporation, Santa Monica, Calif., a corporation of California
Original application Mar. 4, 1963, Ser. No. 262,396, now Patent No. 3,419,796, dated Dec. 31, 1968. Divided and this application July 24, 1968, Ser. No. 765,720
Int. Cl. G01r 27/22
U.S. Cl. 324—30 9 Claims



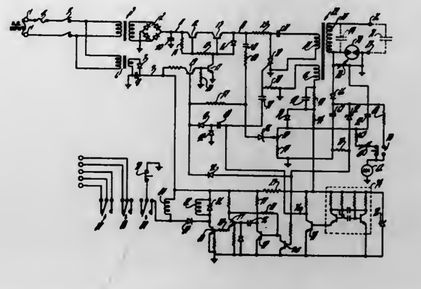
This invention relates to a system for measuring the salinity of sea water. The system produces a first alternating signal in accordance with the salinity of the sea water. The system also produces a second alternating signal having a particular phase relationship transverse to the phase of the first signal. The first and second signals are combined in the system to produce a resultant signal having a phase dependent upon the characteristics of the first signal. The resultant signal is used in the system to obtain variations in the frequency of the first signal in accordance with the characteristics of the resultant signal. In this way, the frequency of the first signal indicates the salinity of the sea water.

3,510,762
ELECTRICAL CABLE TEMPERATURE MONITORING AND HOT-SPOT LOCATING SYSTEM AND METHOD UTILIZING A TRANSMISSION LINE HAVING A LIQUID DIELECTRIC
John Robert Alexander Leslie, R.R. 1, Kleinburg, Ontario, Canada
Filed Apr. 14, 1967, Ser. No. 630,880
Int. Cl. G01r 31/11; G08b 21/00; H02g 15/28
U.S. Cl. 324—52 9 Claims



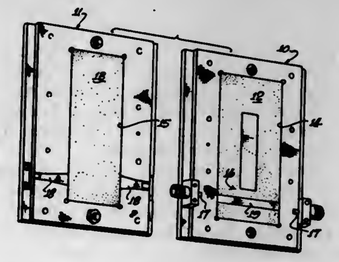
In order to determine the location of a hot-spot, that is to say a localised heated region, in a power cable, a high frequency monitoring cable is laid alongside the power cable so that it is in heat exchange relation with the power cable sheath. The monitoring cable includes a liquid dielectric having a boiling point near the limiting temperature of the cable insulation, and a dielectric constant which changes substantially when it vaporises. The monitoring cable is terminated by its characteristic impedance. If the power cable develops a hot-spot, the liquid dielectric in the vicinity of the hot-spot undergoes a change of state, i.e. vaporises, at least partly, and hence the characteristic impedance of the monitoring cable in that vicinity changes giving rise to an electrical discontinuity in the cable whose position can be readily determined by standard pulse echo or standing wave techniques. The monitoring cable may contain a solid dielectric instead of a liquid dielectric. Such a monitoring may also be used for monitoring temperatures over extended areas or distances in pipes, refineries, plants and apparatus.

3,510,763
APPARATUS FOR TESTING THE INSULATION OF ELECTRICAL WIRE OR CABLE BY HIGH VOLTAGE IMPULSES
Henry H. Clinton, Ridgewood, Clinton, Conn. 06413
Filed July 5, 1967, Ser. No. 651,283
Int. Cl. G01r 31/12; H03k 1/02; G05f 1/40
U.S. Cl. 324—54 17 Claims



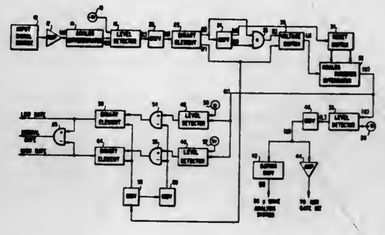
A device for testing the integrity of the insulation of an electrical wire or cable by means of high voltage impulses applied to the insulation consists of a capacitor repeatedly discharged through the primary winding of a step-up transformer having its secondary winding connected to a suitable electrode. A voltage regulator for supplying direct current charging potential to the capacitor is regulated to maintain a given peak output voltage despite changes in the line voltage and the load. The charging and discharging of the capacitor is controlled by a circuit including a silicon controlled rectifier, and an auxiliary circuit working on the voltage regulator prevents the silicon controlled rectifier from being locked in an on condition by a spurious transient signal. Peak output voltage is measured by a tertiary winding on the transformer and output current by a variable resistance in series with the secondary winding and load. A circuit connected with the variable resistance registers a fault when the voltage across the resistance exceeds one value and acts on the voltage regulator to limit the output current when such voltage exceeds a still higher value.

3,510,764
METHOD OF MEASURING DIELECTRIC CONSTANT VARIATIONS
Paul D. Heath, Phoenix, Ariz., assignor to General Dynamics Corporation, a corporation of Delaware
Filed June 22, 1967, Ser. No. 648,094
Int. Cl. G01r 27/04
U.S. Cl. 324—58.5 4 Claims



This disclosure relates to a technique useful in the microwave measurement of the dielectric constant of selected materials where extremely tight tolerances are mandatory. This technique is that of measuring the resonant frequency of a half wavelength resonator which is tightly sandwiched between sheets of sample material, the resonant frequency being directly related to the dielectric constant of the material. The resonant sandwich is preferably formed by the face-to-face joining of two strips of sample material each having a conductive coating on the non-contacting faces, and with the contacting face of one strip being barren of any coating and the contacting face of the other strip being conductively coated with a half wavelength resonant circuit configuration. Measurement of the resonant frequency may be made by way of any of many microwave frequency measuring systems, the configuration of one such system being specifically set forth by way of example.

3,510,765
METHOD AND APPARATUS FOR GATING VARIABLY RECURRENT WAVEFORMS
Lee R. Baesler, Torrance, Calif., assignor, by mesne assignments, to Hunetrics Corporation, a corporation of Delaware
Filed July 31, 1967, Ser. No. 657,102
Int. Cl. G04f 9/00
U.S. Cl. 324—68 37 Claims



The invention is directed to method and apparatus for selectively gating and evaluating sub-portions in individual cycles of a variable recurrent wave such as an electrocardiac signal. In distinction to attempting to subdivide such a variably recurrent signal in accordance with a running average rate, the present invention provides a measure of a preceding cycle time duration for setting desired gating periods to be applied in the immediately succeeding cycle for gating and measurement or evaluation, but inhibits such measurement should the duration of the succeeding cycle vary beyond preselected limits from the duration of the antecedent cycle.

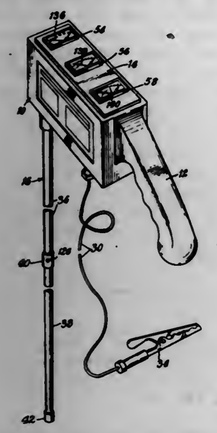
ERRATUM

For Class 324—70 see:
Patent No. 3,510,809

3,510,766
PROBE DEVICE HAVING A PAIR OF ALIGNED TUBULAR SECTIONS FOR DETECTING ELECTRIC LEAKAGE
Fred E. Russell, Elgin, and Charles E. Russell, Wayne, Ill., assignors to Saftematic, Inc., St. Charles, Ill., a corporation of Illinois
Filed Feb. 1, 1968, Ser. No. 702,453
Int. Cl. G01r 1/06
U.S. Cl. 324—72.5 5 Claims

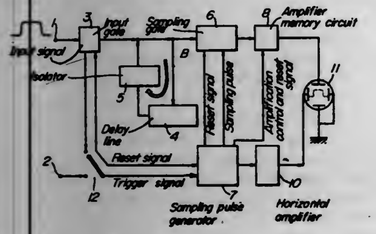
A probe for detecting faults and leaks of an electrical nature in damp or water-filled excavations, flooded base-

ments and other places and for pinpointing the source of such faults or leaks by observation of indicator means



on said probe actuated by the fault or leakage charge or current when the probe is connected to ground.

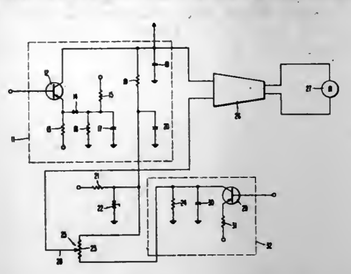
3,510,767
SAMPLING OSCILLOSCOPE FOR NONREPEATED INPUT SIGNALS INCLUDING A LOOPED CIRCUIT
Akira Nishiyama, Neyagawa-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Sept. 27, 1965, Ser. No. 490,200
Claims priority, application Japan, Sept. 29, 1964, 39/55,597, 39/55,602; Feb. 19, 1965, 40/9,636
Int. Cl. G01r *13/20, 23/16;* H03k *5/00*
U.S. Cl. 324—77 19 Claims



A sampling oscilloscope adapted for observing an extremely rapid and nonrepetitive phenomena in which a plurality of samplings are possible and also for a nonrepetitive one-shot signal waveform by making an input signal circulate in a signal recurring looped circuit which includes a delay line.

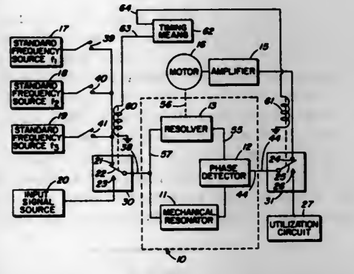
3,510,768
DUTY CYCLE RATIO METER INCLUDING A NOISE INTEGRATOR RECEIVING NOISE SIGNALS FROM A RADAR RECEIVER
David J. Petersen, Hatboro, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 31, 1966, Ser. No. 590,617
Int. Cl. G01r *23/16;* H04b *1/00;* G01s *7/36*
U.S. Cl. 324—77 11 Claims

The circuitry of the invention includes a noise integrator which receives noise signals derived from a radar receiver. A meter is responsive to the output of the noise integrator and indicates a reading corresponding to the duty cycle ratio of the input to the noise integrator. This ratio is the ratio of the time that noise is received by the noise integrator to the time when the noise integrator is permitted to receive noise. At certain times, the



input of the noise integrator is inhibited and a compensating network is activated. The compensating network affects the circuitry so that the meter indication does not change during the time that the noise integrator is inhibited.

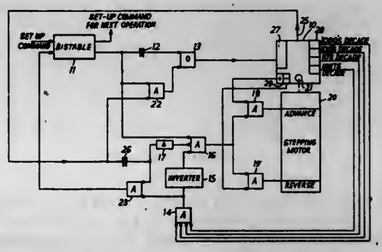
3,510,769
SELF-CALIBRATING FREQUENCY DISCRIMINATOR CIRCUIT
Robert W. Landee, 5107 Woodley, Encino, Calif. 91316
Filed Dec. 20, 1962, Ser. No. 249,106
(Filed under Rule 47(b) and 35 U.S.C. 118)
Int. Cl. G01r *23/12;* H03d *3/02*
U.S. Cl. 324—82 4 Claims



1. Frequency discriminator means for detecting frequency variations from a predetermined value of a signal from an input signal source, said frequency discriminator comprising:
resonator means having a center tuned frequency and a phase shifting means;
said resonator means and said phase shifting means having common input terminal means connected to the output of said input signal source;
phase detector means constructed to respond to the output signals of said phase shifting means and said resonator means to produce an output signal indicative of the direction and amount of deviation of the input signal frequency from the center tuned frequency of said resonator means;
servo means having an input terminal and constructed to be responsive to the output of said phase detector means to adjust said phase shifting means until the output signal of said phase detector means attains a predetermined value;
first switching means for connecting the output terminal of said phase detector means to the input terminal of said servo means to enable adjustment of said phase shifting means;

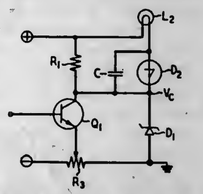
calibrating signal source means for calibrating said frequency discriminator means to a desired center tuned frequency;
second switching means for periodically connecting said calibrating signal source means to said common input terminal means;
and timing means for causing said first and second switching means to connect the output terminal of said phase detector means to said servo means during the time that said calibrating signal source means is connected to said common input terminal means.

3,510,770
APPARATUS FOR THE AUTOMATIC CALIBRATION OF DIGITAL INSTRUMENTS
Peter Robert Lowe, Farnborough, England, assignor to The Solartron Electronic Group Limited, Farnborough, Hampshire, England, a corporation of the United Kingdom
Filed July 27, 1967, Ser. No. 656,494
Claims priority, application Great Britain, Aug. 2, 1966, 34,646/66
Int. Cl. G01r *1/02*
U.S. Cl. 324—130 17 Claims



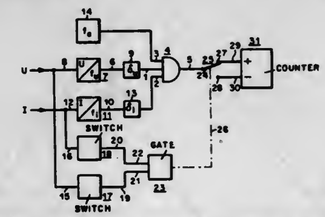
Apparatus for automatically calibrating digital instruments is described in which logic circuits set the instrument up for calibration, and signals corresponding to the digits of the instruments output reading are supplied to logic circuits. Unless all the digits are zero a stepping motor under the control of the logic circuits drives a control for correcting the calibration of the instrument, but when all the digits are zero the instrument is set for normal operation or further calibration operations.

3,510,771
LEVEL DETECTOR HAVING VISUAL INDICATOR LOCK-UP MEANS
Milton L. Embree, Laureldale, and William L. Lane, Reading, Pa., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Nov. 15, 1967, Ser. No. 683,350
Int. Cl. G01r *13/36;* H03k *19/08*
U.S. Cl. 324—122 1 Claim



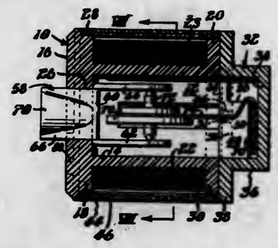
A level detector includes a neon bulb in parallel with a resistor connected between the collector of a transistor and a source supply voltage. A voltage regulator diode, connected between the collector and ground, has a breakdown voltage such that when reverse-biased into breakdown the collector voltage lies between the breakdown and sustain voltages of the neon bulb. The neon bulb is on, in an excited discharge state, when the base of the transistor has applied thereto a sufficiently high voltage signal. The bulb then remains on in the absence of that signal because the diode clamps the collector potential above the sustain voltage of the neon bulb.

3,510,772
METHOD AND APPARATUS FOR STATISTICALLY MEASURING ELECTRICAL POWER CONSUMPTION
Werner Jose Luthi, Cham, Zug, Switzerland, assignor to Landis & Gyr, Zug, Switzerland, a corporation of Switzerland
Filed Nov. 8, 1968, Ser. No. 774,258
Claims priority, application Switzerland, Nov. 13, 1967, 15,827/67
Int. Cl. G01r *21/00*
U.S. Cl. 324—142 26 Claims



A method and circuitry for statistically measuring electrical power consumption for the parameters of voltage and current whereby the voltage is converted to a first train of pulses wherein the product of frequency and pulse width is proportional to the voltage, the current is converted to a second train of pulses wherein the product of frequency and pulse width is proportional to the current, a third train of scanning pulses is generated wherein the frequency is constant and the width of the pulses is much smaller than the width of the pulses in the first and second pulse trains, all three pulse trains are inputs to a coincidence circuit the output of which is a fourth train of pulses, the average frequency of which is a measure of the power, and the output of the coincidence circuit is counted to measure the power consumed.

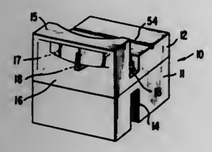
3,510,773
MINIATURE EDGEWISE ELECTRICAL INDICATOR
Robert I. Dinlocker, Hilltown Township, Bucks County, Pa., assignor, by mesne assignments, to Electro-Mechanical Instrument Company, Inc., a corporation of Pennsylvania, organized Oct. 13, 1967
Continuation-in-part of application Ser. No. 322,476, Nov. 8, 1963. This application June 15, 1966, Ser. No. 563,001
Int. Cl. G01r *1/00*
U.S. Cl. 324—146 18 Claims



In a miniature electrical indicator, the supporting bracket for the meter movement has a main body portion

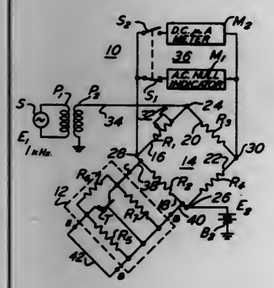
from which a first pair of legs extend in one direction and a second pair of legs extend at right angles to them. The second pair of legs support the meter movement. The first pair of legs extend through slots in the housing and are deformed to rigidly secure the bracket to the housing.

3,510,774
MOVING MAGNET INSTRUMENT ADAPTED FOR BLIND ASSEMBLY
Hans A. Bakke, Swampscott, Almon J. Corson, Beverly, Warren N. Kernsmeier, Boxford, and Carl F. Van Benschoten, Lynnfield, Mass., assignors to General Electric Company, a corporation of New York
Filed June 15, 1966, Ser. No. 557,692
Int. Cl. G01r 1/38, 1/14, 1/04
U.S. Cl. 324—146 4 Claims



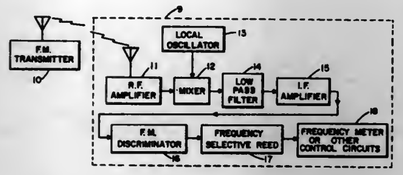
An edgewise meter having zero point and sensitivity control and damping and being adapted for blind assembly. A magnetic wire is located in a groove formed in an exterior housing surface. The groove determines zero point; wire position in the groove, sensitivity. An electrodynamic plate coacts with the rotor assembly. A bearing is mounted directly to the each of two housing portions. The rotor is located in one bearing and supported by the damping plate during assembly so the rotor engages the other bearing during final assembly.

3,510,775
IN-CIRCUIT SEMICONDUCTOR LEAKAGE TESTING MEANS AND METHOD
William R. Orioff, Lansdale, Pa., assignor to American Electronic Laboratories, Inc., Colmar, Pa., a corporation of Pennsylvania
Filed Mar. 16, 1967, Ser. No. 623,739
Int. Cl. G01r 31/22
U.S. Cl. 324—158 14 Claims



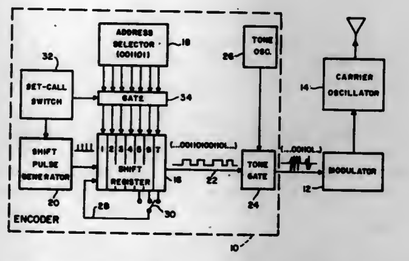
The method and means for testing the leakage of a semiconductor junction which takes into account and minimizes the effect of conduction by in-circuit linear resistance elements associated with the semiconductor junction being tested and includes the use of a Wheatstone bridge for balancing out the effect of resistance to an alternating signal and sensing the current produced by a D.C. signal for indicating leakage current for the semiconductor junction under test.

3,510,776
FM TONE SIGNAL RECEIVING CIRCUIT
Clyde A. Boenke, Lombard, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Feb. 16, 1966, Ser. No. 527,660
Int. Cl. H04b 5/04
U.S. Cl. 325—55 6 Claims



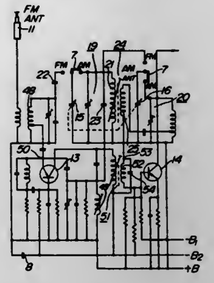
An FM tone responsive receiving circuit includes a superheterodyne FM tone receiver which operates with a zero intermediate frequency amplifier, the output of which is supplied to a pulse count discriminator having an output filter in the form of a tone responsive reed filter, the resonant frequency of which is the second harmonic of the modulation signal of the transmitted carrier wave.

3,510,777
DIGITAL STREAM SELECTIVE CALLING SYSTEM
Jerry Gordon, Williamsville, N.Y., assignor to Corn Products Company, New York, N.Y., a corporation of Delaware
Filed May 10, 1967, Ser. No. 637,464
Int. Cl. H04b 7/02; H04j 3/12
U.S. Cl. 325—55 17 Claims



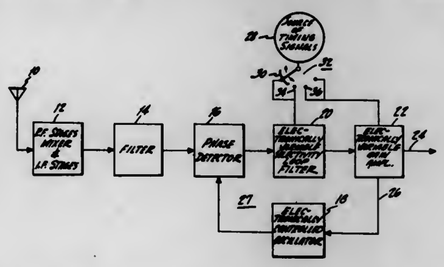
A selective calling system in which the signal transmitted to call an individual receiver or group of receivers out of a larger group of receiving stations comprises a digital code stream consisting of a continuously repeating binary code word, uninterrupted by spacing intervals or synchronizing pulses. The call signal encoder includes a shift register having a feedback path connecting it as a ring counter so that, after being loaded with a selected code word, the application of shift pulses will cause the register to recirculate the selected code word and thus generate the desired code stream. Each receiver in the system has a call signal decoder which includes a shift register into which the received code stream is serially loaded and a diode logic circuit connected to monitor the contents of the register and generate a signal upon recognizing the reception of a code word unique to that receiver or receiver group.

3,510,778
COMBINED AM-FM RECEIVER
Takanori Shigihara, Daito-shi, Japan, assignor to Sanyo Electric Co., Ltd., Moriguchi-shi, Japan, a corporation of Japan
Filed July 7, 1965, Ser. No. 470,087
Claims priority, application Japan, July 7, 1964, 39/38,789, 39/78,791; July 18, 1964, 39/41,052
Int. Cl. H04b 1/16
U.S. Cl. 325—317 9 Claims



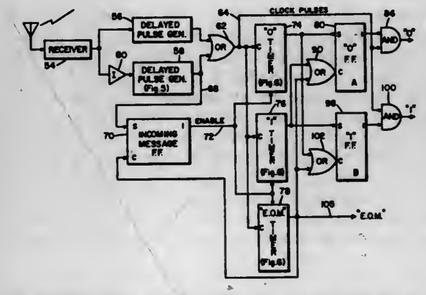
A combined FM-AM receiver in which the variable tuning capacitors for the AM antenna and AM converter are respectively used as capacitors for the FM input signal and FM local oscillator when the receiver is operated in the FM mode. In the FM mode a respective correcting capacitor is connected to each of the variable capacitors. In the FM mode the AM converter operates as an FM intermediate frequency stage and a coupling circuit including a capacitor is used to minimize reaction between the FM intermediate frequency signal and the AM input signal from the antenna. The AM-FM changeover switch also operates when in the AM position to short out the FM intermediate frequency tuned circuit and when in the FM position to connect the AM intermediate frequency tuned circuit as a power supply filter for at least a portion of the FM receiver.

3,510,779
VARYING BANDWIDTH FREQUENCY SHIFT KEYING RECEIVER
Jacob Klapper, New York, N.Y., assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 15, 1967, Ser. No. 623,324
Int. Cl. H04l 27/14
U.S. Cl. 325—320 7 Claims



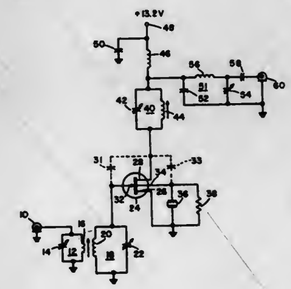
In frequency shift keying radio telegraphy, the bandwidth of the transmitted wave, when changing from one frequency to another, is very broad. However, to exclude extraneous noises the receiver is sharply tuned to the several transmitted frequencies. This sharp tuning results in band clipping by the receiver during the time that the transmitted wave is changing in frequency and therefore in a gradual change in the output of the receiver that indicates that the frequency of the received wave has changed, whereby the speed of communication is limited and the chance of an error near the limiting speed is increased. Means are provided to increase the speed of communication and to reduce the errors in reception by broadening the tuning of the receiver only during the periods of time that a transmitted wave can change in frequency.

3,510,780
TWO-STATE COMMUNICATION DEVICES HAVING COMBINED CLOCK AND INFORMATION SIGNALS
William B. Buehrle, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 12, 1966, Ser. No. 584,035
Int. Cl. H03k 9/10
U.S. Cl. 325—321 2 Claims



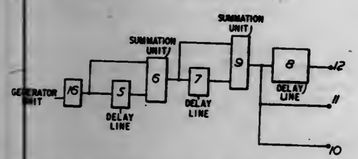
An elapsed time digital communication system is disclosed wherein both the digital information content and the timing or clock information is represented by the elapsed time for two successive transitions between electrical states. After a first or initiating transition to an active state, each successive transition indicates that information is available. By measuring the time between successive transitions, both information content and timing signals are recovered.

3,510,781
CRYSTAL CONTROLLED AUTODYNE CONVERTER USING FIELD-EFFECT TRANSISTORS
Donald L. Wollesen, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 3, 1967, Ser. No. 606,703
Int. Cl. H04b 1/28
U.S. Cl. 325—451 4 Claims



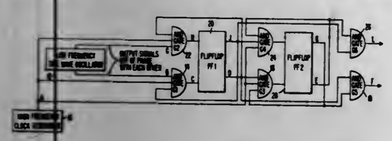
A mixer circuit having a tetrode field-effect transistor as an active device thereof with the incoming signals being applied to one gate electrode of the field-effect transistor and local oscillations being applied to another gate electrode of said transistor.

3,510,782
DIGITAL WAVEFORM GENERATOR
Frank Ralph, Bishop's Stortford, and Michael John Gingell, Harlow, England, assignors to International Standard Electric Corporation
Filed June 1, 1967, Ser. No. 642,855
Claims priority, application Great Britain, June 3, 1966, 24,785/66
Int. Cl. H03b *19/00*; H03k *4/02*
U.S. Cl. 328—14 1 Claim



A digital waveform generator for synthesizing a digital waveform having only the fundamental and prescribed harmonic components present. A basic waveform having a repetitive signal of period T is added to an identical signal delayed in time by an amount $T/2x$ where x is an integer. The resulting waveform will have the xth harmonic component eliminated by successively repeating the summation step using in each case the resulting waveform from the preceding summation step as the basic waveform and adding to it an identical waveform delayed in time by an amount $T/2y$ where y is an integer and representative of the harmonic component to be eliminated.

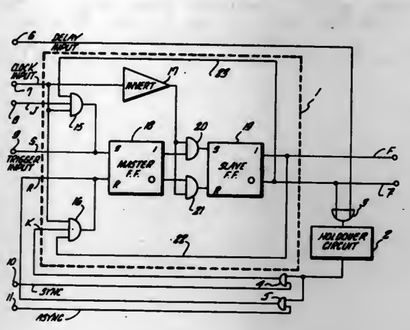
3,510,783
LOW FREQUENCY-LOW DUTY CYCLE CLOCK PULSE GENERATOR
Allan M. Smith, Moorestown, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 29, 1967, Ser. No. 650,113
Int. Cl. H03k *3/64, 5/153*
U.S. Cl. 328—63 10 Claims



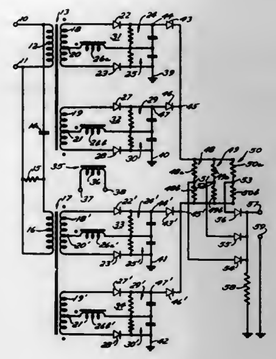
The present application discloses a two phase low frequency clock pulse generator which is responsive to selected pulses of a high frequency clock signal. The generator has a low frequency output pulse duration which is substantially equal to the period of one high frequency clock time. It utilizes a sine wave signal generator having a low frequency output signal in conjunction with a pair of uniquely interconnected flip-flop circuits and a plurality of AND gates. The circuit provides narrow clock pulses at a low repetition rate for selectively clocking high speed electronic circuits. It may be used whereever a two-phase clock of low repetition rate is required. This clock pulse generating system may also be considered to be the logical equivalent of a blocking oscillator.

3,510,784
CONVERTIBLE TIMING CIRCUIT
Frank W. Weber, Duarte, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 1, 1966, Ser. No. 569,124
Int. Cl. H03k *19/28*
U.S. Cl. 328—63 8 Claims

A bistable device having first and second stable states and a holdover circuit for generating a holdover indication a predetermined time duration after the bistable device changes from the first state to the second state. In response to the holdover indication, the bistable device is reset into the first state. The circuitry has an input permitting the direct application of delay pulses to the holdover circuit. In the absence of delay pulses, the arrangement operates in a multivibrator mode. In the presence of delay pulses, the arrangement operates in a holdover mode. Synchronous or asynchronous operation can be selected by energizing one of two other inputs.

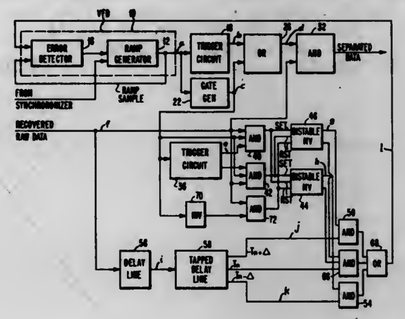


3,510,785
NONPHASE SENSITIVE SYNCHRONOUS DETECTOR
Alfred G. Ratz, Woodbridge, Conn., assignor to Textron Inc., Providence, R.I., a corporation of Delaware
Filed May 1, 1967, Ser. No. 635,181
Int. Cl. H03k *9/06*
U.S. Cl. 328—134 8 Claims



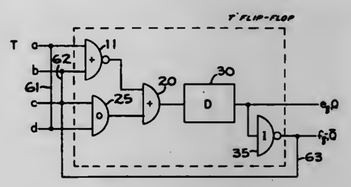
A composite signal is combined in one pair of phase-sensitive detector circuits with a signal in phase and 180° out of phase with respect to a reference signal to produce a signal which when selected by an OR circuit is proportional to the magnitude of $E \cos \theta$. A 90° phase shift in the reference signal supplied to a second pair of phase-sensitive detector circuits and an OR circuit yields $E \sin \theta$. A trigonometric network multiplies $E \cos \theta$ and $E \sin \theta$ by $\cos \theta$ and $\sin \theta$, respectively, and adds to yield $E \cos^2 \theta + E \sin^2 \theta$ which equals E, the magnitude of the component of the composite signal having the same frequency as the reference signal.

3,510,786
SYNCHRONIZING CIRCUIT COMPENSATING FOR DATA BIT SHIFT
David H. Paulson, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 25, 1967, Ser. No. 655,911
Int. Cl. H03k *5/18*
U.S. Cl. 328—155 11 Claims



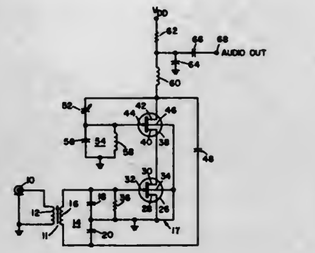
In a magnetic recording and reproducing apparatus which employs a modified frequency modulation, a synchronizing circuit comprising a detector for detecting if a received data bit occurs during a defined error transition interval of a reference waveform and suitable delay means for shifting bits that do occur during the defined error transition interval out of the defined error transition interval.

3,510,787
VERSATILE LOGIC CIRCUIT MODULE
Alan E. Pound, Sunnyvale, and Dov Bornstein, San Jose, Calif., assignors, by mesne assignments, to Philco-Ford Corporation, a corporation of Delaware
Filed Aug. 25, 1966, Ser. No. 575,073
Int. Cl. H03k *3/12*
U.S. Cl. 328—206 19 Claims



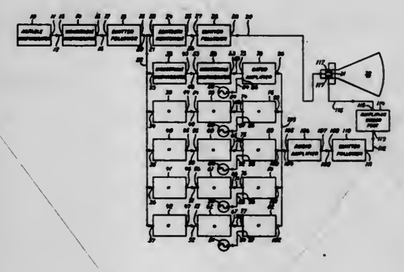
A circuit module which can perform different logic functions when connections between its four input terminals, and between said input terminals and its two output terminals, are varied. The module can provide JK, T, $\overline{JT}$, $\overline{T}$, RS, $\overline{RS}$, sample and hold, and one-bit delay flip-flops, plus comparator and two stream selector circuits. The four input terminals of the basic module are provided by the input terminals of a two-input NOR gate and a two-input AND gate. The outputs of the NOR and AND gates are connected to the inputs of a two-input OR gate whose output is connected to the input of a one-bit delay circuit. The output of the delay circuit provides one output terminal of the module and an inverted output of the delay circuit provides the other output terminal of the module.

3,510,788
SELF-OSCILLATING FM DETECTOR USING FIELD-EFFECT TRANSISTORS
Donald L. Wollesen, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 9, 1967, Ser. No. 608,023
Int. Cl. H03d *1/14*
U.S. Cl. 329—124 6 Claims



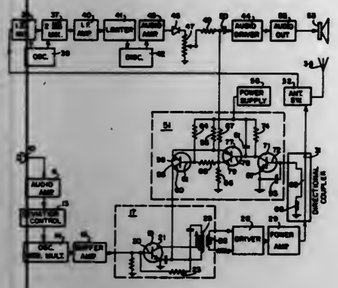
A quadrature FM detector circuit using either a pair of cascode connected junction field-effect transistors, a single, multiple gate junction field-effect transistor, or a single multiple gate insulated gate field-effect transistor to provide a product detection in response to phase variations about the quadrature point with frequency modulation of the input signal. This product detection produces detectable amplitude variations at the output of the field-effect transistor(s).

3,510,789
METHODS AND APPARATUS FOR DETERMINING THE RESPONSE OF AN AMPLIFIER
Harry W. Verlinden, Waterloo, Ontario, Canada, assignor to Electrohome Limited, Kitchener, Ontario, Canada
Filed Oct. 6, 1967, Ser. No. 674,076
Int. Cl. H03f *3/10*; G01r *23/00*
U.S. Cl. 330—2 15 Claims



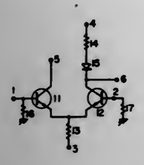
The response of an amplifier to a plurality of test signals of different frequencies falling within the bandwidth of the amplifier is determined by generating a sawtooth waveform, providing a plurality of test signal blocks at different test signal frequencies with the blocks being out of phase with respect to each other but all occurring within one sweep interval of the sawtooth waveform; providing a cathode ray tube having horizontal and vertical deflection means, supplying the sawtooth waveform to one of the deflection means, supplying the test signal blocks to the input terminal of the amplifier under test, and supplying the resultant signal appearing at the output terminal of the test amplifier to the other of the deflection means.

3,510,790
SEMICONDUCTOR PROTECTION SYSTEM
Theodore N. Tabanskian, Jr., Oak Lawn, and Daniel J. Mahoney, Elgin, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Nov. 14, 1967, Ser. No. 682,772
Int. Cl. H03f 21/00, 3/18
U.S. Cl. 330—11 11 Claims



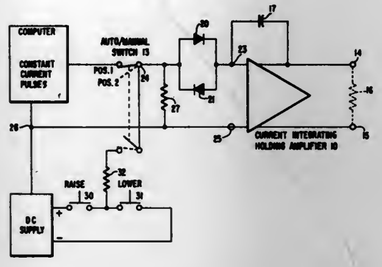
A protection system for a transmitter using transistors in the final power amplifier stage incorporates a protection circuit coupling the power supply to an amplifier stage and a directional coupler to measure power reflected from the antenna. The directional coupler is coupled to the protection circuit and provides a control signal proportional to the reflected power. The protection circuit is responsive to a control signal above a predetermined magnitude to disconnect the amplifier from the power supply and also to generate a pulsating signal. The pulsating signal is reproduced as an audible alarm signal.

3,510,791
SEMICONDUCTOR DIFFERENTIAL AMPLIFIER PROVIDING NO LEVEL SHIFT BETWEEN THE INPUT AND OUTPUT SIGNAL LEVELS
Minoru Nagata, Kodaira-shi, Japan, assignor to Hitachi, Ltd., Tokyo-to, Japan
Filed July 20, 1967, Ser. No. 654,724
Claims priority, application Japan, July 20, 1966, 41/47,030
Int. Cl. H03f 3/68
U.S. Cl. 330—30 16 Claims



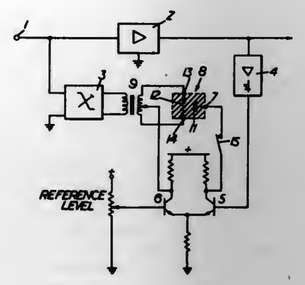
A semiconductor differential amplifier in which a pair of amplifying transistors which have the same constructions and characteristics, are connected together by their emitters, which are connected through a common emitter resistor to a bias voltage source. The base of one of the transistors is grounded, and the base of the other transistor is supplied with an input signal. A load resistor whose resistance is twice as large as that of the emitter resistor is connected in series with a PN junction diode whose junction is formed in the same operation as the emitter-base junctions of the pair of transistors. The series circuit thus comprised is inserted in one of the collector circuits of the pair of transistors, so that no level shift is provided between the input and output signals under conditions where two voltages of the same amount but of opposite polarities are impressed on the emitter and collector resistors.

3,510,792
ISOLATION AND GUARDING CIRCUIT FOR MINIMIZING DRIFT IN PROCESS CONTROL HOLDING AMPLIFIER
Donald R. Hyer, Lynnfield, Mass., assignor to General Electric Company, a corporation of New York
Filed June 28, 1967, Ser. No. 649,715
Int. Cl. H03f 1/28, 21/00
U.S. Cl. 330—51 4 Claims



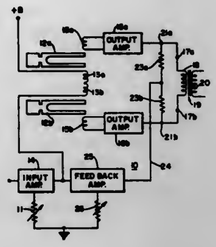
A process controller isolating and guarding circuit. Back-to-back low leakage diodes in series with one high input impedance holding amplifier input terminal and a source of signals and a shunting resistance across the signal source block noise signals from the amplifier.

3,510,793
AMPLIFIER REGULATOR EMPLOYING AN ELECTROLYTIC VARIABLE RESISTANCE DEVICE
Donald Robert Barber, Bishop's Stortford, Herts, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 19, 1965, Ser. No. 433,998
Claims priority, application Great Britain, Feb. 26, 1964, 7,967/64
Int. Cl. H03f 3/66, 1/00
U.S. Cl. 330—52 7 Claims



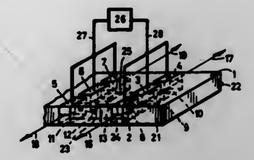
The gain of a repeater amplifier is controlled by an electrolytic variable resistance inserted into a feedback loop between a pilot signal level detector and a variable equalizing network. The electrolytic resistance used is a "memistor" which provides a variation of resistance with pilot signal level and provides the advantage of memory regulation, i.e. the repeater gain remains at its last setting if the pilot signal fails for any period.

3,510,794
MULTIPLE TUNING FORK RESONATOR FILTER WITH FEEDBACK
Boris F. Grib, Huntington, N.Y., assignor to Philamon Laboratories Inc., Westbury, N.Y., a corporation of New York
Filed Mar. 21, 1968, Ser. No. 714,932
Int. Cl. H03f 3/68
U.S. Cl. 330—126 19 Claims



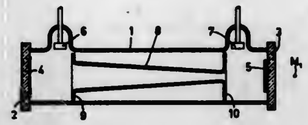
A tuning fork resonator filter is disclosed in which an electrical input signal drives at least two tuning forks having slightly different resonant frequencies, and in which the sum of the output signals from the tuning forks is fed back to the inputs of the tuning forks and the difference of the output signals from the tuning forks provides a filter output signal having a relatively wide passband while retaining the sharp selectivity features of tuning fork resonators.

3,510,795
ARRANGEMENT FOR GENERATING ELECTROMAGNETIC RADIATION
Günter Winstel, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany and Munich, Germany, a corporation
Filed Dec. 10, 1964, Ser. No. 417,456
Claims priority, application Germany, Dec. 13, 1963, S 88,709
Int. Cl. H01s 3/18
U.S. Cl. 331—94.5 19 Claims



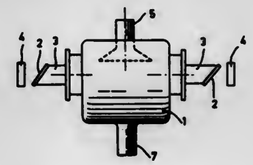
To provide an integral heat sink in a laser diode having an extended laser active pn junction area, a material merely intrinsically conducting or of high resistivity is structurally continuous with a substantial lateral extent of the p- and n-conductive junction-forming regions, at least up to the junction; and deposited metallic end mirrors extending across the plane of a junction are rendered feasible. Laser diode bodies integrally incorporating one or several coplanar active junctions, with various extents of such integral heat sinks, are fabricated by disclosed methods utilizing known doping and/or epitaxial deposition techniques.

3,510,796
GAS LASER HAVING A CONICAL CHANNEL
Gerardus Joseph Marie Ahsmann, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed June 1, 1965, Ser. No. 460,030
Claims priority, application Netherlands, June 2, 1964, 6406165
Int. Cl. H01s 3/00
U.S. Cl. 331—94.5 3 Claims



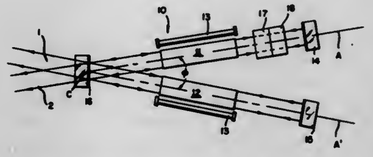
A gas laser having a conical ray path and a conical discharge enclosure.

3,510,797
ACETYLENE FLAME LASER
Willem Cornelis Nieuwpoort and Richard Bleekrode, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 24, 1965, Ser. No. 482,116
Claims priority, application Netherlands, Aug. 29, 1964, 6410083
Int. Cl. H01s 3/22
U.S. Cl. 331—94.5 3 Claims



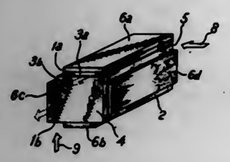
A flame laser wherein light emission is stimulated by a resonator reaction between two gases entering a resonator from one or more gaps arranged parallel to the axis of the resonator.

3,510,798
HOLOCAMERA ILLUMINATOR
Robert A. Briones, Granada Hills, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed May 16, 1967, Ser. No. 638,936
Int. Cl. H01s 3/00
U.S. Cl. 331—94.5 5 Claims



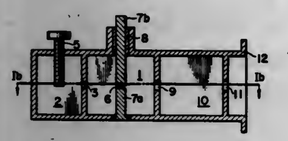
Two separate laser beams having identical characteristics are created by folding a long laser cavity and using a partially transparent common reflector at the point of the fold. Separate beams then emanate from the partial reflector at an angle of separation substantially equivalent to that of the angle of the fold of the cavity.

3,510,799
SEMICONDUCTOR LASER ELEMENT WHICH UTILIZES THE POLARIZATION OF ANGULARLY RELATED FORWARD BIASED JUNCTIONS TO PERFORM LOGICAL OPERATIONS
Kitsutaro Amano, Yokohama-shi, Yasuo Koseki, Chofu-shi, Keigo Komuro, Kanagawa-ken, and Takao Tanaka and Osamu Shimbori, Tokyo-to, and Takaya Yamamoto, Kanagawa-ken, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed Oct. 24, 1967, Ser. No. 677,682
Claims priority, application Japan, Oct. 27, 1966, 41/70,442
Int. Cl. H01s *3/06, 3/18*
U.S. Cl. 331—94.5 5 Claims



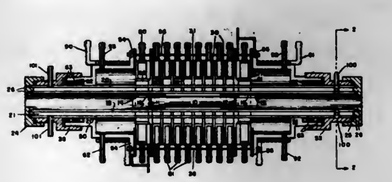
A semiconductor laser element provided with a plurality of P-N junction planes arranged perpendicularly to the reflective parallel end planes each of which radiate light when an electric current exceeding a critical value flows in the forward direction of the respective P-N junction, where at least one pair of the P-N junction planes are at a right angle with respect to each other so that each of the P-N junction planes radiates a light output having either of two planes of polarization representative of binary information.

3,510,800
NEGATIVE RESISTANCE OSCILLATOR STABILIZED WITH FUNDAMENTAL AND HARMONIC FREQUENCY CAVITY RESONATORS
Yoichi Kaneko, Kokubunji-shi, and Yoshimitsu Sasaki, Fuchu-shi, Japan, assignors to Hitachi, Ltd., Tokyo-to, Japan
Filed June 28, 1968, Ser. No. 740,933
Claims priority, application Japan, July 24, 1967, 42/47,205
Int. Cl. H03b *7/14*
U.S. Cl. 331—96 10 Claims



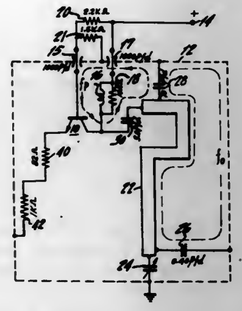
A stabilized high frequency oscillator equipped with a combined resonator in which a first resonant cavity having a negative resistance element mounted therein is connected to a second cavity via an iris which substantially short-circuits a fundamental component field of oscillation, and said fundamental field is localized and resonated in the first cavity, a high harmonic component field is distributed and resonated in said first and second cavities; either one of said two component fields generated in said resonator being derived therefrom as an output and thus the oscillation frequency of said output component is stabilized by virtue of "pull-in" action of the other component which is confined in said resonator.

3,510,801
OPTICAL PUMP SYSTEM FOR REPETITIVE OPERATION
Frithjof N. Mastrup, Manhattan Beach, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Jan. 19, 1968, Ser. No. 699,219
Int. Cl. H01s *3/09*
U.S. Cl. 331—94.5 15 Claims



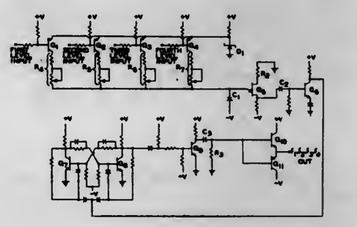
A high-energy light source particularly adaptable to pumping a laserable material, wherein the laserable material is positioned within a transparent cylindrical first member with a transparent cylindrical second member having a diameter slightly larger than the first member forming a water-tight passageway with the first member and wherein a plurality of hollow water-tight cooling discs are symmetrically disposed about the second cylindrical member and axially displaced therealong to define a second passageway for receiving a gas. Annular electrodes are positioned symmetrically about the second member to create an arc discharge in the second passageway to ionize the gas contained therein which in turn emits optical radiation of a predetermined frequency band for pumping the laserable material. Water is passed through the hollow cooling discs and through the first defined passageway to dissipate heat generated by the laserable material and the gas plasma.

3,510,802
ULTRA-HIGH FREQUENCY TRANSISTOR OSCILLATOR
David J. Carlson, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed Feb. 28, 1968, Ser. No. 708,960
Int. Cl. H03b *5/18*
U.S. Cl. 331—117 2 Claims



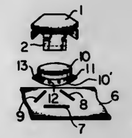
A transistor UHF oscillator, including tuning means having a desired tank circuit and parasitic oscillatory circuit path, has an emitter circuit arrangement to permit the utilization of transistor units as the active element in the oscillator with a wide range in g_m from unit to unit.

3,510,803
FREQUENCY MODULATOR CIRCUIT FOR GENERATING A PLURALITY OF FREQUENCIES BY THE USE OF A UNIJUNCTION TRANSISTOR
Charles L. Jacobson and Donald E. Mack, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 30, 1966, Ser. No. 606,276
Int. Cl. H03k *17/62, 7/00;* H04l *27/12*
U.S. Cl. 332—14 5 Claims



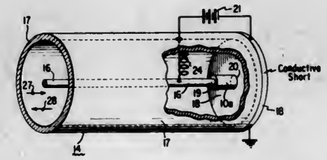
A modulator for use in generating frequency shift-keyed signals. A plurality of frequencies is generated in response to an information signal applied thereto by selectively applying different input resistances to a transistor pulse generator.

3,510,804
LUMPED PARAMETER CIRCULATOR AND ITS CONSTRUCTION
Tadashi Hashimoto, Ichikawa, Chiba-ken, Taro Miura, Tokyo, and Takashi Iwata, Ichikawa, Chiba-ken, Japan, assignors to TDK Electronics Company Limited, Tokyo, Japan, a corporation of Japan
Filed May 29, 1968, Ser. No. 732,934
Int. Cl. H01p *1/32*
U.S. Cl. 333—1.1 2 Claims



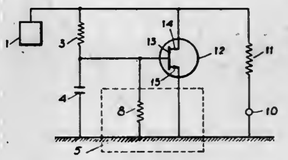
The present invention relates to an improvement in Y-type lumped parameter circulators. The circulator of the invention comprises a plurality of central conductors assembled in a knitted construction; disk shaped magnets arranged both above and below the surfaces of said central conductors as a means for effecting circulator action; a shielding case arranged so as to envelope said central conductors and magnets, said shielding case having an upper surface portion of true hexagonal shape and side plates provided at every other side periphery of said upper surface portion, said depending side plates being provided with hollow cuts at each side periphery thereof for passing the centrol conductors therethrough; and an assembly base plate having linear slits; said side plates of the shielding case being passed through said linear slits and folded at their tips behind said assembly base plate, and said central conductors being received in said hollow cuts of the side plates of the shielding case. By utilization of the above structure and arrangement, assembly steps of the unit are simplified. The central conductors employed may be optionally coated with an insulating layer at their mutual points of contact.

3,510,805
IMPEDANCE CONTROL USING TRANSFERRED ELECTRON DIODES
Fred Sterzer, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Dec. 20, 1968, Ser. No. 785,504
Int. Cl. H01p *5/12, 1/26, 1/10*
U.S. Cl. 333—7 6 Claims



A controllable impedance device using a transferred electron diode of the type whose operation depends on the transfer of electrons heated by electric fields from high mobility to low mobility sub-bands is provided.

3,510,806
INDUCTIVE REACTANCE CIRCUIT
Jacques Gremillet, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Nov. 30, 1965, Ser. No. 510,530
Claims priority, application France, Dec. 1, 1964, 996,940
Int. Cl. H03h *5/12*
U.S. Cl. 333—80 4 Claims

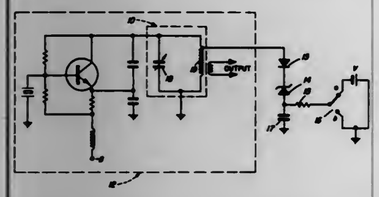


An integrated inductive reactance circuit comprises an insulated gate field effect transistor, a capacitor and a resistor connected in series; the drain and the source are connected respectively to the terminals of a capacitor and a resistor connected in series; the gate is coupled between the resistor and the capacitor.

3,510,807
ELECTRONIC SWITCH USING A SERIES STRING OF TWO DIODES, ONE ZENER AND ONE CONVENTIONAL, AND A CAPACITOR IN PARALLEL WITH A RESONANT CIRCUIT AS A Q SPOILER
Wayland N. Hall, Nashua, N.H., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 29, 1966, Ser. No. 583,505
Int. Cl. H03j *3/20;* H03h *7/12;* H03k *17/74*
U.S. Cl. 334—40 3 Claims

The present invention relates to an electronic switch which may be applied to any resonant circuit wherein electronic spoiling of the circuit Q is desired. A conventional diode has its cathode connected to the cathode of a Zener diode which has its anode connected to one plate of a capacitor which offers a low impedance to alternating current signals. The other plate of the capacitor is connected to ground. The anode of the conventional diode is connected to a point on a resonant circuit which effectively

connects the series string of the two diodes and capacitor in parallel with the resonant circuit. A current limiting resistor is connected between the anode of the Zener diode and the capacitor. A negative D.C. voltage supply is connected to the anode of the Zener diode by way of the current limiting resistor. The magnitude of the D.C.



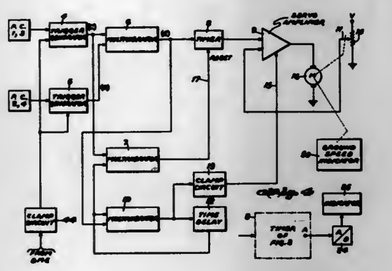
voltage supply is insufficient to breakdown the Zener diode. When the D.C. voltage is turned on, the Zener diode breaks down causing the conventional diode to break down also, thereby providing a shunt path to ground. Thus, by turning on the D.C. voltage, the overall impedance of the circuit may be adjusted so as to detune the resonant circuit.

3,510,808
TUNER BAND SWITCHING ARRANGEMENT
Donald J. Baker, Williamsville, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,607
Int. Cl. H03j *1/08, 5/30*
U.S. Cl. 334—49 2 Claims

A radio frequency tuner band switching mechanism comprising a linear coplanar train of molded plastic spur gears upon which tunable coils are mounted. The gear train is arranged to lie in a plane parallel to and juxtaposed with a printed circuit board containing a plurality of cascaded tuned circuits. Selective interconnection of the gear mounted coils and the printed circuitry is provided through engagement of switch contacts on each gear with resilient bellows contacts attached to the printed circuit board. A drive shaft attached to one of the gears enables actuation of the gear train to simultaneously switch a selected set of coils into the string of tuned circuits to accommodate a selected frequency band.

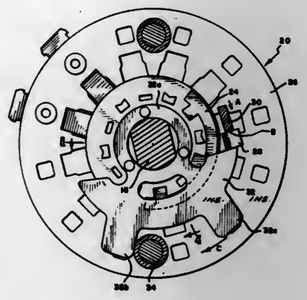
3,510,809
VEHICLE VELOCITY INDICATOR
James L. Hudson, Westfield, and Arthur L. Langlieb, Wayne, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed May 16, 1967, Ser. No. 638,912
Int. Cl. G01p *3/68;* G01s *9/44*
U.S. Cl. 324—70 3 Claims

A vehicle velocity indicator, wherein apparatus is photoelectrically coupled to the rotating drum of an existing DME indicator, thereby applying substantially no mechanical load on the DME indicator drum. The velocity measuring circuitry includes a timer for measuring the time for said drum to rotate by a predetermined amount, said time being a function of vehicle velocity, and a readout



device for translating the output of the timer to velocity information.

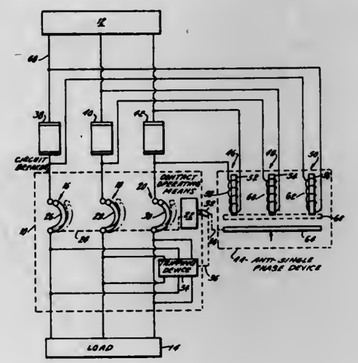
3,510,810
ROTOR ACTUATOR
Lonnie J. Richardson, Elgin, Ill., assignor to Oak Electro/Netics Corp., a corporation of Delaware
Filed Nov. 9, 1967, Ser. No. 681,748
Int. Cl. H01h *51/20*
U.S. Cl. 335—68 9 Claims



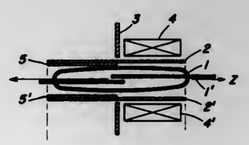
A rotor actuating means for use in a rotary solenoid driven switch to provide for specialized switching functions of one switch section independently of the other switch sections. Means are provided for rotating the rotor of the one switch section in one direction from a first position to a second position in response to pulsation of the solenoid. A rotor actuator is moved by the drive shaft of the rotary switch in the one direction in response to pulsation of the solenoid and is stopped at a predetermined point whereupon the shaft continues to rotate in the one direction. As the shaft is rotated in the opposite direction, the actuator again moves with the shaft in the opposite direction, and causes the rotor of the one switch section to shift back to its first position.

3,510,811
ANTISINGLE PHASE DEVICE
Frank J. Pokorny, Hatboro, Pa., and Charles J. Yarrick, Haddonfield, N.J., assignors, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 21, 1967, Ser. No. 655,170
Int. Cl. H01h *51/06*
U.S. Cl. 335—142 13 Claims

An antisingle phase device including a plurality of energized electromagnets connected in electrical parallel with a plurality of fuses, each one of which is in electrical series with one of the plurality of pairs of cooperating contacts of a circuit breaker. When any one of the series connected fuses experiences current flow above a predetermined magnitude, such fuse will blow and the voltage thereacross will be applied to the parallel connected electromagnetic structure associated therewith to attract a common armature toward the electromagnet, which, in turn, causes the tripping or opening of all of the contact pairs of the circuit breaker.

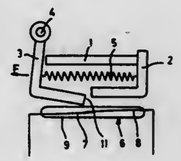


3,510,812
POLARIZED REED RELAY
Masao Takamura, Katsuhiro Kato, Takeo Shinohara, Hisahide Kikuchi, and Sadayuki Mitsuhashi, Tokyo-to, Japan, assignors to Nippon Telegraph & Telephone Public Corporation, Tokyo-to, Japan, and Nippon Electric Company, Limited, Tokyo-to, Japan
Filed Apr. 19, 1968, Ser. No. 722,787
Claims priority, application Japan, Apr. 27, 1967, 42/27,139
Int. Cl. H01h *51/22*
U.S. Cl. 335—153 10 Claims



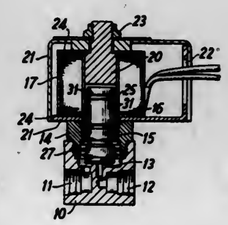
Polarized reed relay apparatus is provided which is highly stable and in operation requires only relatively low current magnitudes to change the state thereof. In one embodiment, the state of the reed switch is determined by the magnetic condition of remanent material disposed in a parallel relationship therewith. The unitary remanent material is magnetically separated into two portions wherein a first portion may be magnetically driven to a first or second state and the second portion thereof in maintained in a first magnetically polarized state. The reed switch will be maintained in the closed condition when said first portion is magnetized in the same direction as said second portion and the open position will be established when said first portion is magnetized in another direction.

3,510,813
DEVICE FOR ACTUATION OF REED SWITCHES
Paul Bozzone, Bienne, Switzerland, assignor to S.A. Les Fabriques de Balanciers Reunies, Bienne, Switzerland, a company of Switzerland
Filed Apr. 18, 1968, Ser. No. 722,401
Claims priority, application Switzerland, Apr. 27, 1967, 6,074
Int. Cl. H01h *1/66*
U.S. Cl. 335—205 3 Claims



A reed switch actuating device comprising a frame of magnetic material interconnecting the pole pieces of a bar magnet is described. The frame completes the magnetic circuit whereby the magnet cannot act on the reed switch. The frame may be opened, breaking the magnetic circuit for actuation of the reed switch.

3,510,814
SOLENOID OPERATOR HAVING ARMATURE PROVIDED WITH GUIDE RINGS
Edgar G. Nordfors, North Caldwell, N.J., assignor to Automatic Switch Company, a corporation of New York
Filed May 31, 1968, Ser. No. 733,682
Int. Cl. H01f *7/08*
U.S. Cl. 335—262 8 Claims

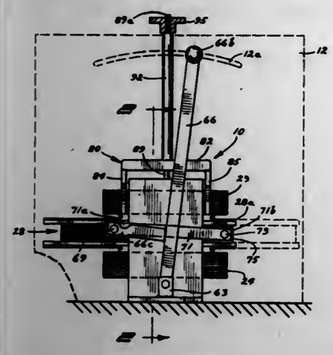


Operator includes guide tube surrounded by a coil, and armature slidable axially within tube. Ring or rings of low-friction material, e.g., Teflon, arranged around exterior of armature, preferably in annular recesses. Rings split so that they may be mounted on armature, and to allow for expansion.

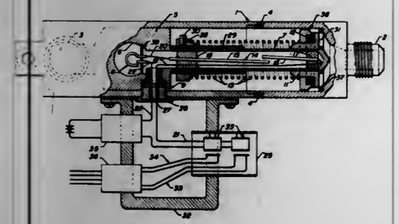
3,510,815
SHUNT SELF-CENTERING APPARATUS
Robert H. Jackman, Crystal, Minn., assignor to Twentieth Century Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 28, 1969, Ser. No. 819,803
Int. Cl. H01f *21/06*
U.S. Cl. 336—133 5 Claims

A shunt type of welder wherein the shunts are carried in sliding shunting members having projecting rails extending in the direction of movement of said members

and plate members confining said shunting members and having grooves to receive said rails, said rails and grooves having mating beveled side walls whereby said rails become self-centered within said grooves, and means locking said shunting members between said plate members.

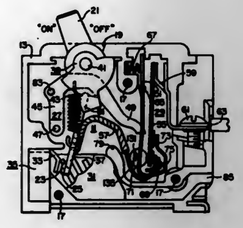


3,510,816
TEMPERATURE-DIFFERENTIAL PRESSURE SWITCH
Halsey O. Bagg, Riverside, Conn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Jan. 6, 1969, Ser. No. 789,318
Int. Cl. H01h *35/40, 36/02, 37/04*
U.S. Cl. 337—2 7 Claims



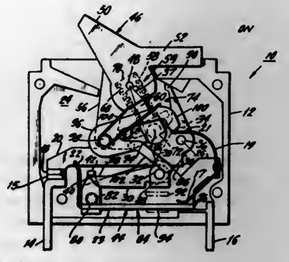
A unitized temperature and differential pressure switch which opens an electric circuit when the temperature of a flowing liquid exceeds a predetermined temperature, or when the flow rate of the liquid falls below a minimum level and causes pressure drop in the switch to fall below a predetermined pressure drop, or when both of these conditions occur concurrently. The switch utilizes a thermostat electrically connected in series to a magnetically operable switch having contacts spring biased apart located in a hollow shaft which is longitudinal with respect to the direction of liquid flow. Positioned around the hollow shaft is a piston carrying a magnet, and a compression spring which biases the piston in an upstream direction. Under zero flow conditions the piston is upstream from the magnetically operable switch. As flow increases, the resulting increased pressure differential across the piston causes the piston to move downstream carrying the magnet with it. The magnetic field of the magnet causes actuation of the magnetically operable switch when the magnet draws close enough to the magnetically operable switch. From the piston, the liquid flows past the thermostat which keeps the circuit closed unless the temperature at the thermostat exceeds a critical predetermined temperature.

3,510,817
CIRCUIT INTERRUPTER
Robert H. Flick and James P. Ellsworth, Beaver, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 12, 1967, Ser. No. 652,865
Int. Cl. H01h *85/00, 85/02*
U.S. Cl. 337—6 6 Claims



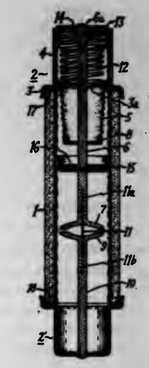
An improved circuit interrupter comprises a circuit breaker and a fuse unit attached to the circuit breaker for interrupting severe overloads and for limiting the current that will pass through the circuit breaker when a severe overload occurs. The fuse unit comprises a fuse structure removable from the front of the circuit interrupter, and the combination comprises connecting means for tripping the circuit breaker when the fuse structure is being removed and for maintaining the circuit breaker in a tripped condition while the fuse structure is removed.

3,510,818
AUTOMATIC CIRCUIT BREAKER WITH CAMMED OVER-CENTER OPERATING MECHANISM
Felix E. Myers, Cherry Hill, N.J., assignor to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,389
Int. Cl. H01h *71/16*
U.S. Cl. 337—55 10 Claims



A circuit breaker including a cradle rotatable between a latched position and a released position upon the occurrence of predetermined fault conditions occurring within the circuit which the breaker is protecting. Pivotally mounted on the cradle is a contact arm which may be moved between an "on" and "off" position when the cradle is in its latched position, and furthermore is automatically rotated to a tripped position to interrupt the flow of current in response to rotation of the cradle between its latched and released position. The movable contact arm is so mounted on the cradle that there is a kicking action of the contact arm away from the stationary contact when the breaker is tripped, which action is desirable because of accidental contact welding. Smooth, reliable operation is achieved by the cooperation of a spring-biased plunger arrangement and the movable contact arm. Additionally, relatch means are provided to automatically reset and close the breaker with a single movement of the breaker handle.

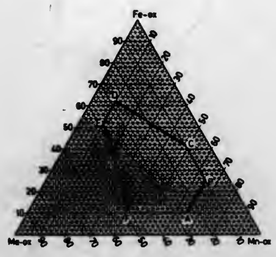
3,510,819
VACUUM FUSE AND METHOD OF MAKING SAME
Sidney R. Smith, Jr., Myrtle Beach, S.C., assignor to General Electric Company, a corporation of New York
Filed Apr. 24, 1968, Ser. No. 723,695
Int. Cl. H01h *3/00, 85/14*
U.S. Cl. 337—246 7 Claims



A vacuum fuse manufactured by sealing a fusible element within an evacuated envelope while the envelope is subjected to a relatively high temperature. Subsequent to the sealing operation, the fusible element is mechanically stressed by a coil spring. The stressing force of the spring is correlated with the tensile strength and thermal characteristics of the fusible element so that this force pulls the fusible element apart when the element's tensile strength is reduced, by the heating effect of overcurrent through the fuse, to a predetermined temperature level. The predetermined temperature level at which such rupture and subsequent fusion of the fusible element occurs is substantially lower than the temperature of fusion of the element when it is not stressed.

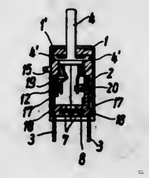
3,510,820
THERMISTOR
Gerard Heinrich Jonker and Willem Noorlander, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 4, 1967, Ser. No. 672,810
Claims priority, application Netherlands, Oct. 5, 1966, 6614015; Aug. 2, 1967, 6710691
Int. Cl. H01c *7/04*
U.S. Cl. 338—22 4 Claims

Produce negative temperature coefficient resistor from p-type semi-conductor body of a solid solution of the oxides of manganese, iron and magnesium or cobalt oxide wherein part of the magnesium and cobalt oxide may be replaced by zinc oxide and nickel oxide. The oxides have the spinel structure. An example of such a composition is the sintered mixture of the oxides of the following



metals values (in mol percent) Mn—35%, Co—25% and Fe—40%.

3,510,821
SLIDE RESISTANCE
Helmut Eberwein, Brendlorenzen, and Waldemar Bogsch, Bad Neustadt, Germany, assignors to Preh Elektro-Feinmechanische Werke, Jakob Preh Nachf., Bad Neustadt, Saale, Germany
Filed May 31, 1968, Ser. No. 733,349
Claims priority, application Germany, June 19, 1967, P 29,516
Int. Cl. H01c *5/02*
U.S. Cl. 338—183 14 Claims

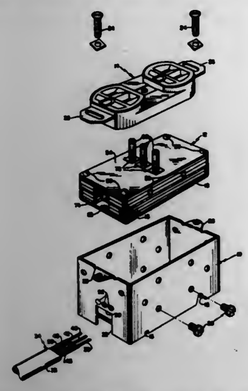


A slide resistance having a housing composed of two identical halves of thermoplastic material, each half providing: first and second guide grooves for slidingly receiving a slide and a closing strip; integrally formed first pins (pegs or studs) and holes matchingly arranged to engage one another for connecting the halves with each other; integrally formed second pins, pegs or studs adapted for the attachment of a resistor bar, a bus bar, and soldering tabs; chambers between the two halves near their ends on different faces and adapted for the reception of nuts serving for the securement of the slide resistance; integral third connecting pins, taps or studs and corresponding recesses for the in-series arrangement of a plurality of such resistances; recesses for the provision of shielding sheets between several resistances; and openings at the ends of the first guide grooves for the slide, such openings being adapted for the passage of connecting members between the slide and an outwardly arranged switch.

3,510,822
ELECTRICAL CONNECTORS
Edmund M. Patterson, P.O. Box 291, Somersworth, N.H. 03878
Filed Aug. 3, 1967, Ser. No. 658,217
Int. Cl. H01r *13/34, 17/08*
U.S. Cl. 339—14 5 Claims

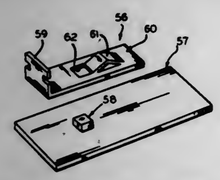
Junction boxes or like assemblies for connecting electrical wires in which an insulated body has a plurality

of guide openings into which the wires to be connected are inserted and are guided to the point of connection where they are joined by one or more externally ac-



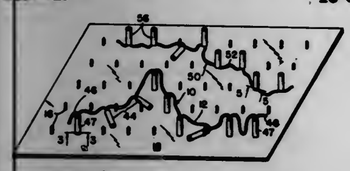
cessible fasteners. The insulated body is provided with bayonet type fittings for detachable connection to a switch assembly or wall outlet fixture.

3,510,823
FASTENER OR TERMINAL LUG DEVICE AND METHOD OF MAKING SAME
Joseph J. Cervenka, 428 E. Crescent, Elmhurst, Ill. 60126, and Marvin E. Hetzel, 177 Michaux Road, Riverside, Ill. 60546
Filed Apr. 29, 1968, Ser. No. 725,068
Int. Cl. H01r *9/20*; H05k *1/10*; F16b *37/02*
U.S. Cl. 339—17 18 Claims



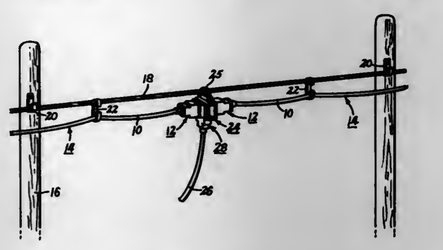
A fastener or terminal lug device for application to plastic bodies having one or more upstanding posts wherein the device includes a flat body with a raised portion and one or more holes adjacent the raised portion, whereby collapse of the raised portion reduces the hole size.

3,510,824
WIRING CHAIN OF INDEFINITE LENGTH
William M. Corns, Tiburon, Calif., assignor to Berg Electronics, Inc., New Cumberland, Pa., a corporation of Pennsylvania
Filed Dec. 26, 1967, Ser. No. 693,390
Int. Cl. H01r *15/04*, *11/08*
U.S. Cl. 339—29 16 Claims



The disclosure relates to a wiring chain for connecting electric contacts including a length of wire with disconnect terminals crimped thereto at regular intervals along the wire. Each terminal is insulated in a tight-fitting sheath of dielectric material with the disconnect portion thereof in alignment with one end of the sheath to permit the insulated terminal to be positioned on a contact pin. Because each terminal is fully insulated by a sheath the chain may be used to connect contact pins at any spacing and it is not necessary that each terminal in the chain be mounted on a pin.

3,510,825
PREFABRICATED COMMUNICATION LINE SYSTEM
Edward Clarke Quackenbush, Woodbridge, Conn., assignor to The Whitney Blake Company, New Haven, Conn.
Filed Jan. 30, 1968, Ser. No. 701,587
Int. Cl. H01r *11/00*
U.S. Cl. 339—29 4 Claims

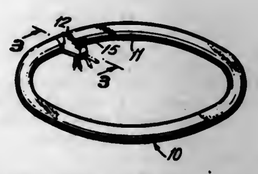


Disclosed herein is a prefabricated communication line system which eliminates the need for making splices and tap-off electrical connections in the field. The system comprises a plurality of predetermined lengths of communication cable having plugs at either end, electrically interconnected by a plurality of modular intermediate sockets. Both the plugs and sockets are made weather-tight and provided with strong mating housings for outdoor applications.

Terminals are provided in the intermediate sockets for connection of tap-off lines used as "drop-wires" or for the interconnection of repeaters or testing instrumentation with the system.

Interchangeable plugs are used on either end when the lengths of communication cable are long and heavy and difficult to manipulate. In such cases the terminals at either end of each intermediate socket and which interconnect the cable lengths are transpositioned to provide electrical continuity through the socket.

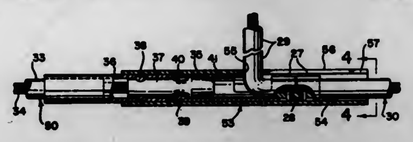
3,510,826
CONNECTOR FOR A LAMP
Alfred H. Soltan, 67—89 Clyde St., Forest Hills, N.Y. 11375
Filed Nov. 8, 1967, Ser. No. 681,440
Int. Cl. H01r *33/08*
U.S. Cl. 339—50 4 Claims



This invention is essentially concerned with a connector for fluorescent lamps, wherein a body has one region configured for complementary facing relation with a lamp, having contacts in the body for engagement

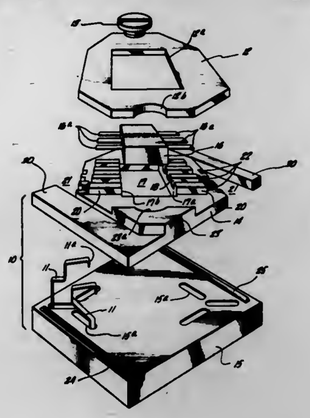
with terminals of the lamp with supply conductors extending from the body for connection to an electric source, and starter means encased in the body electrically connected to the contacts and supply conductors.

3,510,827
T-TAP CONNECTORS
Paul J. Spangler, University Heights, Ohio, assignor to ETC Incorporated, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 14, 1967, Ser. No. 682,917
Int. Cl. H01r *11/20*
U.S. Cl. 339—97 3 Claims



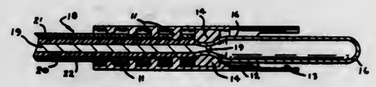
An electrical connector for joining the end of an accessory lead conductor to any portion of the length of a main line conductor. The connector comprises a conductive strip having a conductor engaging ferrule at each end. At least one of the ferrules is provided with insulation piercing prongs and is adapted to engage and pierce the insulation of the main line conductor. The remaining ferrule is adapted to permanently or temporarily retain an end of the accessory lead conductor. A cylindrical insulation sleeve having open ends and an aperture therein covers the connector so that the accessory lead extends from one end opening in the insulation sleeve, a portion of the main line extends from the other end opening in the sleeve, while another portion of the main line conductor extends from the aperture.

3,510,828
MICROCIRCUIT HARDWARE
Helmut Schwab, Altadena, and Stanley E. Beale, Duarte, Calif., assignors to Scanbe Manufacturing Corporation, Monterey Park, Calif., a corporation of California
Filed May 23, 1966, Ser. No. 552,136
Int. Cl. H01r *13/46*
U.S. Cl. 339—174 2 Claims



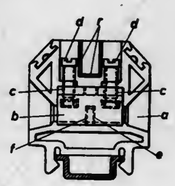
A microcircuit assembly system for direct wiring of microcircuit packages having a pair of electrically conductive mounting elements arranged for slidably receiving and holding a microcircuit package assembly therebetween and functioning as electrical conduits for powering the microcircuit packages held therebetween.

3,510,829
ELECTRICAL CONNECTOR
Joseph Richard Keller, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Original application Apr. 28, 1965, Ser. No. 451,394, now Patent No. 3,355,698, dated Nov. 28, 1967. Divided and this application Sept. 22, 1967, Ser. No. 669,738
Int. Cl. H01r *17/04*
U.S. Cl. 339—177 13 Claims



A coaxial connector crimpable onto inner and outer conductive members of a coaxial cable with only the inner conductive member being exposed, the connector comprises an open barrel ferrule member provided with spaced ribs for electrical engagement with the outer conductive member when the ferrule member is crimped onto the coaxial cable and a dielectric member carries a center contact which is crimped onto the inner conductive member through the dielectric member.

3,510,830
ELECTRICAL CONNECTORS
Friedrich Wieland, 14 Brennerstrasse, Bamberg, Germany
Filed Nov. 18, 1968, Ser. No. 776,433
Claims priority, application Germany, Mar. 9, 1968, W 45,839
Int. Cl. H01r *9/10*, *7/12*
U.S. Cl. 339—198 4 Claims

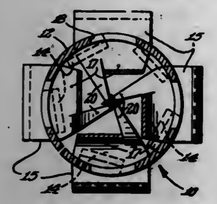


A "straight through" electrical connector having an insulating casing which is open on one side and is of an elastic synthetic plastics material. Clamping screws screw into a metal connector body located in the insulating casing. The casing is formed with webs which have holes through which the screws pass, the diameter of the holes being smaller than the major diameter of the screw threads. A fixing screw may be provided which passes through one of the holes and screws into the metal body.

3,510,831
SOLDER WELL TERMINAL WITH FINE WIRE RETAINING PRONGS
Albert P. De Vito, Niles, Ill., assignor, by mesne assignments, to Conalco Metals, Inc., a corporation of Delaware
Filed Apr. 17, 1968, Ser. No. 722,054
Int. Cl. H01r *11/06*, *11/22*
U.S. Cl. 339—258 12 Claims

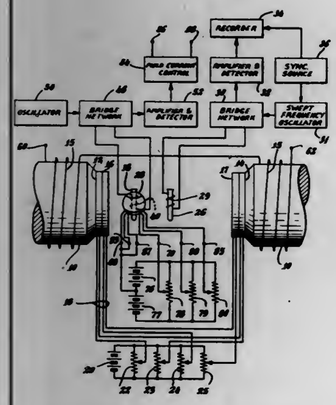
An electrical solder well terminal has a tubular body with an opening into one end receptive of an electrical wire thrust thereinto endwise. A set of elongated wire-retaining prongs on the body converge over and away

from the opening and have wire-gripping tip portions yieldably interdigitated about a wire-receiving vertex.



These prongs are extensive along the sides of wire-retaining fingers which extend therebeyond.

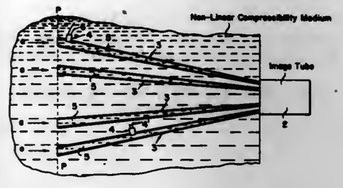
3,510,832
FIELD HOMOGENIZATION FOR A REFERENCE SAMPLE IN A LOCK-ON NUCLEAR MAGNETIC RESONANCE APPARATUS
Marcel J. E. Golay, Rumson, N.J., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Jan. 30, 1967, Ser. No. 612,627
Int. Cl. G01n *27/78*
U.S. Cl. 324—.5 7 Claims



A nuclear magnetic resonance apparatus having polarizing field homogenizing coils and a lock-on arrangement, includes means for homogenizing the field of a lock-on reference sample. A set of homogenizing coils representative of spherical harmonic functions is positioned at the reference sample and is adapted for homogenizing the polarizing field of the reference sample while causing insignificant disturbances of the homogenized test sample field.

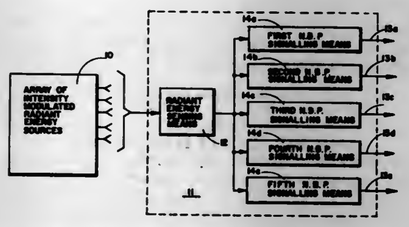
3,510,833
FREQUENCY CONVERSION IMAGING SYSTEM
William R. Turner, Chillum, Md., assignor to Vitro Corporation of America, New York, N.Y., a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 607,946
Int. Cl. G01v *1/00*; H04b *13/00*
U.S. Cl. 340—13 16 Claims

A communication or signal receptor system and method employing frequency conversion principle in a non-linear compressibility medium, in which low frequency variable acoustic energy, unsuitable by reason of its long wavelength for effective detection by electronic means, in sensors of limited size, is mixed with a steady high frequency ultrasonic signal generated in proximity of a



receptor to provide a modulated, high frequency signal acceptable by the receptor. The principle of the system may be broadly defined as parametric frequency conversion within a vibrational transmission medium, fluid, gaseous or solid.

3,510,834
OPTICAL LANDING SYSTEM
Tulvio S. Durand, Inglewood, Calif., assignor to Systems Technology, Inc.
Filed Dec. 27, 1966, Ser. No. 605,070
Int. Cl. G08g *5/00*
U.S. Cl. 340—27 14 Claims

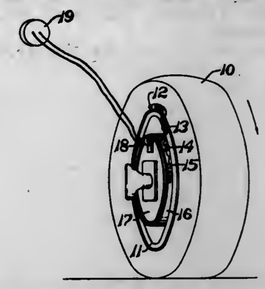


The subject invention relates to an optical positioning system employing an array of stacked beams of light energy, each beam being amplitude-modulated at a mutually exclusive modulation frequency. The system includes a receiver responsive to the light energy and comprising a plurality of tuned signalling channels, each tuned to a different one of the modulation frequencies for exciting an associated display indicator element. The display indicator elements are arranged in a like sequence and array as the corresponding modulated beams to which the indicator elements respond, whereby an indication is conveniently provided as to the location of the receiver within those ones of the stacked energy beams to which it responds.

3,510,835
TIRE TEMPERATURE ALARM SYSTEM
Harry Gilbert, Avenue B, Potomac Park, Cumberland, Md. 21502
Filed Mar. 6, 1967, Ser. No. 620,850
Int. Cl. B60q *1/00, 5/100*
U.S. Cl. 340—57 10 Claims

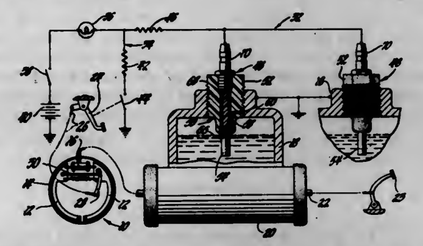
A system for warning the operator of a vehicle when a predetermined temperature of the vehicle tire has been reached or exceeded is provided. This system is composed of a temperature sensing device in contact with a portion of the tire, an electromagnet in combination with said sensing device and a power source such that when the sensing device is activated by a predetermined degree of

heat in the tire the electromagnet is activated and in turn through its magnetic field activates an induction coil at-



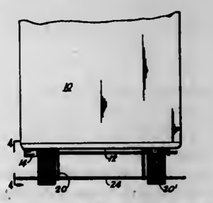
tached to the vehicle which in turn activates a warning device located near the operator.

3,510,836
FLUID LEVEL DETECTOR FOR VEHICLE BRAKE SYSTEMS AND THE LIKE
Raymond E. Summerer, Grand Blanc, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 603,846
Int. Cl. B60q *1/00*; G08b *21/00*
U.S. Cl. 340—59 12 Claims



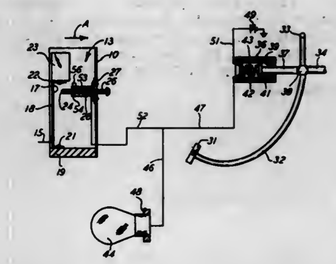
A fluid level detector incorporating a probe that extends into a grounded fluid reservoir and functions as a switch. The probe includes a thermistor and a thermistor heater joined together and arranged in parallel between a voltage source and the grounded fluid reservoir. The thermistor's resistance decreases due to its increase in temperature whenever the probe is no longer immersed in the fluid and the resultant increased current flow energizes a warning device. In a vehicle brake system the brake fluid level is sensed and, in addition, the same warning device advises when the parking brake is engaged.

3,510,837
VEHICLE BACK-UP WARNING DEVICE
William P. Lepore and Henry D. Lepore, both of 26 South St., Marlboro, Mass. 01752
Filed July 6, 1967, Ser. No. 651,444
Int. Cl. B60q
U.S. Cl. 340—61 5 Claims



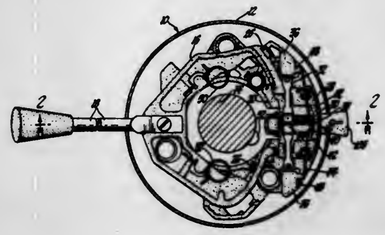
A device adapted to be secured to the rear of a vehicle to sound a horn or cause braking of the vehicle when the vehicle is moving in reverse and strikes an object.

3,510,838
VEHICLE FAST-STOP SIGNAL
Floyd E. Otto, 3508 Spring St., Racine, Wis. 53405
Filed Mar. 16, 1967, Ser. No. 623,664
Int. Cl. B60q *1/26*
U.S. Cl. 340—71 4 Claims



A vehicle fast-stop signal having a stop indicator lamp and an inertia switch, with both electrically connected to the stop light electric circuit of a vehicle. The inertia switch is arranged to move to a closed position upon deceleration of the vehicle, and the electric circuitry holds the switch closed as long as the vehicle brake mechanism is being applied and the electric circuit for the stop light is being energized. An electric switch in the vehicle stop signal circuitry is closed while the brake mechanism is being actuated, and this switch then maintains the inertia-actuated switch in the closed position, through enertia and a solenoid.

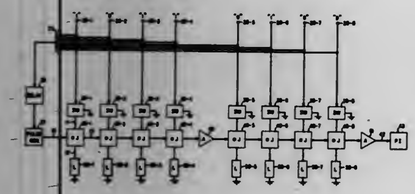
3,510,839
COMBINED DIRECTION SIGNAL AND HAZARD WARNING MECHANISM AND SWITCH STRUCTURE
Harold V. Elliott, Saginaw, Mich., and Willard E. Graddy, Anderson, and Daniel W. Hyden, New Castle, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 593,971
Int. Cl. B60q *1/38*
U.S. Cl. 340—81 4 Claims



A combined switch structure for selectively flashing left and right vehicle signal lamps for direction signaling purposes or simultaneously flashing left and right signal lamps for hazard warning purposes which includes stationary contacts extending through a base member and provided with contact surfaces on opposite sides of the base member for selective circuit closing engagement by movable contacts carried by a direction signaling actuator and a hazard warning actuator. Feedback between

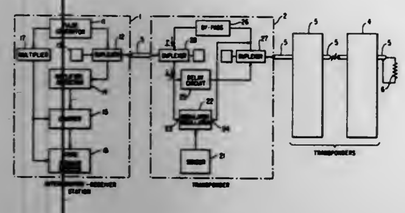
the two switches in the event of concurrent actuation of the switches is prevented through a cam and follower mechanism actuable by one of the switches to disable a portion of the other switch.

3,510,840
PARITY DETERMINING CIRCUIT USING A TANDEM ARRANGEMENT OF HYBRID JUNCTIONS
Eugene S. Page, Elon College, N.C., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Nov. 17, 1967, Ser. No. 683,948
Int. Cl. H03k 13/32
U.S. Cl. 340—146.1 12 Claims



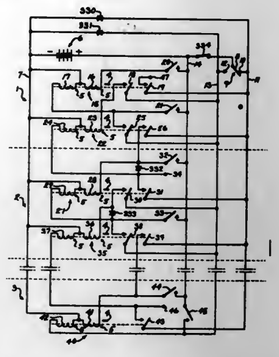
Errors may be detected in transmission systems by use of apparatus in which hybrid junctions, or the like, are utilized to sense a set of signal conditions within the system. An interrogation signal to known polarity is propagated through a tandem arrangement of junctions and the polarity of the resultant output signal is used to denote whether or not a proper set of conditions exists.

3,510,841
INTERROGATION SYSTEM FOR TRANSMITTING MEASUREMENTS WITH TIME-DIVISION MULTIPLEXING
Jean C. Lejon, Paris, France, assignor to Controle Bailey (Societe Anonyme), a French company
Filed June 2, 1967, Ser. No. 643,213
Claims priority, application France, June 8, 1966, 64,701
Int. Cl. H04q 9/14
U.S. Cl. 340—151 4 Claims



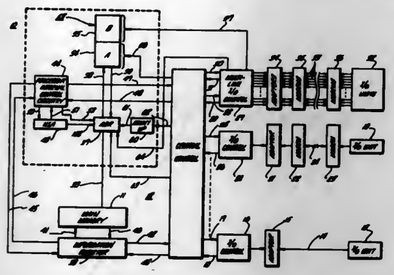
A system for transmitting measurements of physical quantities from a plurality of remotely located transponders to a central receiver station over a single transmission line is disclosed. A single interrogation pulse from the central receiver station triggers each transponder in sequence. Each transponder station upon being triggered transmits to the receiver station over the transmission line a signal corresponding in value to the measurement of the physical quantity to which the transponder is responsive.

3,510,842
RELAY TRANSFER SHIFT REGISTER MODULE
James N. Pearse, Menomonee Falls, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 28, 1963, Ser. No. 319,224
Int. Cl. G11c 19/00, 11/52
U.S. Cl. 340—168 3 Claims



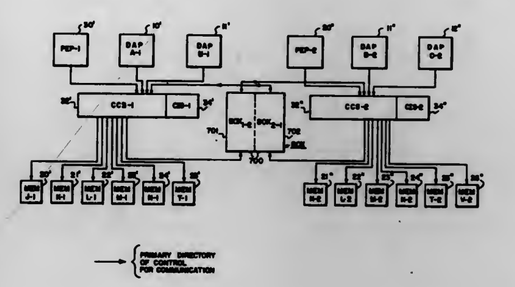
Each of the five shift registers comprise three or more modules. Each module transfers information with a relay having energizing and deenergizing windings to actuate its contacts. A similar relay provides the output for each module, and energizes and is deenergized by the transfer relay. The relays in the first embodiment have a pair of normally open contacts; those of the second and fourth, a single normally open contact; and those of the third, a pair of normally closed contacts. The first embodiment is also applied in a multidirectional shift register. The operation and structure of each is disclosed in detail.

3,510,843
DIGITAL DATA TRANSMISSION SYSTEM HAVING MEANS FOR AUTOMATICALLY DETERMINING THE TYPES OF PERIPHERAL UNITS COMMUNICATING WITH THE SYSTEM
James Russell Bennett, Glendora, and Robert D. Hewitt, Whittier, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 27, 1967, Ser. No. 626,064
Int. Cl. G06f 7/00
U.S. Cl. 340—172.5 2 Claims



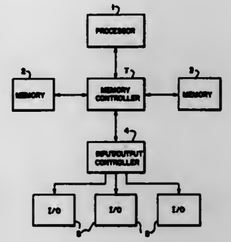
A digital data transmission system in which identification signals presented by line adapters associated with respective ones of a plurality of different types of input-output units are utilized to present to main memory of the system result descriptor words which identify the types of input-out units communicating with the system. The result descriptor words are formulated in response to commands presented to the input-output control units.

3,510,844
INTERPROCESSING MULTICOMPUTER SYSTEMS
Steven F. Arnnyi, Woburn, Mass., Jesse P. Barlow, Reseda, Calif., Ernest J. Porcell and Laszlo L. Rakoczi, Phoenix, Ariz., and Mark A. Torfeh, Tarzana, Calif., assignors to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 508,168, Nov. 16, 1965. This application July 27, 1966, Ser. No. 568,343
Int. Cl. G06f 13/00
U.S. Cl. 340—172.5 7 Claims



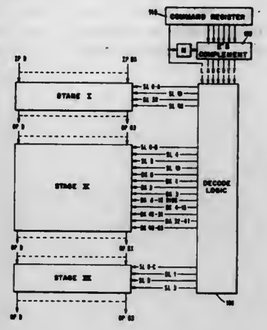
A pair of multicomputer systems is disclosed in each of which a central controller directs and schedules all communications between the processors and data storage members. Communication between a processor of one multicomputer system and the data storage member of the other is provided by intersystem coupling means interconnecting the central controllers of the two systems.

3,510,845
DATA PROCESSING SYSTEM INCLUDING PROGRAM TRANSFER MEANS
John F. Couleur, Phoenix, Philip F. Gudenschwager, Scottsdale, Richard L. Ruth and William A. Shelly, Phoenix, and Leonard G. Trubisky, Scottsdale, Ariz., assignors to General Electric Company, a corporation of New York
Filed Sept. 6, 1966, Ser. No. 577,376
Int. Cl. G06f 3/00
U.S. Cl. 340—172.5 13 Claims



A data processing system having a plurality of subsystems, including a data processor, a memory, and an input/output controller, the latter for connection to and control of a plurality of input/ouput devices. All of the subsystems communicate through a memory controller which acts as a communications hub for the transmission and receipt of information, including data, commands, instructions and codes.

3,510,846
LEFT AND RIGHT SHIFTER
Robert E. Goldschmidt, Hyde Park, Mass., and Don M. Powers, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 14, 1967, Ser. No. 653,575
Int. Cl. G11c 19/00
U.S. Cl. 340—172.5 6 Claims

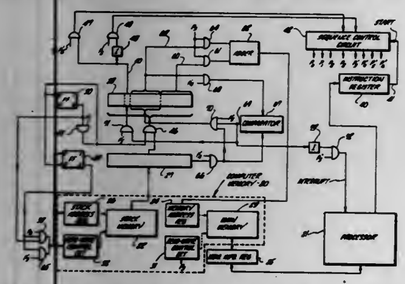


A digital shifter comprising several stages of logic, each of which shifts an input word of bit width X one of several possible amounts in a single direction to achieve a total shift of a desired amount in either direction. All actual shifting takes place in the stages in a single direction with an opposite direction shift being accomplished by single direction shifting an amount equal to the two's complement of the desired amount. Each stage includes a separate bank of AND gates and each bank is responsive to only one of a plurality of shift control inputs. The energized shift control input causes the input word to be passed through the corresponding bank of AND gates to the shifted output positions. The outputs of each bank of AND gates are wired to the stage output terminals to provide a wired-in shift of a given amount. In order to provide a TRUE logical shift of the input word, the input bits which would have been shifted out of the end of the shifter by a conventional shift register are blocked from the final output. All blocking occurs in the second stage in response to blocking control inputs which selectively block certain ones of the AND gates in the second stage. Since actual shifting takes place in only a single direction, the blocking controls block all bits shifted out of the shifter when the desired shift direction is the same as the actual shift direction. However, when the desired shift direction is the opposite of the actual shift direction, the blocking controls block all bits not shifted out of the end of the shifter.

3,510,847
ADDRESS MANIPULATION CIRCUITRY FOR A DIGITAL COMPUTER
Carl B. Carlson, Arcadia, Benjamin A. Dent, Altadena, and William M. McKeeman, Palo Alto, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 25, 1967, Ser. No. 670,031
Int. Cl. G06f 9/20
U.S. Cl. 340—172.5 15 Claims

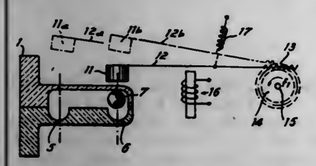
A source of descriptors is provided that reference data and programs stored in a computer memory. The data and programs are stored in memory cells grouped in arrays. Each descriptor includes a first field designating the base address value of an array in the memory, a second field designating either the length value of the entire array (for an array descriptor) or the index value of a cell in the array from the base address value (for a cell

descriptor) and a third field designating the nature of the second field, i.e., whether it is a length or an index value. When an instruction requiring access to the memory is received, the third field of the descriptor under consideration is inspected. If the third field designates that the second field contains an index value, the base address and index values of the descriptor are added together and the resulting absolute address is applied to the memory to access the cell denoted by the absolute address. If the third field designates that the second field contains a length value, an index value is retrieved from the source. This index value is substituted for the length value in the de-



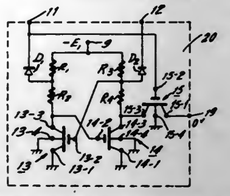
scriptor and the third field of the descriptor is modified to designate an index value in the second field. In essence, this converts the array descriptor to a cell descriptor. Thereupon, responsive to the same circuitry that develops the absolute address when the third field originally designates an index value in the second field, an absolute address is produced from the converted cell descriptor. Prior to converting the array descriptor to the cell descriptor in the latter case, the index value to be substituted in the array descriptor is compared with the length value of the array descriptor as a program check. If the length value is not larger than the index value, a program interrupt signal is generated.

3,510,848
NUMERICAL READ-OUT SYSTEM FOR A MOVING BODY
Raymond Becker, Montreuil, and Guy H. Lacan, Carrieres-sous-Bois, France, assignors to La Telemecanique Electrique, Nanterre, Hauts-de-Seine, France, a joint-stock company of France
Filed May 1, 1967, Ser. No. 635,000
Claims priority, application France, May 6, 1966, 60,675; Sept. 30, 1966, 78,431
Int. Cl. G11c *23/00*; G09f *9/40*
U.S. Cl. 340—173 14 Claims



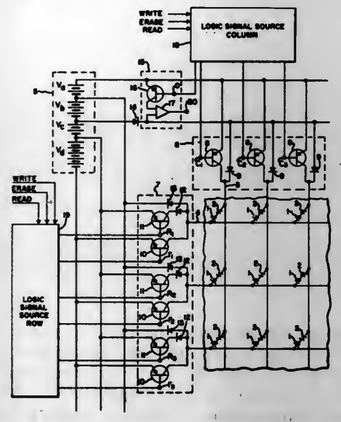
Numerical read-out system for a moving body comprising several mechanical memory devices placed side by side, a reading station and a recording station, without material contact, which is characterized in that each mechanical memory device is constituted by a block hollowed out into a conduit including two downwardly directed branches, each branch forming a receptacle for a movable mass capable of being transferred into the one or other branch, the immobilization of the mass in one branch or the other corresponding to a stable position to which is attributed a binary numerical significance.

3,510,849
MEMORY DEVICES OF THE SEMICONDUCTOR TYPE HAVING HIGH-SPEED READOUT MEANS
Ryo Igarashi, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan
Filed Aug. 8, 1966, Ser. No. 570,941
Claims priority, application Japan, Aug. 9, 1965, 40/48,377
Int. Cl. G11c *11/40, 5/02, 7/00*
U.S. Cl. 340—173 10 Claims



A semiconductor-type memory having memory cells arranged in a regular matrix of *m* rows and *n* columns. Each memory cell includes a bistable circuit, preferably utilizing field effect transistors. An additional field effect transistor associated with each memory cell bistable circuit is enabled when the readout row winding of its associated row is pulsed, to couple the output state of its bistable circuit to an associated sensing circuit, one sensing circuit being provided for each column of the matrix. The sensing circuit utilizes a semiconductor device maintained in its unsaturated state during readout and being coupled to receive a current from the field effect transistor associated with the row being read out and coupled to a memory cell so that the current passing therethrough yields a change in current in the sensing circuit representative of the state of the memory cell being read. The manner in which the semiconductor-type sensing circuit is coupled enables high-speed sensing of the memory state which is in the nanosecond range.

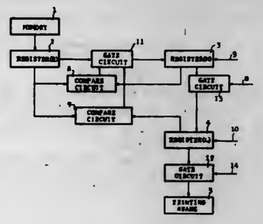
3,510,850
DRIVE CIRCUITRY FOR NEGATIVE RESISTANCE DEVICE MATRIX
Robert E. Glusick, Liverpool, and Richard D. Stewart, Camillus, N.Y., assignors to General Electric Company, a corporation of New York
Filed Apr. 30, 1968, Ser. No. 725,308
Int. Cl. G11c *11/36*
U.S. Cl. 340—173 10 Claims



Drive circuitry for a matrix of bistable devices having a negative resistance characteristic, said circuitry employed to selectively write and erase digital information by

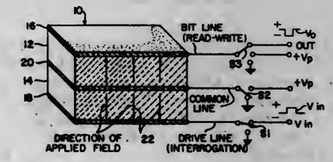
switching said devices between one of two stable operating states, and to read out stored data. The present circuitry substantially improves drive signal tolerances of matrix operation. More particularly, the present circuitry employs logic controlled semiconductor gates for selectively applying drive signals to said matrix in a manner whereby the signal magnitude differential applied to selected devices and commonly connected unselected devices is maximized and spurious responses readily avoided.

3,510,851
READOUT SYSTEM FOR NUMERICAL INFORMATION
Yukio Nakagome and Hiroichi Teramura, Tokyo-to, Tetsusaburo Kamibayashi, Niiza-machi, Kitaadachi-gun, and Naohiko Hattori and Sumitoshi Ando, Tokyo-to, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed Mar. 14, 1968, Ser. No. 713,038
Claims priority, application Japan, Mar. 20, 1967, 42/17,103
Int. Cl. G11c *2/00*
U.S. Cl. 340—173 3 Claims



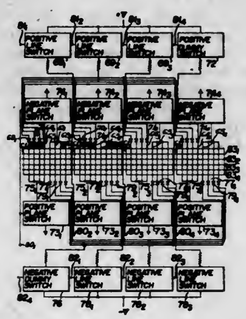
A system for reading out numerical information in a predetermined numerical order from a circulating memory, where a numerical signal which has the minimum difference from a predetermined one of lower and upper end limits of a range of the numerical information is detected, for each period of the grand cycle of the circulating memory, from numerical signals read out from the circulating memory. In accordance with numerical increase or decrease of the predetermined end limit at the initial time of each period of the grand cycle, a train of numerical information arranged in the increasing or decreasing numerical order is obtained by arranging successively the numerical signals detected as mentioned above.

3,510,852
FERROELECTRIC STORAGE CAPACITOR MATRICES
Peter G. Bartlett, Davenport, Iowa, and Joseph E. Meschi, Lyons, Ill., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,596
Int. Cl. G11c *11/22*
U.S. Cl. 340—173.2 12 Claims



Both apparatus and method are disclosed herein for applying binary signals to a ferroelectric storage capacitor matrix. Voltage levels of various values are applied to opposing surfaces of each memory means in a matrix. The values of these voltages are dependent upon the polarization potential required to polarize a memory means.

3,510,853
WORD DRIVE LINE ARRANGEMENT FOR CANCELLATION OF SPURIOUS NOISE
Norio Tanaka, Tokyo, Satoshi Negishi, Kawasaki-shi, and Einosin Itamura, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed May 10, 1967, Ser. No. 637,541
Claims priority, application Japan, May 14, 1966, 41/30,338; June 8, 1966, 41/36,563; Sept. 27, 1966, 41/63,188, 41/63,189, 41/63,190; Oct. 31, 1966, 41/71,618, 41/71,619, 41/71,620, 41/71,621, 41/71,622
Int. Cl. G11c *7/02, 11/06*
U.S. Cl. 340—174 14 Claims

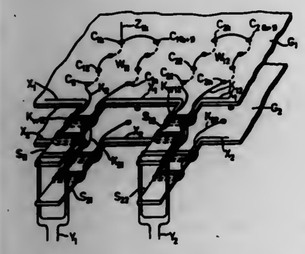


One of a plurality word lines juxtaposed on a memory plane is selectively driven concurrently with the selective driving of one dummy word line provided on the same memory plane whereby to generate voltages of opposite polarities or to pass currents in the opposite directions thus decreasing noise voltage induced in the output line by the word line.

3,510,854
MAGNETIC PLATE STORE WITH MAGNETIC ROD SWITCHES INTEGRAL WITH THE PLATE
Hermanes Johannus Maria de Haan, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 2, 1967, Ser. No. 657,951
Claims priority, application Netherlands, Aug. 3, 1966, 6610902
Int. Cl. G11c *5/04*
U.S. Cl. 340—174 4 Claims

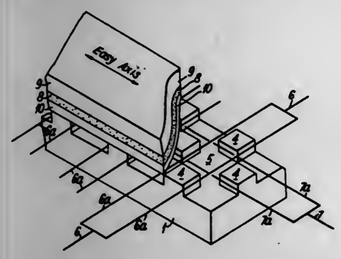
A magnetic information storage matrix employing a plurality of parallel apertured plates, each plate storing a number of words and each including a switching rod shaped extension at an edge for each word. The apertures comprising each particular word are serially linked by a common closed loop conductor which is wound a number of times around the rod shaped switching element associated with the particular word group. A further conductor is wound on the rod shaped element and is magnetically coupled thereto. The latter conductor is connected to other conductors on other rods in the same plane to form a row conductor. All of the rods in a single column from plate to plate are linked to form a

vertical conductor. Excitation of a particular row and column conductor will provide a word output. Individual



apertures within the word are each coupled to a control conductor for individual read-write control.

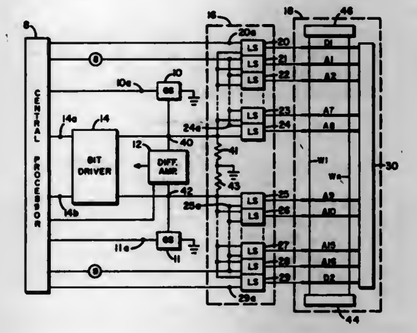
3,510,855
MAGNETIC STORAGE DEVICES
George Ansuris Howells, Bishop's Stortford, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 8, 1967, Ser. No. 666,323
Claims priority, application Great Britain, Oct. 11, 1966, 45,384/66
Int. Cl. G11c *11/08, 11/10*
U.S. Cl. 340—174 13 Claims



An arrangement of magnetic storage devices including a plate of low reluctance magnetic material has a plurality of equal sized, homogeneous, right quadrilateral prismatic projections, spaced one from another, arranged in columns and rows in a two-dimensioned array. The projections are aligned with their sides parallel to the axes of the columns and rows respectively, the projections in alternate columns alternating with right quadrilateral spaces each of which spaces exceeds in area the area of the base of any adjoining projection. A plane film of anisotropic magnetic material parallel to the plate has a so-called square loop hysteresis characteristic in the direction of the columns and a so-called linear loop characteristic in the direction of the rows upon a rigid film supporting member of nonmagnetic material.

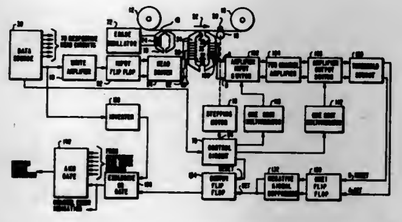
3,510,856
GROUNDING SWITCHES FOR DIFFERENTIAL SENSE AMPLIFIERS IN MEMORY SYSTEMS
James M. Cline, Fridley, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 29, 1968, Ser. No. 701,433
Int. Cl. G11c *7/02, 11/00, 11/14*
U.S. Cl. 340—174 3 Claims

A system of grounding switches that couple to ground both input terminals of a parallel coupled bit-driver, differential sense amplifier arrangement which arrangement is coupled to a memory system wherein the grounding switches, during the read and write cycles are normally in



the low impedance state, but are switched into a high impedance state only during the actual read-out and write-in of the memory system.

3,510,857
TAPE RECORDING ERROR CHECK SYSTEM
Charles J. Kennedy, Altadena, and Konrad L. Byler, Pasadena, Calif., assignors to J. C. Kennedy Company, a corporation of California
Filed June 16, 1967, Ser. No. 646,683
Int. Cl. G06k *5/00*; G11b *27/36*
U.S. Cl. 340—174.1 14 Claims

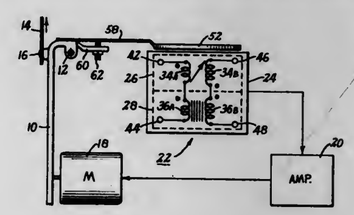


Data recorded on a magnetic tape is sensed during subsequent incremental advancement and applied to opposite channels wherein it is amplified and applied to a bistable device, the state of which is changed by sense reversals of the tape magnetization. A signal condition corresponding to the state of the bistable device is compared with the data input to the recorder to verify the recorded data. Amplification circuitry in the opposite channels is isolated from associated circuitry to prevent the false sensing of stray signals, and the system provides an error indication if the sensed recording is below a predetermined threshold value.

3,510,858
FORCE-BALANCE INSTRUMENT WITH ELECTRICAL DETECTOR ARRANGEMENT
Allan L. Flanagan, Attleboro, Mass., assignor to The Foxboro Company, Foxboro, Mass.
Filed Sept. 8, 1967, Ser. No. 666,421
Int. Cl. G05f *1/14*; G08c *25/00*
U.S. Cl. 340—187 8 Claims

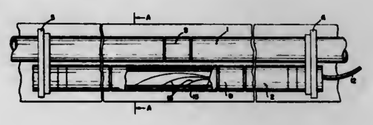
A force-balance instrument providing a direct-current output signal corresponding to the magnitude of a condition being measured, the instrument including a magnetic detector for sensing any unbalance of forces and

comprising two winding sets each including two windings coupled together by a respective flux path defined by a corresponding magnetic core structure, the first core structure having pole pieces forming an air gap facing away from the second core structure so as to receive a control member adapted for movement towards and away from



the air gap without encountering mechanical interference from the second core structure, the windings on that other core structure serving as a temperature compensating circuit for the windings on the first core structure, both sets of windings being coupled to an amplifier to produce a motor current for maintaining a balance of forces in the instrument.

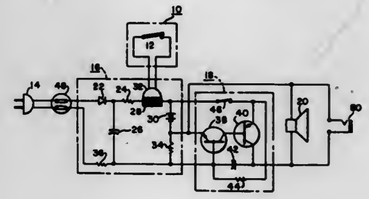
3,510,859
DISPLACEMENT MEASURING DEVICE
David M. Makow, Ottawa, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed June 5, 1967, Ser. No. 643,630
Int. Cl. G08c *19/10*
U.S. Cl. 340—200 2 Claims



A length measuring device consisting of four parallel rods whose center-lines lie on the corners of a square. A first pair of adjacent rods have formed on their surfaces, a series of equal length cylindrical capacitive elements isolated from each other electrically and which are connected to a source of linearly stepped voltage levels. The other pair of rods which are moveable in relation to the first pair of rods have pick-up capacitive elements formed on their surfaces which pick-up a voltage whose level is directly related to the position of the pick-up elements in relation to the capacitive elements on the first pair of rods. The apparatus incorporates a comparing circuit to provide the necessary output reading and which is adapted to take a first reading employing a first pair of diagonally positioned rods and a second reading using the other pair of diagonally positioned rods. The mean value of the two readings gives a very precise reading of displacement.

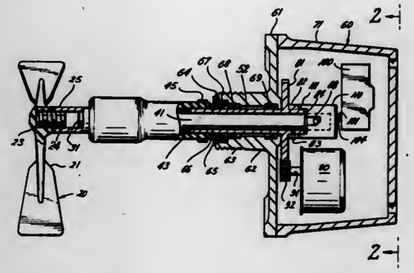
3,510,860
ALARM SYSTEM
Ralph E. Christman, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 25, 1966, Ser. No. 597,011
Int. Cl. F25b *49/00*; G08b *21/00*; H02i *7/04*
U.S. Cl. 340—227.1 2 Claims

A battery powered freezer failure alarm system in which the normal line power maintains the battery charged through a trickle charger, and a transistorized oscillator is biased to cut off during the charging. Time delay means are provided for preventing interruption of trickle charging current during momentary line power failures, and the temperature responsive switch has a



circuit position between the time delay means and the battery to provide for immediate interruption of trickle charging current upon opening of the temperature responsive switch.

3,510,861
BIN LEVEL INDICATOR
Donald J. McIver, Houston, and Russell D. McClaid, Jr., Brenham, Tex., assignors, by mesne assignments, to Keystone Valve Corp., Houston, Tex., a corporation of Texas
Filed Nov. 7, 1967, Ser. No. 681,229
Int. Cl. G08b *21/00*
U.S. Cl. 340—246 5 Claims

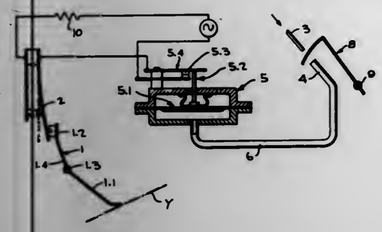


A device for indicating the level of material within a container. Rotatable and flexible vanes are connected to a shaft. This shaft is telescoped within a sleeve, both the shaft and sleeve being caused to rotate by a motor-gear arrangement. Switch trip means are provided to activate a switch, on the vanes encountering sufficient resistance, and thereby causing the sleeve and shaft to have a differential rotation.

3,510,862
SIGNALLING MEANS FOR USE WITH A MOVING TENDER
Charles C. Bell, Warwick, and Kurt W. Niederer, Saunderstown, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Mar. 28, 1967, Ser. No. 626,503
Int. Cl. G08b *21/00*; B65h *25/30*
U.S. Cl. 340—259 5 Claims

A sensing system for detecting a yarn strand in a textile operation comprises in combination: a yarn feeler and electrical signaling means in operable association, an air jet and air receiver in operable association with a registration vane, and a fluid pressure transducer in fluid communication with the air receiver. The electrical signaling

means and transducer are connected in series. The yarn feeler, signaling means, and fluid system are mounted on a patrolling tender for controlling a textile operation. The registration vane is on the textile unit being controlled by

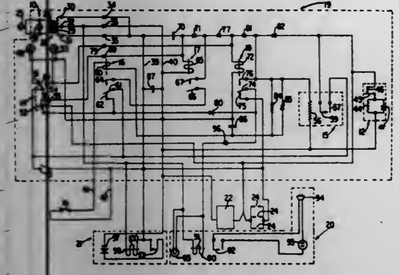


the tender. The yarn sensing system will detect the absence of a yarn strand in the textile operation but will only stop the patrolling tender if the yarn strand is missing at a work station as signified by fluid flow and the registration vane.

3,510,863
APARTMENT ALARM

John E. McBrian, Upper Saddle River, N.J., assignor, by mesne assignments, to Walter Kidde & Company, Inc., Belleville, N.J., a corporation of New York

Filed Mar. 29, 1967, Ser. No. 626,802
Int. Cl. G08b *13/08*
U.S. Cl. 340—276 7 Claims



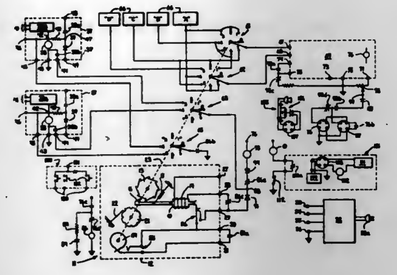
An alarm apparatus for protecting the door of an apartment or the like including a single-pole double-throw relay for operating an alarm device instantly upon opening of the door in one mode of operation and including other single-pole relays which in a second mode of operation with the first relay to form a logic circuit which is actuated by opening and closing the door in exiting from the apartment and places the apparatus in condition to respond to a subsequent opening of the door to initiate an alarm and which also includes an electrical time delay unit associated with the alarm device to permit the apparatus to be turned off by a key operated switch before the alarm is sounded.

3,510,864
PAGING ENCODER

Ramsey H. McDonald, P.O. Box 565, Richmond, Ind. 47374

Filed Aug. 17, 1967, Ser. No. 661,300
Int. Cl. H04m *11/02*
U.S. Cl. 340—311 5 Claims

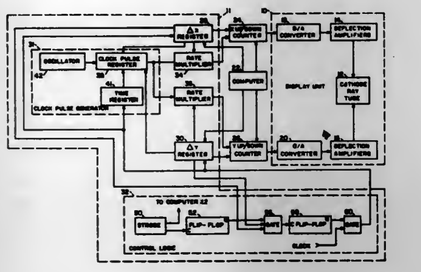
An apparatus for receiving and storing a plurality of paging signals, encoding the paging signals into a tone sequence code and operating a radio transmitter to broadcast the tone sequence codes to activate a plurality of portable paging receivers, each receiver being responsive to only one tone sequence code.



3,510,865
DIGITAL VECTOR GENERATOR

Thomas T. Callahan, Concord, Allen J. Worters, Newton, and Domenic A. Zambuto, Norwell, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 593,193, Nov. 9, 1966. This application Jan. 21, 1969, Ser. No. 792,509
Int. Cl. H01j *29/70*; G09f *9/00*
U.S. Cl. 340—324 9 Claims



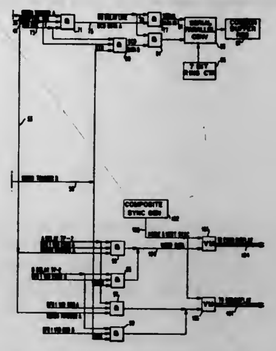
A digital vector generator employing a source of digital signals representing the starting point, direction and length of the vector to be displayed on a cathode ray tube (CRT). Digital logic converts the direction and length signals into pulse trains having varying time scales and varying numbers of pulses, both of which are substantially proportional to the vector length. The pulse train is combined with the starting point signals and converted to an analog signal for display on the CRT.

3,510,866
REVERSE SCANNING SYSTEM

Harvey E. Kronick, Kingston, Charles E. Newcomb, Woodstock, and Sidney Singer, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed May 27, 1966, Ser. No. 553,494
Int. Cl. G09f *9/00*
U.S. Cl. 340—324 7 Claims

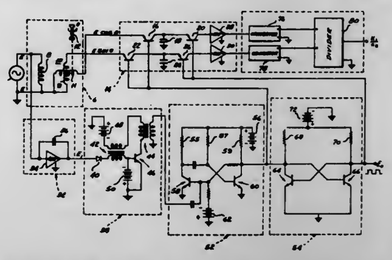
A display system includes one or more cathode ray tubes in which characters are generated in a vertical scanning sequence from video data stored on a delay line buffer. The delay line buffer format includes video data for a second cathode ray tube display stored in the columnar space between characters, and binary coded character data stored adjacent to its associated video in the normally blank space between characters. When the first character or column of characters has been generated by a series of vertical scans, the beam is positioned to begin the next character sequence.



3,510,867
CONVERTER

Robert A. Sliwa, Nutley, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Feb. 15, 1966, Ser. No. 527,703
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 9 Claims



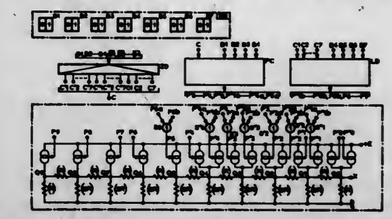
A converter including a signal device having an angularly displaceable element and energized by a voltage source for providing two zero crossing alternating signals varying as the sine and cosine of the angular displacement. The signals are sampled at a time other than zero crossover for providing the sine and cosine signals independent of energizing voltage irregularities.

3,510,868
NON-LINEAR DECODER

André Edouard Joseph Chatelon, Montrouge, Hauts-de-Seine, France, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 8, 1966, Ser. No. 577,896
Claims priority, application France, Sept. 15, 1965, 31,509
Int. Cl. H03k *13/04*
U.S. Cl. 340—347 7 Claims

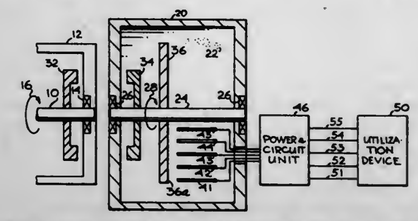
A non-linear PCM decoder wherein the digits of a code group to be decoded are first stored in stages of a register. A preliminary decoder is coupled to the stages of the register storing the x most significant weight digits of the code group to provide a first control signal indicating the straight line segments of the input-output characteristic which are represented by the stored code group. A first signal generator coupled to the preliminary decoder and the stages of the register storing the most significant weight digits of the code group acts to produce a second control signal indicating the lowest voltage of the segments. A second signal generator operated responsive to said first control signals and the stages of the register storing the m least significant weight digits of the code group to produce a third control signal indicating a position along the segment indicated by the second control signal. A ladder attenuator and current generators are provided which respond to the second and third control signals to produce the analog signal represented by the stored code group at the output of the attenuator.



3,510,869
GASEOUS DISCHARGE POSITION DIGITAL ENCODER

Otto R. Heine, 1418 Butler St., Los Angeles, Calif. 90025

Filed Dec. 19, 1966, Ser. No. 603,041
Int. Cl. G08c *9/00*
U.S. Cl. 340—347 9 Claims



A gaseous discharge position digital encoder is disclosed in which a rotatable or movable coded member having coded conductive and nonconductive surface portions is mounted in a gas-tight container filled with a gas which breaks down or discharges to provide a virtual short when subjected to a sufficiently high potential difference. Electrical probes are also positioned within the container. For each position of the coded member, different probes are closest to conductive surface portions providing a sufficiently high potential difference thereacross, so that the gas thereat breaks down, shorting the probes to the disc and thereby providing a signal of a first potential value while probes near nonconductive surface portions are not shorted providing a signal of a different potential value.

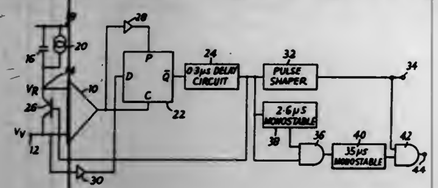
3,510,870
SECONDARY RADAR TRANSPONDERS

Geoffrey George Woollvin, Harlow, Essex, England, assignor to A. C. Cossor Limited, Harlow, Essex, England

Filed Mar. 14, 1969, Ser. No. 807,241
Int. Cl. G01s *9/56*
U.S. Cl. 343—6.8 5 Claims

In a secondary radar transponder it is well known to check the relative amplitudes of successive pulses by using the first pulse to charge a capacitor. The decaying

potential across the capacitor establishes a reference level with which the next pulse is compared. The improvement according to the invention enables the width of pulses

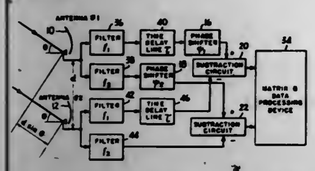


also to be checked. Thus a delay circuit is triggered when the input video level exceeds the reference level and provides an output pulse at the end of its delay period only if the input video level still exceeds the reference level.

3,510,871
RADIO DETECTION APPARATUS

Masaru Watanabe, Tetsuo Tamana, and Norihide Eguchi, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan

Filed July 10, 1968, Ser. No. 743,890
Claims priority, application Japan, July 12, 1967, 42/44,838
Int. Cl. G01s *91/02, 7/30*
U.S. Cl. 343—16 7 Claims



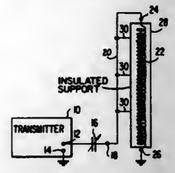
At least two antenna elements of the same radiation characteristics disposed in a common vertical plane are spaced away from each other by a distance greater than one half an operating wavelength and one of them periodically transmits radio frequency pulses, each of which consisting of a plurality of continuous radio-frequency pulses having different frequencies and a common duration. An echo received by all the antenna elements is divided into pulses having the different frequencies. These pulses are suitably time-delayed to cause them to coincide in time with one another and then shift in phase angle by predetermined different magnitudes. For each frequency a vectorial subtraction is effected with the pulses to form a multiple-lobed directional pattern. The patterns are combined in pairs together to cause a selected lobe in one of each pattern pair to coincide with a selected lobe in the other of that pair at a specified angle of elevation with the coinciding lobes different in angle of elevation from one to another combination of patterns. The main lobes thus formed are arranged to cover partly or entirely a space to be searched.

3,510,872
COMPACT HIGH FREQUENCY TRANSPORTABLE SPECIAL ANTENNA SYSTEM

John H. Mullaney, Potomac, Md., assignor to Multronics, Inc., Rockville, Md., a corporation of Maryland

Filed Dec. 16, 1966, Ser. No. 602,310
Int. Cl. H01q *1/36*
U.S. Cl. 343—745 10 Claims

This invention relates to an electrically short antenna in relation to its physical dimensions for operation in the frequency range from 2 to 30 megahertz (mHz.). The antenna system contemplated by the subject invention comprises a hybrid type of antenna utilizing a collapsible helical antenna element top fed by the folded-unipole method of feed whereby a feed fold is proximately located outside of, substantially parallel to, and longitudinally of the helical antenna element with the helical antenna element coupled to one end of the feed fold while the other

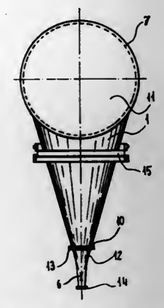


end thereof is capacitively coupled to a source of radio frequency signal energy. The subject invention acts substantially as a point source of radio frequency and provides an omni directional radiation pattern in both the horizontal and vertical planes.

3,510,873
HORN-REFLECTOR ANTENNA

Sergio Trevisan, Milan, Italy, assignor to Comelit-Compagnia Elettronica Italiana, S.p.A., Milan, Italy

Filed Oct. 12, 1966, Ser. No. 586,108
Claims priority, application Italy, Oct. 18, 1969, 23,170/65
Int. Cl. H01q *13/00*
U.S. Cl. 343—784 4 Claims



This invention relates to a horn reflector antenna having a conical horn, a parabolic reflector and a cylindrical mouth and formed by a double-walled panel constituted by two layers of reinforced synthetic resin with interposed insulating material, the inner surface of the panel being metallized, said antenna being constituted by two constructional units, the first unit consisting essentially of said horn and the second unit comprising said parabolic reflector and said mouth. The first unit may be a truncated cone and the second unit consisting of a conical portion, the parabolic reflector and the cylindrical mouth, each of the two units being molded in a single piece.

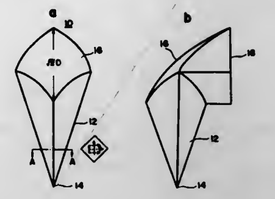
3,510,874
PYRAMIDAL HORN REFLECTOR ANTENNA

Yoshihiro Takeichi, Motoo Mizusawa, and Takashi Katagi, Kamakura, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan

Filed June 23, 1967, Ser. No. 648,299
Claims priority, application Japan, July 2, 1966, 41/42,875
Int. Cl. H01q *13/00*
U.S. Cl. 343—786 3 Claims

The disclosed horn reflector antenna includes a parabolic reflector having an axis of revolution parallel to

one of diagonals of a cross section of the horn involved. Its vertical and horizontal radiation patterns each have

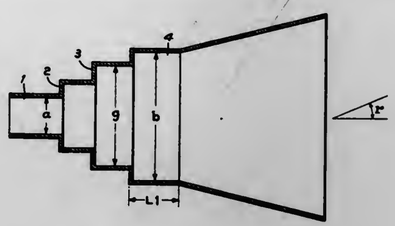


a beam width scarcely affected by the polarization direction and include considerably low side lobes.

3,510,875
MULTIMODE HORN

Daniel Edmond Beguin, Saint-Prix, France, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed July 9, 1968, Ser. No. 743,499
Claims priority, application France, July 20, 1967, 114,931
Int. Cl. H01q *13/02*
U.S. Cl. 343—786 2 Claims



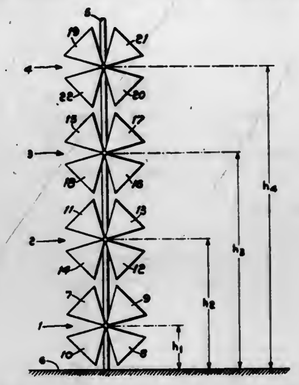
An H plane multimode horn comprises a section of waveguide which propagates the dominant mode H_{10}, a second section of wave guide connected to said first section which propagates modes H_{20} and H_{10}, a phasing section connected to said second section which propagates modes H_{10}, H_{20} and H_{30} and a horn connected to said phasing section. The length of said phasing section is such that the phase difference between the H_{10} and H_{30} modes is approximately 0 at the center of the horn mouth and the phase difference between $(H_{10}+H_{30})$ and H_{20} are substantially 0 and 180° for positive and negative radiation angles which are respectively measured in the H plane with respect to the central axis.

3,510,876
VERTICAL BEAM STEERING ANTENNA SYSTEM

Joseph A. Green, Adelphi, and Richard D. Wright, Hyattsville, Md., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed June 29, 1967, Ser. No. 649,983
Int. Cl. H01q *21/00*
U.S. Cl. 343—798 16 Claims

An antenna system for providing vertical beam steering which is substantially frequency insensitive utilizing no dissipative elements, thereby achieving a higher efficiency. The antenna system comprises at least one pair of angularly oriented bisecting antennas inclined at substantially equal angles with respect to the ground plane. This configuration simulates virtual horizontal and vertical radiators when signals which are complex conjugates

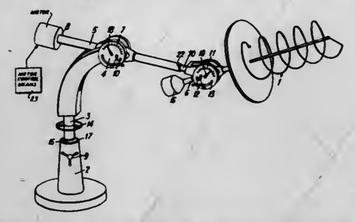


of each other which are applied to the angularly oriented antennas to provide the desired vertical beam steering.

3,510,877
ANTENNA POSITIONING DEVICE FOR FOLLOWING MOVING BODIES

Jean Emile Turriere, Paris, France, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 7, 1967, Ser. No. 666,161
Int. Cl. H01q *3/00*
U.S. Cl. 343—760 7 Claims

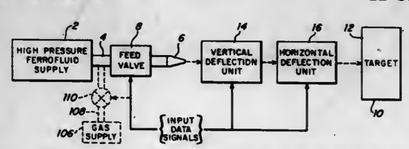


Apparatus for positioning an antenna to follow a moving body such as an earth satellite by means of a single motor. Two arm members are hingedly secured to a vertically oriented rotatable member. The antenna is mechanically coupled to one end of one of the arms. The other of the arms is coupled to a motor for rotating said other arm about its longitudinal axis.

3,510,878
OSCILLOGRAPHIC WRITING SYSTEM

Clark E. Johnson, Jr., Weston, Mass., assignor to Vibrac Corporation, Chelmsford, Mass., a corporation of Massachusetts

Filed Apr. 2, 1968, Ser. No. 718,167
Int. Cl. G01d *9/40*
U.S. Cl. 346—1 12 Claims

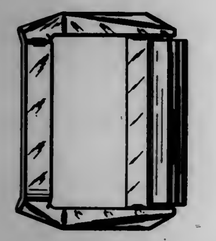


An oscillographic writing system employing a stream of ferrofluid ink directed at a writing surface and means providing a gradient magnetic field for deflecting the stream to produce a predetermined writing pattern.

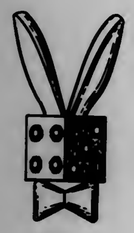
DESIGNS

MAY 5, 1970

217,418
BUCKLE
Albert Bliss, 1737 N. Orange, Hollywood, Calif. 93646
Filed May 24, 1968, Ser. No. 12,067
Term of patent 7 years
Int. Cl. D2—*08*
U.S. Cl. D2—447



217,419
TIE TACK OR SIMILAR ARTICLE
Italo Rotondo, 59 Smart St., Providence, R.I. 02904
Filed Dec. 16, 1968, Ser. No. 14,997
Term of patent 14 years
Int. Cl. D2—*08*
U.S. Cl. D2—419



217,420
CUFF LINK
Homer J. Shafer, 2300 Park Ave. W., Mansfield, Ohio 44906
Filed Jan. 27, 1969, Ser. No. 15,506
Term of patent 14 years
Int. Cl. D2—*08*
U.S. Cl. D2—422



217,421
HAT
Stewart D. Hicks, P.O. Box 15246, Sarasota, Fla. 33578
Filed Apr. 30, 1969, Ser. No. 16,962
Term of patent 14 years
Int. Cl. D2—*03*
U.S. Cl. D2—248



217,422
SHIRT
Norman L. Traeger, Columbus, Ohio, assignor to Varsity House, Inc., Columbus, Ohio, a corporation of Delaware
Filed May 7, 1969, Ser. No. 17,048
Term of patent 14 years
Int. Cl. D2—*01*
U.S. Cl. D2—46



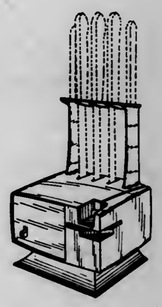
217,423
LEASH CHAIN WITH WRIST CLIPS
Willie F. Thompson, 2528 Highland St., Kansas City, Mo. 64108
Filed July 7, 1969, Ser. No. 18,080
Term of patent 14 years
Int. Cl. D2—*99*
U.S. Cl. D2—452



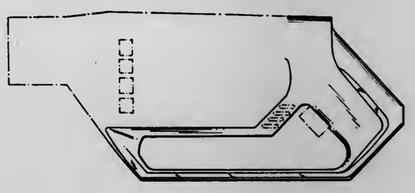
217,424
PAIR OF SCISSORS
Seymour S. Sorrell, Elizabeth, N.J., assignor to Pentapco, Inc., Elizabeth, N.J., a corporation of New Jersey
Filed July 18, 1968, Ser. No. 12,824
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—53



217,425
KNIFE SHARPENER
Alfred W. Madl, Glendale, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 8, 1969, Ser. No. 15,247
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—63



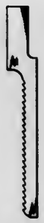
217,426
PORTABLE BORING MACHINE
Erich Hans Slany, Esslingen-Zell, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany, a firm
Filed Jan. 9, 1969, Ser. No. 15,274
Claims priority, application Germany July 9, 1968
Term of patent 7 years
Int. Cl. D8—*02*
U.S. Cl. D8—61



217,427
PORTABLE GRINDING MACHINE
Erich Hans Slany, Esslingen-Zell, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany, a firm
Filed Jan. 9, 1969, Ser. No. 15,273
Claims priority, application Germany July 9, 1968
Term of patent 7 years
Int. Cl. D8—*02*
U.S. Cl. D8—62



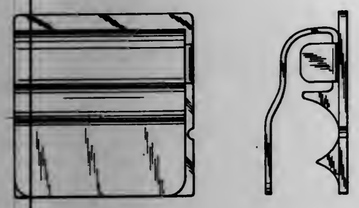
217,428
SCROLL SABER SAW BLADE
Phillipp J. Quedens, Newington, Conn., assignor to The Capewell Manufacturing Company, Hartford, Conn., a corporation of Connecticut
Filed Nov. 25, 1968, Ser. No. 14,648
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—70



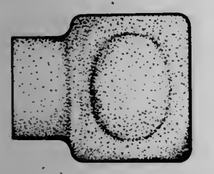
217,429
KITE STRING REEL
Donald B. Parsons, P.O. Box 4985, Santa Fe, N. Mex. 87501
Filed Jan. 27, 1969, Ser. No. 15,528
Term of patent 7 years
Int. Cl. D8—*03*
U.S. Cl. D8—220

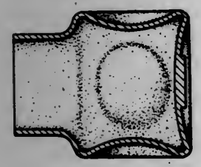


217,430
CONFECTIONER'S SPLITTING TOOL
Clayton H. Ericson, 2325 Winnetka Ave. N., Minneapolis, Minn. 55427
Filed Feb. 3, 1969, Ser. No. 15,596
Term of patent 14 years
Int. Cl. D8—02
U.S. Cl. D8—98

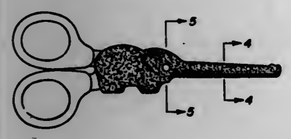


217,431
DOOR KNOB
Fred J. Russell, South Gate, Calif., assignor to Norris Industries, Inc., Los Angeles, Calif., a corporation of California
Substituted for abandoned design application Ser. No. 9,960, Dec. 28, 1967. This application Jan. 10, 1969, Ser. No. 15,300
Term of patent 14 years
Int. Cl. D8—03
U.S. Cl. 147—D8

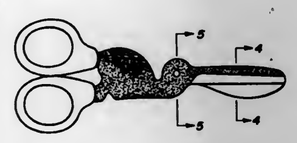




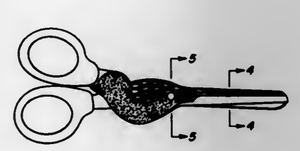
217,432
PAIR OF SCISSORS
Seymour S. Sorrell, Elizabeth, N.J., assignors to Pentapco, Inc., Elizabeth, N.J., a corporation of New Jersey
Filed Mar. 12, 1969, Ser. No. 16,193
Term of patent 14 years
Int. Cl. D8—02
U.S. Cl. D8—53



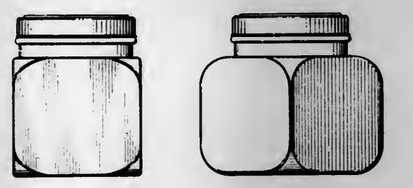
217,433
PAIR OF SCISSORS
Seymour S. Sorrell, Elizabeth, N.J., assignor to Pentapco Inc., Elizabeth, N.J., a corporation of New Jersey
Filed Mar. 12, 1969, Ser. No. 16,203
Term of patent 14 years
Int. Cl. D08—02
U.S. Cl. D8—53



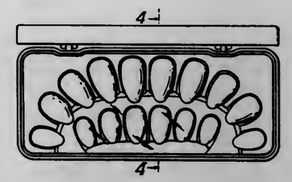
217,434
PAIR OF SCISSORS
Seymour S. Sorrell, Elizabeth, N.J., assignor to Pentapco Inc., Elizabeth, N.J., a corporation of New Jersey
Filed Mar. 12, 1969, Ser. No. 16,214
Term of patent 14 years
Int. Cl. D8—02
U.S. Cl. D8—53



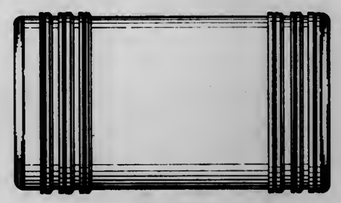
217,435
JAR
David William Wire, 26A Fellows Road, London, NW 3, England
Filed Oct. 23, 1967, Ser. No. 10,736
Claims priority, application Great Britain June 2, 1967
Term of patent 14 years
Int. Cl. D9—01
U.S. Cl. D9—164



217,436
COMBINED CONTAINER AND ARTIFICIAL FINGERNAILS
Eric V. Aylott, 58–60 Bridge Road E., Welwyn Garden City, England
Filed July 16, 1968, Ser. No. 12,794
Claims priority, application Great Britain May 13, 1968
Term of patent 14 years
Int. Cl. D9—04
U.S. Cl. D9—187

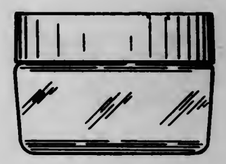


217,437
CARGO CARRIER FOR A PNEUMATIC TUBE
George R. Cook and Gerrard Pero, Rochester, N.Y., assignors to Cutler Mail Chute Company, Rochester, N.Y., a corporation of New York
Filed Dec. 6, 1968, Ser. No. 14,823
Term of patent 14 years
Int. Cl. D9—07
U.S. Cl. D9—171



217,438
JAR OR THE LIKE
Sara L. Balbach, Corning, Richard W. Greger, Elmira, and Allen J. Samuels, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Continuation-in-part of design applications, Ser. No. 10,692, and Ser. No. 10,698, both Feb. 23, 1968. This application Dec. 10, 1968, Ser. No. 14,862
Term of patent 14 years
Int. Cl. D9—01
U.S. Cl. D9—154

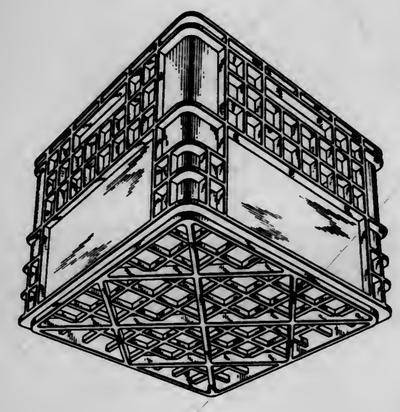




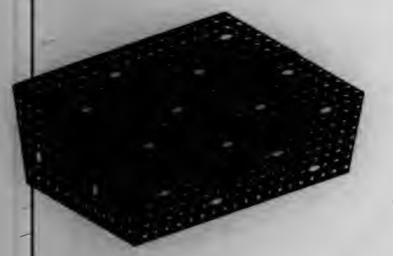
217,439
BOTTLE
Richard L. Platte, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Delaware
Continuation-in-part of design application Ser. No. 11,010, Mar. 18, 1968. This application Feb. 5, 1969, Ser. No. 15,652
Term of patent 14 years
Int. Cl. D9—01
U.S. Cl. D9—44



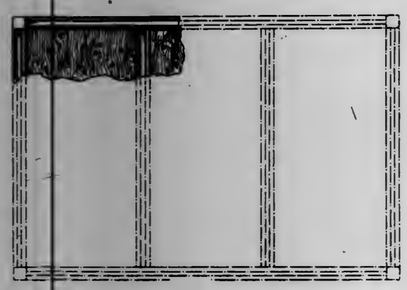
217,440
MILK CASE
Howard Hyland McIlvain, Cincinnati, Ohio, assignor to Borden, Inc., New York, N.Y., a corporation of New Jersey
Filed Jan. 15, 1969, Ser. No. 15,365
Term of patent 14 years
Int. Cl. D9—04
U.S. Cl. D9—177



217,441
CONTAINER FOR FOOD
Amos R. Kanaga, P.O. Box 1033, San Mateo, Calif. 94403
Filed June 28, 1968, Ser. No. 12,548
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—232



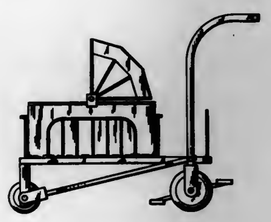
217,442
COMBINED PANEL AND MOLDING ASSEMBLY
Vernon H. Jones, Cuyahoga Falls, Ohio (2553 Falmouth Road, Akron, Ohio 44313)
Filed Jan. 22, 1969, Ser. No. 15,452
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D13—1



217,443
BUILDING
Gene Bubay, Pittsburgh, Pa., assignor to Potpourri, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 17, 1969, Ser. No. 18,240
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



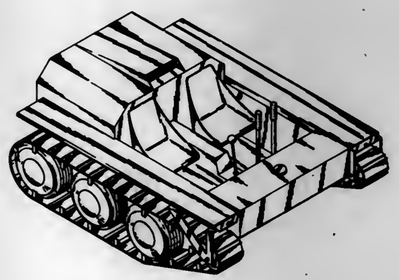
217,444
WHEELED CARRIER
Leo Stein, P.O. Box 1063, F.D.R. Station, New York, N.Y. 10022
Filed Nov. 22, 1968, Ser. No. 14,592
Term of patent 14 years
Int. Cl. D12—*02*
U.S. Cl. D14—3



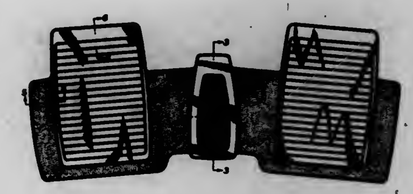
217,445
SNOWMOBILE
Roger B. Swanson, Dunnell, and Alan B. Eke, Mankato, Minn., assignors to Innovar, Inc., Dunnell, Minn., a corporation of Minnesota
Filed Mar. 5, 1969, Ser. No. 16,049
Term of patent 14 years
Int. Cl. D12—*13*
U.S. Cl. D14—24



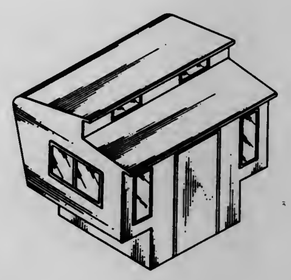
217,446
ALL TERRAIN MOTOR VEHICLE
Allen E. Mitchell, 710B West Arrow Hwy., and James L. Britain, 245 W. 7th St., both of Upland, Calif. 91786
Filed Mar. 21, 1969, Ser. No. 16,370
Term of patent 14 years
Int. Cl. D12—*13*
U.S. Cl. D14—3



217,447
AUTOMOBILE FLOOR MAT AND THE LIKE
William C. Gerber, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed Feb. 11, 1969, Ser. No. 15,738
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—5



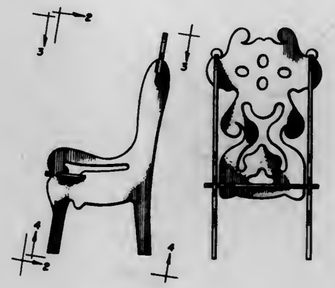
217,448
CAMPER ENCLOSURE FOR PICKUP TRUCKS
Willis A. Schlorff, 5228 Loleta St., Eagle Rock, Calif. 90041
Filed June 9, 1969, Ser. No. 17,583
Term of patent 14 years
Int. Cl. D12—*10*
U.S. Cl. D14—3



217,449
LOUNGE SEAT
Carl R. Meyer, 2512 E. Vine St., West Covina, Calif. 91790
Filed Aug. 2, 1968, Ser. No. 13,013
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—11



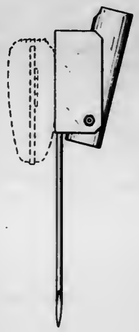
217,450
CHAIR
Harold G. Craddock, Conover, N.C., assignor to Little Antiques, Inc., a corporation of North Carolina
Filed Nov. 27, 1968, Ser. No. 14,710
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



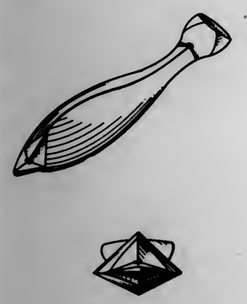
217,451
MOLTEN METAL SAMPLING TUBE
Rudolph J. Palme, Hamilton, Ontario, Canada, assignor to Evacuo Enterprises Ltd., Hamilton, Ontario, Canada
Filed June 21, 1968, Ser. No. 12,471
Term of patent 14 years
Int. Cl. D24—*99*
U.S. Cl. D16—1



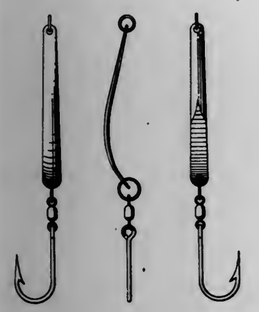
217,452
COMBINED FISHING ROD SUPPORT AND ALARM MOUNT
Earl R. Jett, 1617 Glenchort, Wellston, Mo. 63130
Filed Sept. 12, 1968, Ser. No. 13,520
Term of patent 14 years
Int. Cl. D22—*08*
U.S. Cl. D22—22



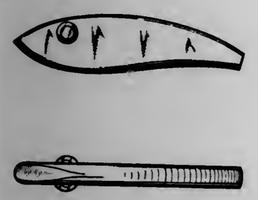
217,453
FISH LURE
Anton Josef Blaser, 1639 Posilipo Lane, Montecito, Santa Barbara, Calif. 93103
Filed Apr. 16, 1969, Ser. No. 16,771
Term of patent 14 years
Int. Cl. D22—*07*
U.S. Cl. D22—27



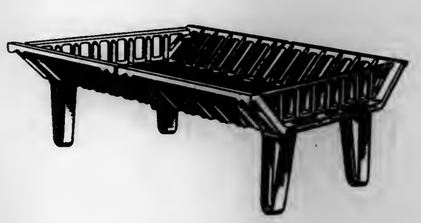
217,454
FISHING LURE
James T. Fujita, 74 White St., Watsonville, Calif. 95076
Filed June 26, 1969, Ser. No. 17,896
Term of patent 14 years
Int. Cl. D22—*07*
U.S. Cl. D22—29



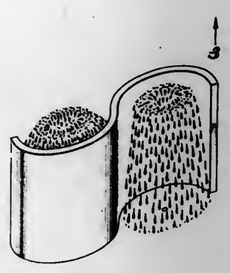
217,455
FISHING LURE
John A. McCutcheon, P.O. Box 502, Rockport, Tex. 78382
Filed June 27, 1969, Ser. No. 17,929
Term of patent 14 years
Int. Cl. D22—*07*
U.S. Cl. D22—27



217,456
FIREPLACE GRATE
Judkins E. Wilkinson, Birmingham, Ala., assignor to Atlanta Stove Works, Inc., a corporation of Georgia
Filed Nov. 13, 1968, Ser. No. 14,420
Term of patent 14 years
Int. Cl. D23—*03*
U.S. Cl. D23—98



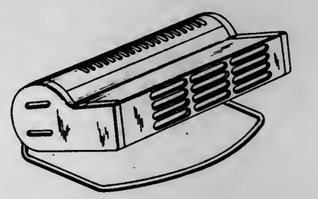
217,457
BACK-TO-BACK FOUNTAIN
Gerald W. Frasier, Sherman Oaks, Calif., assignor to John Drew, Gerald W. Frasier, and John O. Hruby, Jr., co-partners include Messrs. Drew, Frasier, and Hruby, both individually and collectively, doing business as Irrigation Engineering & Manufacturing Co.
Filed Nov. 25, 1968, Ser. No. 14,645
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—13



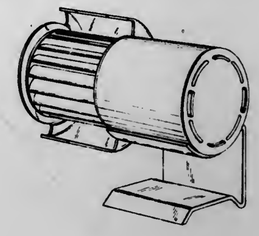
217,458
CLOSET BOLT AND COVER NUT UNIT
Martin E. Ismert, Jr., 8817 Prospect, Kansas City, Mo. 64132
Filed Nov. 12, 1968, Ser. No. 14,501
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—71



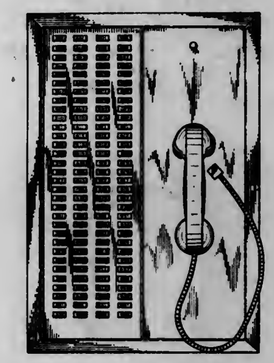
217,459
HEATING FAN
Dieter Rams, Koenigstein, Taunus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a firm
Filed Jan. 6, 1969, Ser. No. 15,212
Claims priority, application Germany July 4, 1968
Term of patent 14 years
Int. Cl. D23—*03*
U.S. Cl. D23—73



217,460
TABLE FAN
Juergen Greubel, Eschenhan, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany
Filed July 7, 1969, Ser. No. 18,072
Claims priority, application Germany Jan. 29, 1969
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—155



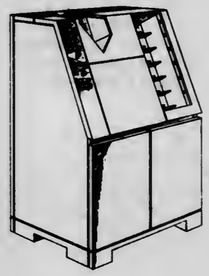
217,461
TELEPHONE WALL PANEL
Louis Philippe Fortin, Montreal, Quebec, Canada, assignor to Namofil Inc., Montreal, Quebec, Canada
Filed Jan. 17, 1969, Ser. No. 15,389
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



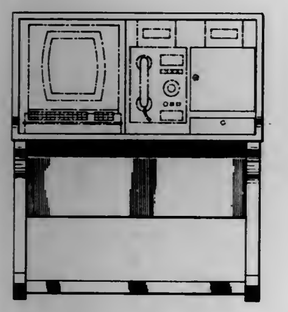
217,462
TELEPHONE WALL PANEL
Louis Philippe Fortin, Montreal, Quebec, Canada, assignor to Namofil Inc., Montreal, Quebec, Canada
Filed Jan. 17, 1969, Ser. No. 15,399
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14

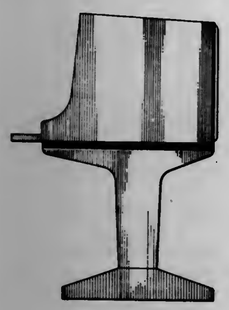


217,463
DOCUMENT SORTER
Clifford I. Shelkofsky, Endwell, and Edward R. Wiener, Vestal, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 20, 1969, Ser. No. 15,850
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5

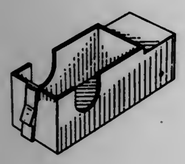


217,464
CABINET FOR ELECTRONIC EQUIPMENT
Robert E. Bourke, Weston, Conn., assignor to The Massachusetts General Hospital, Boston, Mass., a corporation of Massachusetts
Filed Apr. 8, 1969, Ser. No. 16,621
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5





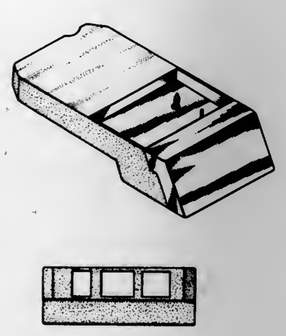
217,465
CASING FOR AN ELECTRIC MOTOR AND BATTERY
Duncan Tong, 423 Central Building, 3 Pedder St., Hong Kong
Filed May 2, 1969, Ser. No. 16,991
Claims priority, application Great Britain Dec. 31, 1968
Term of patent 7 years
Int. Cl. D13—*02*
U.S. Cl. D26—5



217,466
LIGHT SOCKET DIMMER
Bennett C. Garrett, Costa Mesa, Calif., assignor to Garrett Electronics, Inc., Newport Beach, Calif., a corporation of California
Filed June 6, 1969, Ser. No. 17,544
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—1



217,467
HOUSING FOR A TAPE PLAYER
Tom T. Tsuji, Monterey Park, Calif., assignor to California Auto Radio, Inc., a corporation of California
Filed July 14, 1969, Ser. No. 18,188
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



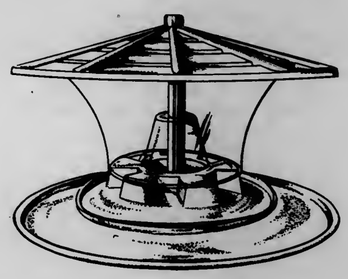
217,468
PICTURE FRAME
William R. Haurilak, 125 Southworth St., Milford, Conn. 06460
Filed Jan. 29, 1969, Ser. No. 15,550
Term of patent 14 years
Int. Cl. D6—*06*
U.S. Cl. D29—20



217,469
DECORATIVE LIGHT BULB HOLDER
Donald W. Lo Giudice, Youngstown, Ohio, assignor to Garcia Products, Inc., Youngstown, Ohio, a corporation of Ohio
Filed May 15, 1969, Ser. No. 17,626
Term of patent 14 years
Int. Cl. D11—*05*
U.S. Cl. D29—1



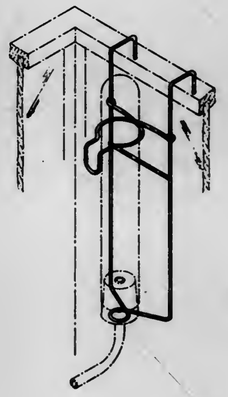
217,470
AUTOMATIC BIRD FEEDER
Aubrey L. Morrow, 124 Pithon St., Lake Charles, La. 70601
Filed Nov. 12, 1968, Ser. No. 14,396
Term of patent 14 years
Int. Cl. D30—*02*
U.S. Cl. D30—15



217,471
FEEDING DISH MAT
Thelma Muggill, P.O. Box 1143, Hesperia, Calif. 92345
Filed May 7, 1969, Ser. No. 17,045
Term of patent 14 years
Int. Cl. D30—*02*
U.S. Cl. D30—13



217,472
HOLDER FOR TUBE AND BOTTLE FEEDERS FOR PETS
David D. Lovitz, Short Hills, N.J., assignor to Sternco Industries, Inc., Harrison, N.J., a corporation of New Jersey
Filed Aug. 21, 1969, Ser. No. 18,784
Term of patent 14 years
Int. Cl. D30—*02*
U.S. Cl. D30—13

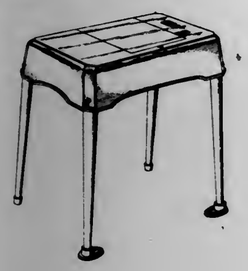


217,473
WHEELED CLOTHES SUPPORT
Floyd R. Barbee, 5716½ N. Charlotte St., San Gabriel, Calif. 91776
Filed Dec. 26, 1967, Ser. No. 9,930
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—8



217,474
TABLE
Harold G. Craddock, Conover, N.C., assignor to Little Antiques, Inc., a corporation of North Carolina
Filed Nov. 27, 1968, Ser. No. 14,700
Term of patent 14 years
Int. Cl. D6—*03*
U.S. Cl. D33—14

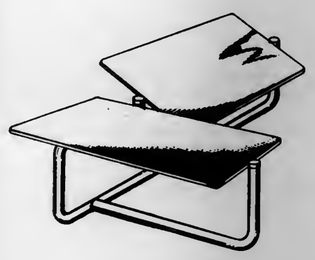
217,475
SEWING MACHINE TABLE OR SIMILAR ARTICLE
Henry J. Milan, Clark, and George L. Zilg, Dunellen, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 5, 1969, Ser. No. 15,645
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—12



217,476
DRAWING TABLE UNIT
Thomas Lamb, Toronto, Ontario, Canada, assignor to The Hughes-Owens Company (Limited), Montreal, Quebec, Canada
Filed May 5, 1969, Ser. No. 17,003
Claims priority, application Canada Nov. 14, 1968
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



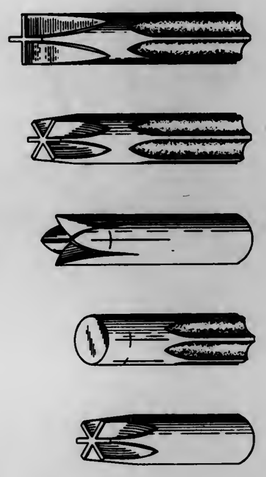
217,477
DRAWING TABLE UNIT
Thomas Lamb, Toronto, Ontario, Canada, assignor to The Hughes-Owens Company (Limited), Montreal, Quebec, Canada
Filed May 5, 1969, Ser. No. 17,017
Claims priority, application Canada Nov. 14, 1968
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



217,478
DRAWING TABLE
Thomas Lamb, Toronto, Ontario, Canada, assignor to The Hughes-Owens Company (Limited), Montreal, Quebec, Canada
Filed May 5, 1969, Ser. No. 17,021
Claims priority, application Canada Nov. 14, 1968
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



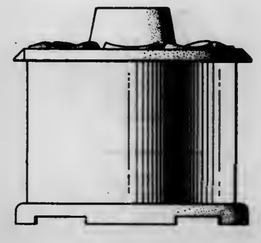
217,479
SET OF CHESS MEN
Murray R. Odette, 8425 W. Third St., Los Angeles, Calif. 90048
Filed Apr. 1, 1968, Ser. No. 11,230
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



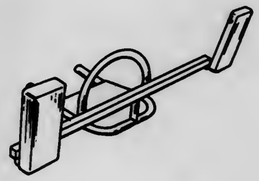
217,480
TOY FIGURE
Frank Kohner, New York, N.Y. (% Kohner Bros., Inc., P.O. Box 294, East Paterson, N.J. 07407)
Filed Sept. 25, 1968, Ser. No. 13,711
Claims priority, application Great Britain Mar. 25, 1968
Term of patent 3½ years
Int. Cl. D21—*02*
U.S. Cl. D34—4



217,481
HAIR CURLING TOY
Terry L. Bernard, Cincinnati, Ohio, assignor to Kenner Products Company, Cincinnati, Ohio, a corporation of Delaware
Filed Nov. 14, 1968, Ser. No. 14,470
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



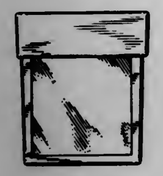
217,482
FOOTBALL BLOCKING PRACTICE DEVICE OR SIMILAR ARTICLE
Richard H. Pray, 5731 Alondra, Goleta, Calif. 93107
Filed Nov. 25, 1968, Ser. No. 14,629
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



217,483
GOLF PUTTER HEAD WITH HOLDER FOR GOLF BALL AND MARKER
Albert P. Jackson, 2800 Fleur Drive, Building 4, Apt. 301, Des Moines, Iowa 50321
Filed Jan. 21, 1969, Ser. No. 15,412
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



217,484
OPTICAL ILLUSION PUZZLE
Alan A. Hicks, Weston, Conn., and Ernest J. Swimmer, New York, N.Y., assignors to Kohner Bros., Inc., East Paterson, N.J., a corporation of New York
Filed Jan. 24, 1969, Ser. No. 15,482
Term of patent 7 years
Int. Cl. D21—*01*
U.S. Cl. D34—15



217,485
BATHTUB TOY
Frank Kohner, New York, N.Y., and Albert Stubbman, Franklin Lakes, N.J., assignors to Kohner Bros., Inc., Paterson, N.J., a corporation of New York
Filed Feb. 27, 1969, Ser. No. 15,959
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



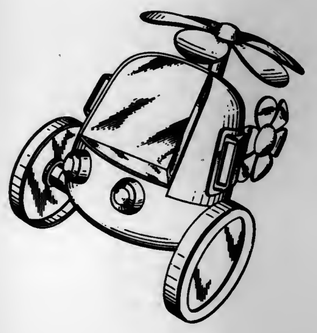
217,486
CHILD'S SLIDE
Charles W. McHugh, Arlington, Tex., assignor to Wonder Products Company, Collierville, Tenn., a corporation of Tennessee
Filed May 2, 1969, Ser. No. 16,993
Term of patent 14 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



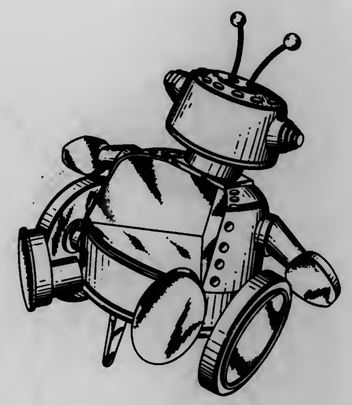
217,487
GOLF CLUB
John Blake, 587 Finch Ave., Pickering Township, Ontario, Canada
Filed May 8, 1969, Ser. No. 17,070
Term of patent 3½ years
Int. Cl. D21—*03*
U.S. Cl. D34—5



217,488
TOY HELICOPTER
Leslie Perhacs, Jr., Topanga, Calif., assignor to Cragstan Industries, Inc., New York, N.Y., a corporation of New York
Filed Mar. 12, 1969, Ser. No. 16,216
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



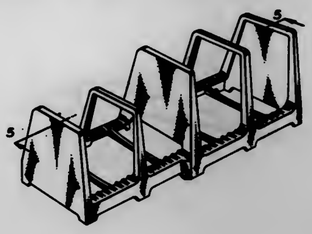
217,489
TOY ROBOT
Leslie Perhacs, Jr., Topanga, Calif., assignor to Cragstan Industries, Inc., New York, N.Y., a corporation of New York
Filed Mar. 12, 1969, Ser. No. 16,218
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



217,490
TORTILLA KEEPER OR THE LIKE
James B. Swett, Barrington, and Robert F. Bateman, Providence, R.I., assignors to Dart Industries Inc., a corporation of Delaware
Filed Mar. 3, 1969, Ser. No. 15,987
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—15



217,491
PLATE RACK OR SIMILAR ARTICLE
Dwight N. Wooters, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed Aug. 4, 1969, Ser. No. 18,516
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—29



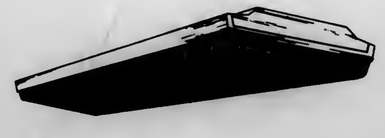
217,492
CLAW SETTING
Erich Gotze, Toronto, Ontario, Canada, assignor of twenty-five percent to Adolf Herman Hess, Toronto, Ontario, Canada, and fifty percent to Henry Dorsey, Downsview, Ontario, Canada
Filed July 9, 1969, Ser. No. 18,136
Term of patent 14 years
Int. Cl. D11—*01*
U.S. Cl. D45—1



217,493
CLAW SETTING
Erich Gotze, Toronto, Ontario, Canada, assignor of twenty-five percent to Adolf Herman Hess, Toronto, Ontario, Canada, and fifty percent to Henry Dorsey, Downsview, Ontario, Canada
Filed July 9, 1969, Ser. No. 18,137
Term of patent 14 years
Int. Cl. D11—*01*
U.S. Cl. D45—1



217,494
LIGHTING FIXTURE
John Dalton, Jr., Wheeling, W. Va., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 10, 1967, Ser. No. 6,617
Term of patent 14 years
Int. Cl. D26—*02*
U.S. Cl. D48—23



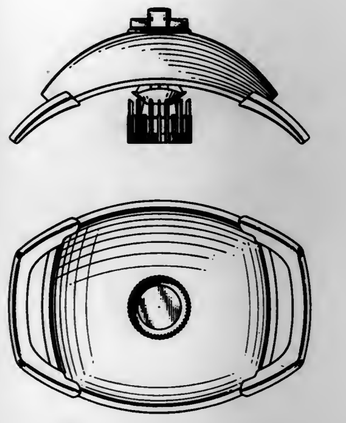
217,495
COMBINED TABLE LAMP BASE AND DECANTER
Morris G. Levy, Jr., 1470 W. Minnehaha Parkway, Minneapolis, Minn. 55427
Filed Mar. 14, 1969, Ser. No. 16,246
Term of patent 14 years
Int. Cl. D26—*02*
U.S. Cl. D48—20



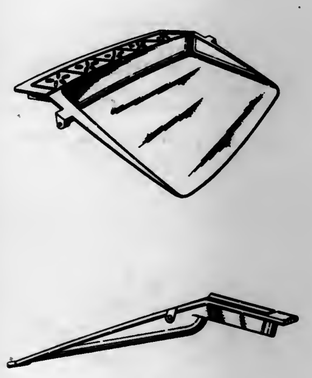
217,496
POCKET LIGHTER, OR SIMILAR ARTICLE
Dieter Rams, Konigstein, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Mar. 17, 1969, Ser. No. 16,291
Claims priority, application Germany Sept. 20, 1968
Term of patent 14 years
Int. Cl. D27—*05*
U.S. Cl. D48—27



217,497
DENTAL LIGHT OR THE LIKE
John J. Valeska, Rochester, N.Y., and Robert C. Winters, Ridgefield, Conn., assignors to Sybron Corporation, Rochester, N.Y., a corporation of New York
Filed Mar. 17, 1969, Ser. No. 16,289
Term of patent 14 years
Int. Cl. D26—*02*
U.S. Cl. D48—20



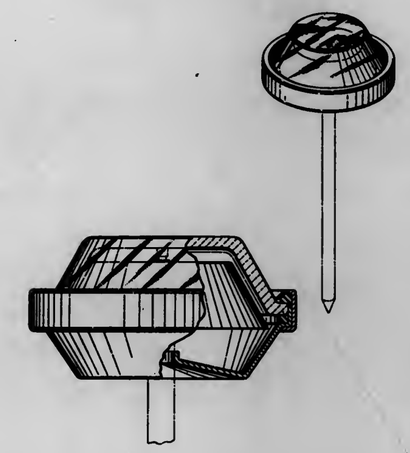
217,498
RECEPTACLE LID AND THE LIKE
Richard D. Dilyard, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed Aug. 5, 1969, Ser. No. 18,549
Term of patent 14 years
Int. Cl. D7—*06*
U.S. Cl. D49—35



217,499
ANTIFREEZE TESTER
Anthony M. Pietramale, Wheeling, Ill., assignor to I-T-E Imperial Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 30, 1968, Ser. No. 15,143
Term of patent 14 years
Int. Cl. D10—*07*
U.S. Cl. D52—7



217,500
TEMPERATURE INDICATING INSTRUMENT
Samuel E. O'Connell, New York, N.Y., assignor, by mesne assignments, to A-T-O Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 3, 1969, Ser. No. 15,613
Term of patent 14 years
Int. Cl. D10—*07*
U.S. Cl. D52—7



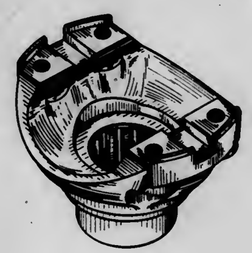
217,501
SPOON OR SIMILAR ARTICLE
Marion Weeber, New York, N.Y., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed June 3, 1969, Ser. No. 17,488
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



217,502
TRAY FOR MIXING AUTOMOTIVE BODY MATERIAL AND THE LIKE
Nunzio Valerie, 369 Colvin St., Rochester, N.Y. 14611
Filed Mar. 13, 1969, Ser. No. 16,236
Term of patent 14 years
Int. Cl. D15—*99*
U.S. Cl. D55—1



217,503
FLANGE FOR UNIVERSAL JOINT
Howard V. Merritt, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Delaware
Filed Apr. 28, 1969, Ser. No. 16,919
Term of patent 14 years
Int. Cl. D15—*99*; D23—*01*
U.S. Cl. D55—1



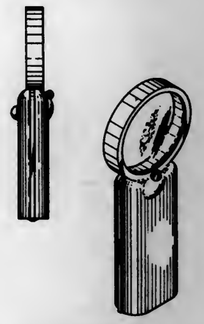
217,504
STRINGED MUSICAL INSTRUMENT SPECIFICALLY, A UKRAINIAN VERTICAL HUSLI (WINGED TYPE PSALTERY OR PROTO-BANDURA)
Walter J. Pelensky, 19C Manheim Gardens, Philadelphia, Pa. 19144
Original design application Mar. 28, 1968, Ser. No. 11,174. Divided and this application June 3, 1969, Ser. No. 18,281
Term of patent 14 years
Int. Cl. D17—*03*
U.S. Cl. D56—1



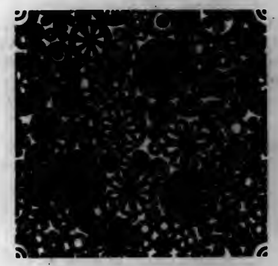
217,505
STRINGED MUSICAL INSTRUMENT
Walter J. Pelensky, 19C Manheim Gardens, Philadelphia, Pa. 19144
Filed May 13, 1969, Ser. No. 17,135
Term of patent 14 years
Int. Cl. D17—*03*
U.S. Cl. D56—1



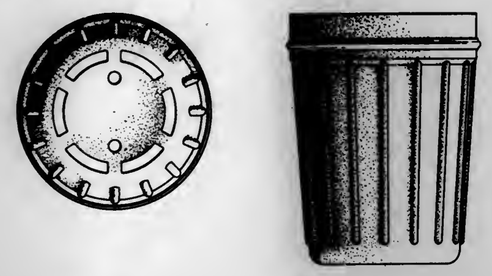
217,506
COMBINED ILLUMINATOR AND MAGNIFYING DEVICE
John R. Knoetgen, 20 Bailey Ave., Bay Shore, N.Y. 11706
Filed Apr. 30, 1969, Ser. No. 16,958
Term of patent 7 years
Int. Cl. D16—*08*
U.S. Cl. D57—1



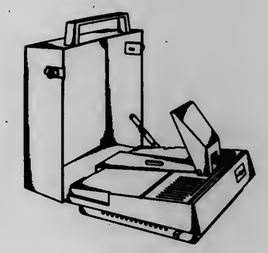
217,507
METAL FOIL OR SIMILAR ARTICLE
John E. Stengel, Bon Air, Va., assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed July 31, 1969, Ser. No. 18,499
Term of patent 14 years
Int. Cl. D5—*03*
U.S. Cl. D59—2



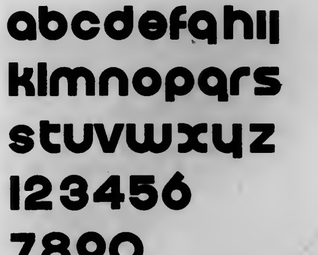
217,508
LAMP HOUSING FOR A PHOTOGRAPHIC ENLARGER
Danuse Mazurova, Prerov, Czechoslovakia, assignor to Meopta, Narodni Podnik, Prerov, Czechoslovakia
Filed Jan. 9, 1969, Ser. No. 15,267
Claims priority, application Czechoslovakia July 10, 1968
Term of patent 7 years
Int. Cl. D16—*05*
U.S. Cl. D61—1



217,509
PORTABLE MICROFICHE VIEWER
Alfonso W. Merino, Gaithersburg, Md., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 20, 1969, Ser. No. 17,794
Term of patent 14 years
Int. Cl. D16—*03*
U.S. Cl. D61—1



217,510
FONT OF TYPE
Charles W. Fletcher, New Rochelle, N.Y., and John H. Pfister, South Norwalk, Conn., assignors to Walden-Mott Corp., Oradell, N.J.
Filed Feb. 27, 1969, Ser. No. 15,955
Term of patent 3½ years
Int. Cl. D18—*04*
U.S. Cl. D64—12



217,511
SEWING MACHINE
Marco Zanuso, Milan, Italy, and Richard Sapper, Stuttgart, Germany, assignors to Necchi Societh per Azioni, Via Rismond, Pavia, Italy
Filed Dec. 23, 1968, Ser. No. 15,167
Claims priority, application Italy July 19, 1968
Term of patent 14 years
Int. Cl. D15—*09*
U.S. Cl. D70—1



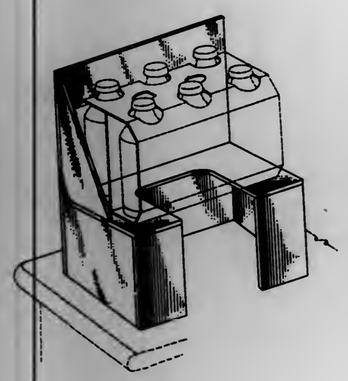
217,512
HOUSE BOAT
Thomas A. Schwartz, 220 Garlinghouse Bldg., Topeka, Kans. 66612
Filed May 12, 1969, Ser. No. 17,128
Term of patent 14 years
Int. Cl. D12—*06*
U.S. Cl. D71—1



217,513
MARKING INSTRUMENT OR THE LIKE
Robert Fieldhouse, Bramhope, near Leeds, England, assignor to Rothay Research Limited, Boston Spa, Yorkshire, England, a British company
Filed Feb. 14, 1969, Ser. No. 15,785
Claims priority, application Great Britain Jan. 30, 1969
Term of patent 14 years
Int Cl. D19—*06*
U.S. Cl. D74—17



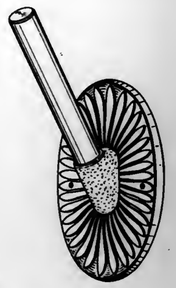
217,514
GROCERY BAG PACKER
Ray F. Shores, 3 Venus Court, Baltimore, Md. 21234
Filed Jan. 27, 1969, Ser. No. 15,505
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D60—1



217,515
WIG HOLDER
Bertram B. Wells, Toronto, Ontario, Canada, assignor to Bathurst Sales Limited, Toronto, Ontario, Canada, a corporation of Ontario, Canada
Filed Mar. 13, 1969, Ser. No. 16,226
Term of patent 3½ years
Int. Cl. D28—*02*
U.S. Cl. D60—8



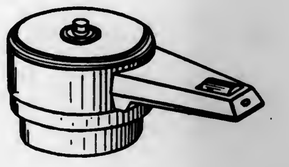
217,516
WIG HOLDER
Bertram B. Wells, Toronto, Ontario, Canada, assignor to Bathurst Sales Limited, Toronto, Ontario, Canada, a corporation of Ontario, Canada
Filed Mar. 13, 1969, Ser. No. 16,227
Term of patent 3½ years
Int. Cl. D28—*02*
U.S. Cl. D60—8



217,517
DISPLAY UNIT
Kenneth R. Platt, Prospect Heights, and Robert V. Sharp, Forest Park, Ill., assignors to Master Bronze Powder Company, Inc., Chicago Heights, Ill., a corporation of Indiana
Filed Sept. 24, 1968, Ser. No. 13,687
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—9



217,518
PORTABLE COOKING STOVE OR SIMILAR ARTICLE
William Rakocy, Clifton, N.J., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Original design application Sept. 11, 1967, Ser. No. 8,554, now Patent No. 212,178, dated Sept. 3, 1968. Divided and this application Apr. 18, 1968, Ser. No. 12,670
Term of patent 14 years
Int. Cl. D7—*04*
U.S. Cl. D81—10



217,519
MASSAGING SHAMPOO BRUSH
Alfred W. Madl, Glendale, and Adrian R. Bonini, Shorewood, Wis., assignors to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 26, 1969, Ser. No. 15,927
Term of patent 14 years
Int. Cl. D24—*99*; D4—*02*
U.S. Cl. D83—1



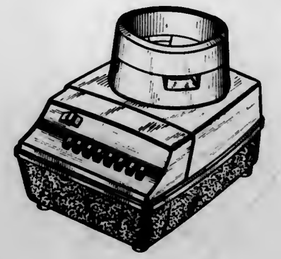
217,520
SMOKING PIPE
Edward Gordon, New York, N.Y., assignor to Head Gear, Inc., New York, N.Y., a corporation of New York
Filed July 10, 1969, Ser. No. 18,160
Term of patent 14 years
Int. Cl. D27—*02*
U.S. Cl. D85—8



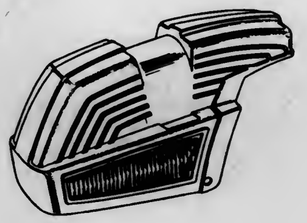
217,521
HEADBAND
Ray F. Shores, 1930 Searles Road, Baltimore, Md. 21222
Filed Jan. 30, 1968, Ser. No. 10,366
Term of patent 14 years
Int. Cl. D3—*99*
U.S. Cl. D86—10



217,522
POWER UNIT FOR A BLENDER OR THE LIKE
Alfred W. Madl, Glendale, Wis., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 3, 1969, Ser. No. 17,495
Term of patent 14 years
Int. Cl. D7—*05*
U.S. Cl. D69—1



217,523
FRONT WHEEL FENDER FOR TRICYCLE
Frederick E. Purdy, Olney, Ill., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Feb. 20, 1969, Ser. No. 15,851
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—5



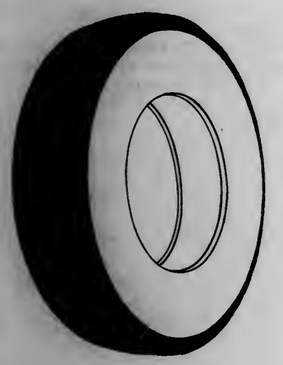
217,524
TIRE
John R. K. Parry, Trowbridge, England, assignor to Avon Rubber Company Limited, Melksham, Wiltshire, England
Filed Feb. 27, 1969, Ser. No. 15,941
Claims priority, application Great Britain Oct. 2, 1968
Term of patent 14 years
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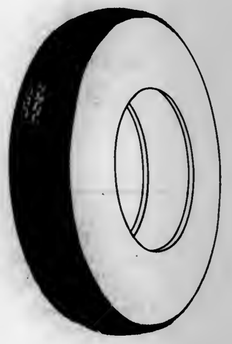
217,525
BICYCLE
Shinji Takashima, Fujisawa, Japan, assignor to Miyata Industry Co., Ltd., Chigasaki, Kanagawa, Japan, a corporation of Japan
Filed May 8, 1969, Ser. No. 17,082
Term of patent 14 years
Claims priority, application Japan Nov. 30, 1968
Int. Cl. D12—*11*
U.S. Cl. D90—8



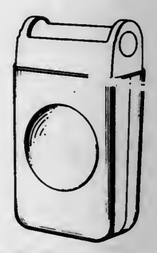
217,526
TIRE
Harold D. Fetty, Birmingham, Mich., assignor, by mesne assignments, to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 1, 1969, Ser. No. 17,996
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—20



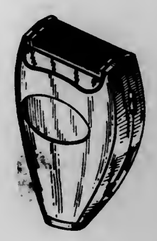
217,527
TIRE
Harold D. Fetty, Birmingham, Mich., assignor, by mesne assignments, to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 1, 1969, Ser. No. 18,006
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—20



217,528
CASING FOR AN ELECTRIC SHAVER
Richard Fischer, Frankfurt am Main, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a firm
Filed Jan. 13, 1969, Ser. No. 15,330
Claims priority, application Germany July 15, 1968
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D95—3



217,529
ELECTRICAL SHAVER
Julian R. Haynes, Hinsdale, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed July 11, 1969, Ser. No. 18,182
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D95—3



217,530
DESK NAME PLATE OR THE LIKE
Robin A. Shaug, 942 Duncan Ave., Manhattan Beach, Calif. 90266
Filed Jan. 22, 1969, Ser. No. 15,440
Term of patent 14 years
Int. Cl. D20—*03*
U.S. Cl. D96—12



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TO WHOM

PATENTS WERE ISSUED ON THE 5TH DAY OF MAY, 1970

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Fraioli, Anthony V., 3,509,583.
Henneman, John W., 3,509,895.
Sliwa, Robert A., 3,510,867.
Sylvander, Frederick B., and Parfomak, Walter, 3,510,740.
Bennett, Frank P., to GAF Corporation. Random access means for slide projectors. 3,510,215, Cl. 353-025.
Bennett, James Russell, and Hewitt, Robert D., to Burroughs Corporation. Digital data transmission system having means for automatically determining the types of peripheral units communicating with the system. 3,510,843, Cl. 340-172.5
Bennett, John Charles, to Atomic Power Constructions Limited. Gas-cooled nuclear reactors. 3,510,395, Cl. 176-059.
Bennett, Moreland P., to General Electric Company. Tab welded joint and method of making. 3,509,608, Cl. 027-482.
Bennett, Moreland P., to General Electric Company. Combined mechanical and welded joint and method of making. 3,510,624, Cl. 219-091.
Bennett, Willard H. Method of and apparatus for producing a highly concentrated beam of electrons. 3,510,713, Cl. 313-057.
Bensinger, Wolf-Dieter, and Dobler, Helmut, to Daimler-Benz Aktiengesellschaft. Piston pump. 3,510,235, Cl. 417-462.
Bentzman, Louis. Copy machine feed table. 3,510,124, Cl. 271-008.
Berenschot, Donald J.: *See—*
Miller, Eugene J., Jr., Mais, Ago, Berenschot, Donald J., and Berger, Robert L. 3,510,521.
Berg Electronics, Inc.: *See—*
Corns, William M., 3,510,824.
Berger, James E., to Kent-Moore Corporation. Method of heat treating ferrous alloy sheets. 3,510,367, Cl. 148-131.
Berger, Robert L.: *See—*
Miller, Eugene J., Jr., Mais, Ago, Berenschot, Donald J., and Berger, Robert L. 3,510,521.
Berger, S. Edmund: *See—*
Carr, Donald R., and Berger, S. Edmund 3,510,456.
Bergmann, Robert J.: *See—*
Talvenheimo, Gerhardt, and Bergmann, Robert J. 3,510,330.
Talvenheimo, Gerhardt, and Bergmann, Robert J. 3,510,331.
Bergstrom, Roger C., to Anderson Bros. Mfg. Co. Apparatus for packaging in protective atmosphere. 3,509,686, Cl. 053-112.
Bergstrom, Theodore R., to Minnesota Mining and Manufacturing Company. Metal fabrication. 3,510,296, Cl. 073-201.
Berman, Herbert M., to Opti-Lume Corporation. Method of photographic reproduction. 3,510,221, Cl. 355-077.
Bernd Kretzschmer: *See—*
Topp, Wilhelm, 3,509,811.
Bernert, Robert E., and El Bindari, Ahmed, to Avco Corporation. Method of manufacturing composite superconductive conductor. 3,509,622, Cl. 029-599.
Bernstein, Jack: *See—*
Pribyl, Edward J., and Bernstein, Jack 3,510,505.
Besnard, Pierre, to Societe Generale du Vide (Sogev). Pile driving system. 3,509,948, Cl. 173-044.
Best, Albert M., to Sperry Rand Corporation. Automatic bale loading and unloading wagon. 3,510,013, Cl. 214-006.
Better Packages, Inc.: *See—*
Sharpe, Everett E., 3,510,037.
Betz Laboratories, Inc.: *See—*
Silverstein, Ronald M., Bishof, Chester A., and Matey, Joseph T., 3,510,436.
Beusch, Donna W.: *See—*
Swaine, Robert L., and Beusch, Donna W. 3,510,311.
Biard, James Robert, to Texas Instruments, Incorporated. Low noise reactance amplifier. 3,510,674, Cl. 307-088.3
Biber, Albert, to Gulf Research & Development Company. Tubular uniform temperature heat source. 3,510,238, Cl. 431-116.
Bieber, Clarence G., and Covert, Roger A., to International Nickel Company, Inc., The. Corrosion resistant nickel-base alloy. 3,510,294, Cl. 075-171.
Biedermann, Friedrich, to Agfa-Gevaert Aktiengesellschaft. Light beam modulation and combination apparatus. 3,510,571, Cl. 178-005.4
Binns, John W.: *See—*
Smith, Vernon O., and Binns, John W. 3,510,162.
Bird, Walter John. Variable-geometry aircraft. 3,510,088, Cl. 244-046.
Birum, Herbert L., Jr. Exterior wall accessories. 3,509,674, Cl. 052-302.
Bishof, Chester A.: *See—*
Silverstein, Ronald M., Bishof, Chester A., and Matey, Joseph T. 3,510,436.
Bissett-Berman Corporation, The: *See—*
Brown, Neil L., 3,510,761.
Bittner, Ernst, and Schickedanz, Erich, to Scholl Mfg. Co., Inc., The. Laminated foam articles and method of making the same. 3,510,380, Cl. 156-251.
Bittner, Friedrich, Simmersbach, Edmund, Dahm, Franz Ludwig, and Schaller, Artur, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Preparation of shaped alkali metal perborate tetrahydrate. 3,510,269, Cl. 023-302.
Bjorksten, Johan A., Cox, Robert P., Lappala, Risto P., and Yaeger, Luther L., to Bjorksten Research Laboratories, Inc., mesne. Nonwoven fabrics and method for making same. 3,510,390, Cl. 161-150.
Bjorksten Research Laboratories, Inc.: *See—*
Bjorksten, Johan A., Cox, Robert P., Lappala, Risto P., and Yaeger, Luther L., 3,510,390.
Blachere, Albert Marie Ernest, and Breant, Claude Jean Maurice, to Rhone-Poulenc S.A. Hydroxy-aryl oxamic acid esters. 3,510,508, Cl. 260-471.
Black and Decker Manufacturing Company, The: *See—*
O'Connor, William H., III, 3,510,708.
Black, James A.: *See—*
Farwell, Russell, 3,510,035.
Blair, Alexander E. Hydrographic sampling device. 3,509,772, Cl. 073-425.2
Blair, George S., and Shaw, Harry. Molten adhesive dispensing apparatus. 3,509,849, Cl. 118-006.
Blake, Carl B., and Tung, George K. L., to Martin-Marietta Corporation. Printing process. 3,510,340, Cl. 117-038.
Blake, Lawrence W., to American Hospital Supply Corporation, mesne. Parallel jaw spring clip and applicator. 3,509,882, Cl. 128-325.
Bland, Robert W.: *See—*
Mickelson, Floyd L., and Bland, Robert W. 3,510,430.
Blatmann, Henri: *See—*
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Bleekrode, Richard: *See—*
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Bliss, E. W., Company: *See—*
Bartlett, Peter G., and Meschi, Joseph E., 3,510,852.
Strance, John Sherman, 3,510,091.

Bobst Champlain, Inc.: *See—*
Lewis, Clarence A., Jr., and Gordemer, David, 3,510,036.

Bobst, Gerhard, to Von Roll AG. Control apparatus for adjusting the stroke volume of a hydraulic pump. 3,510,231, Cl. 417-218.

Bobst, J., and Son S.A.: *See—*
Romanens, Victor, 3,510,126.

Bochan, John, to General Electric Company. Cover for washing machine tub. 3,509,740, Cl. 068-027.

Boehm, Edmund: *See—*
Pascus Arnold W., and Boehm, Edmund 3,510,047.

Boeing Company, The: *See—*
Gerstine, Milton I., and Burkam, John E., 3,509,971.

Boenke, Clyde A., to Motorola, Inc. FM tone signal receiving circuit. 3,510,776, Cl. 325-055.

Bogsch, Waldemar: *See—*
Eberwein, Helmut, and Bogsch, Waldemar 3,510,821.

Boivent, Marcel, to Compagnie de Saint-Gobain. Cyclone type glass furnace. 3,510,289, Cl. 065-335.

Bokelman, Marinus C.: *See—*
Makussy, Waldemar J., and Bokelman, Marinus C. 3,510,100.

Bolano, Jose Maria. Electromechanical power generating machine. 3,509,717, Cl. 060-022.

Bolhofer, William A., and Baldwin, John J., to Merck & Co., Inc. Substituted-2,3-dichloroquinoxalines and processes for preparing same. 3,510,487, Cl. 260-250.

Bolkow Gesellschaft mit beschrankter Haftung: *See—*
Arbeitlang, Erich, Mathes, Heinrich, and Lanz, Sigward, 3,510,086.
Butter, Karl, 3,510,063.
Gruber, Ernst, and Fuhr, Herbert, 3,510,184.
Hermann, Joachim, 3,510,668.

Boll, Martin William, and MacRobbie, Robert Murray, to Richmond Screw Anchor Co. Structural concrete insert or anchor. 3,509,670, Cl. 052-099.

Bolster, Lyle R., Tarbell, Harlan E., and Mogg, Donald W., to Grefco, Inc. Perlite board bonded to organic plastic foam. 3,510,391, Cl. 161-160.

Bond, William D., to World Industries, Inc. Pool cleaning suction head. 3,509,589, Cl. 015-001.7

Bonnart, Jacques Paul Marie, Bonnet, Yannik, and Rey, Paul Pierre Marie, to Rhone-Poulenc S.A. Process for the preparation of hydroperoxides. 3,510,526, Cl. 260-610.

Bonnet, Yannik: *See—*
Bonnart, Jacques Paul Marie, Bonnet, Yannik, and Rey, Paul Pierre Marie 3,510,526.

Bonvicini, Alberto, and Cantatore, Giuseppe, to Montecatini Edison S.p.A. Basic nitrogen polycondensates and dye- receptive polyolefin compositions containing such polycondensates. 3,510,437, Cl. 260-002.

Borchers, Henning H., Steppan, Hartmut, and Uhlig, Fritz, to Kalle Aktiengesellschaft. Process for the preparation of a printing plate presensitized with a diazonium salt. 3,510,307, Cl. 096-075.

Bordenca, Carl, to SCM Corporation, mesne. Process for the manufacture of sorbic acid. 3,510,514, Cl. 260-526.

Borg Service GmbH: *See—*
van Dillen, Paul, and Vollmer, Eva, 3,510,351.

Borgman, Arthur C.: *See—*
Nesslinger, Fritz J., and Borgman, Arthur C. 3,510,020.

Borite Manufacturing Corporation: *See—*
Lankin, Richard, 3,509,612.

Bornstein, Dov: *See—*
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Bornzin, James H., to International Harvester Company. Twine-knife. 3,510,160, Cl. 289-014.

Bosso, Joseph F.: *See—*
Wismer, Marco, and Bosso, Joseph F. 3,510,323.

Bottenbruch, Ludwig, and Schnell, Hermann, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of polybenzoxazine diones. 3,510,454, Cl. 260-047.

Boucher, Gerald, to Sanders Associates, Inc. Method of making multilayer printed circuits. 3,509,624, Cl. 029-624.

Boughton, Olin W., to American Optical Corporation. Lens carriage for continuously variable magnification stereomicroscope. 3,510,202, Cl. 350-187.

Bourguignot, Pierre, to Les Usines de Melle (Societe Anonyme). Unsaturated polyesters with itaconic acid esters. 3,510,447, Cl. 260-040.

Boutsicaris, Stephen P.: *See—*
Hayes, Robert A., and Boutsicaris, Stephen P. 3,510,462.

Bowen, Edward K., Smith, Philip A., and Donelson, Kenneth N., to Federal Mogul Corporation. Oil seal with rock shield and wear sleeve. 3,510,138, Cl. 277-035.

Bowin, Richard E., to Union Special Machine Company. Sewing machine for attaching articles to workpieces. 3,509,838, Cl. 112-110.

Bowles Engineering Corporation: *See—*
Bowles, Ronald E., 3,509,896.

Bowles, Ronald E., to United States of America, Army. Gyroscopic fluid control device. 3,509,778, Cl. 074-005.6

Bowles, Ronald E., to Bowles Engineering Corporation. Electro-thermal transducer. 3,509,896, Cl. 137-081.3

Bown, Delos E., Neureiter, Norman P., Schutze, Henry G., and Williams, Herschel C., to Humble Oil & Refining Company. Novel polycarbonates. 3,510,507, Cl. 260-463.

Bowser, Inc.: *See—*
Topol, George J., 3,510,666.

Bozzone, Paul, to S. A. Les Fabriques de Balanciers Reunies. Device for actuation of reed switches. 3,510,813, Cl. 335-205.

Braaten, Amund, to International Standard Electric Corporation. Cable winding machine with individual cradle drive. 3,509,708, Cl. 057-058.32

Braese, William E. Plastic ring assembly. 3,510,644, Cl. 240-010.6

Brantley, Richard K., to Du Pont de Nemours, E. I., and Company. 1-(N-alkyl and N,N-dialkylaminooxy)-3-alkylamino-s- triazines. 3,510,485, Cl. 260-249.5

Braun, Ewald, to Siemens Aktiengesellschaft. Arrangement with circuit networks built up in integrated circuit technique. 3,510,678, Cl. 307-202.

Breant, Claude Jean Maurice: *See—*
Blachere, Albert Marie Ernest, and Breant, Claude Jean Maurice 3,510,508.

Brechtel, Fred I. Work holder or jig. 3,510,118, Cl. 269-104.

Breckwoldt, Robert G., to Pillsbury Company, The, mesne. Artificially sweetened beverages and mixes thereof. 3,510,310, Cl. 099-028.

Breed, Carl H., Bush, Carroll H., and Getz, John E. Impulse actuated reed switch. 3,510,607, Cl. 200-081.

Brelsford, John E.: *See—*
Mann, William W., and Brelsford, John E. 3,510,075.

Brennan, John F., to Universal Oil Products Company. Telomerization of isoprene. 3,510,536, Cl. 260-680.

Breunich, Theodore R.: *See—*
Di Noia, Emanuel J., and Breunich, Theodore R. 3,510,616.

Brex Corporation: *See—*
Anderson, Earl R., and Keesling, Clifford E., 3,509,983.

Bridges, Ronald P. Circuit disconnect means for overhead electric lines. 3,510,611, Cl. 200-048.

Briggs, Thomas H., and Prichett, Peter P., to Western Electric Company, Incorporated. Mass spectrometer and electrically conductive display member therefor. 3,510,646, Cl. 250-041.9

Briones, Robert A., to TRW Inc. Holocamera illuminator. 3,510,798, Cl. 331-094.5

Bristol, John Edwin, to Du Pont de Nemours, E. I., and Company. Suspension alcoholysis of pelleted ethylene/vinyl ester copolymers. 3,510,463, Cl. 260-087.3

British Cellophane Limited: *See—*
Hood, John Laurence Linsley, 3,510,656.

British Lighting Industries Limited: *See—*
Ogden, Kenneth Whittier, and Chapman, Donald Frederick, 3,510,727.

British Oxygen Company Limited, The: *See—*
Crook, George L., and Read, Alfred H., 3,510,064.
Robertson, David M., 3,509,893.

British Petroleum Company Limited, The: *See—*
Laine, Bernard Maurice, and Vernet, Charles L., 3,510,403.

British Ropes Limited: *See—*
Campbell, Robert Edward, 3,510,440.

Britt, Robert C.: *See—*
Goins, Robert E., and Britt, Robert C. 3,510,386.

Broemer, Heinz, and Meinert, Norbert, to Leitz, Ernst, GmbH, Fa. Optical crown glass. 3,510,325, Cl. 106-054.

Brokke, Mervin E., Williamson, Thomas B., and Lukes, George E., deceased (by Jaeschke, Wayne C., special administrator), to Stauffer Chemical Company. Trifluorobutenylthiocarbamates and thiocarbonates. 3,510,503, Cl. 260-455.

Brooke, John F. Motion-actuated safety device for vehicle. 3,509,894, Cl. 137-048.

Brooks, Dugald A., Jones, Evan T., and Spayd, Richard W., to Eastman Kodak Company. Direct positive recording film. 3,510,348, Cl. 117-201.

Brooks, Howard A., and Curtiz, Thaddeus B., to KMS Industries, Inc. Geometric puzzle. 3,510,134, Cl. 273-157.

Brooks, Marvin V., to PPG Industries, Inc. Curtain wall construction. 3,509,672, Cl. 052-235.

Brooks, Willard A.: *See—*
Sheppard, Darrel J., 3,509,870.

Brosens, Pierre J., and Glucksman, Dov Z., to Thermo Electron Corporation. Radiant and convective heater. 3,509,867, Cl. 126-116.

Bross, Orval C., Jr. Live bait container. 3,509,657, Cl. 043-057.

Brouwer, Gerardus Johannes, Van Dyken, John, and Oussoren, Klaas. Sod cutting apparatus. 3,509,944, Cl. 172-019.

Brown, Calvin E., to Lane Company, Inc., The. Drop front cabinet having tiltable bin. 3,510,188, Cl. 312-325.

Brown, Neil L., to Bissett-Berman Corporation, The. Compensated salinometer. 3,510,761, Cl. 324-030.

Brown, R. Dexter: *See—*
Brown, Raymond Dexter, and Gidge, Lester, 3,509,818.

Brown, Raymond Dexter, and Gidge, Lester, to Brown, R. Dexter, mesne. Printing and inking apparatus and method with sheet or web feeding means. 3,509,818, Cl. 101-295.

Brown, Robert L., and Trump, Ronald C., to Honeywell Inc. Servomechanism including paralleled 'lead-lag' channels and means to disable lag channel responsive to excessive rate. 3,510,737, Cl. 318-018.

Bruckner, Klaus: *See—*
Erb, Rolf, Irmscher, Klaus, Bruckner, Klaus, Kraft, Hans-Gunther, and Kieser, Hartmut 3,510,556.

Brumlik, George C. Semi-skeletal molecular model assembly. 3,509,642, Cl. 035-018.

Brunswick Corporation: *See—*
Gretzky, Anthony J., 3,510,133.

Brush, Walton E., to Westinghouse Electric Corporation. Vapor phase conversion of molybdenum or tungsten compound to form the oxide or metal. 3,510,291, Cl. 075-000.5

Bryan, Wilson J., Jr., to Martin-Marietta Corporation. Water insoluble dioxazine dyestuff compositions comprising three different dioxazine components. 3,510,242, Cl. 008-025.

Buchner, Stanislaw, to Solco Basel AG. Method of producing cardioactive glycosides. 3,510,472, Cl. 260-210.5

Buckbee-Mears Company: *See—*
Mears, Norman B., 3,510,366.

Buckley, Arthur H.: *See—*
Edwards, Robert, Buckley, Arthur H., Emslie, Alfred G., and Spencer, Richard H. 3,510,074.

Bucyrus-Erie Company: *See—*
Mork, George W., and Novotny, Carl F., 3,510,018.

Buehrle, William B., to Motorola, Inc. Two-state communication devices having combined clock and information signals. 3,510,780, Cl. 325-321.

Bulgrin, Walter William, to Firestone Tire & Rubber Company, The. Method and apparatus for producing vehicle rims. 3,509,755, Cl. 072-355.

Bullock, Norman J., and Dabis, Ted C., to General Motors Corporation. Domestic dryer speed control. 3,509,640, Cl. 034-133.

Bundy, Robert Wendel, and Sheets, Thomas Melvin, to Du Pont de Nemours, E. I., and Company. Process and apparatus for handling fibrous elements forwarded in fluid streams. 3,510,038, Cl. 226-007.

Bunker Hill Company, The: *See—*
Orlandini, Bruno, and Schmittroth, Walter, 3,510,414.

Burdick, Glen A., to Sylvania Electric Products, Inc. Means for assembling a multiple electron gun structure for cathode ray tube. 3,509,609, Cl. 029-025.19

Burdick, Glen A., to Sylvania Electric Products, Inc. Cathode ray tube exposure optics. 3,509,802, Cl. 095-001.

Bures, Miroslav, to Meopta, narodni podnik. Photographic enlarger with axially adjustable lamp. 3,510,220, Cl. 355-067.

Burgin, Kermit H. Vertically rising branch separator and fruit picker. 3,509,705, Cl. 056-328.

Burgman, Jerome A., and Margason, Lester L., to PPG Industries, Inc. Hollow glass article. 3,510,393, Cl. 161-178.

Burkam, John E.: *See—*
Gerstine, Milton I., and Burkam, John E. 3,509,971.

Burke, William J.: *See—*
Schramm, Richard F., and Burke, William J. 3,510,033.
Caskey, William J., and Burke, William J. 3,510,034.

Burman, John Birger, to Saab Aktiebolag. Self-lubricating surface layer on metal part subject to friction. 3,510,279, Cl. 029-195.

Burroughs Corporation: *See—*
Bennett, James Russell, and Hewitt, Robert D., 3,510,843.
Carlson, Carl B., Dent, Benjamin A., and McKeeman, William M., 3,510,847.
Chute, Robert D., 3,510,756.
Deighton, William Ward, Phelan, Roy L., Tanguy, Lewis Leland, Jr., and Wallace, Richard Alfred, 3,510,629.
Hylan, John E., and Walter, Allan F., 3,509,981.
Petersen, David J., 3,510,768.
Smith, Allan M., 3,510,783.
Weber, Frank W., 3,510,784.

Burrows, Charles F.: *See—*
Kramer, Irvin R., and Burrows, Charles F. 3,510,411.

Burtis, Wilson A. High-pressure valve. 3,510,101, Cl. 251-228.

Burton, Joe M.: *See—*
Rice, Millard Lee, Burton, Joe M., and Shaver, Robert G. 3,509,822.

Bush, Carroll H.: *See—*
Breed, Carl H., Bush, Carroll H., and Getz, John E. 3,510,607.

Bushnell, David P.: *See—*
Akin, Alfred A. Jr., and Maguire, Paul R., 3,510,192.

Butler, Clarence A., and Lazzaro, Dominic R., to Lindsay Wire Weaving Company. Non-woven twisted strand filter fabric. 3,510,005, Cl. 210-400.

Butter, Karl, to Bolkow Gesellschaft mit beschrankter Haftung. Apparatus for forming the exterior wall of combustion chambers for rocket engines. 3,510,063, Cl. 239-127.1

Buttner, Franz. Writing instrument. 3,509,786, Cl. 081-009.22

Buzova, Zoya Mikhailovna: *See—*
Nabiullin, Faat Khatovich, Koval, Ivan Ivanovich, Buzova, Zoya Mikhailovna, Gertsik, Efim Mikhailovich, Marfin, Boris Vasilievich, and Rabinovich, Vyacheslav Anatolievich 3,510,358.

Byggeriets Maskinstationer, Aktieselskab (BMS): *See—*
Krex, Helge E., and Waerum, Julius N. M., 3,509,677.

Byler, Konrad L.: *See—*
Kennedy, Charles J., and Byler, Konrad L. 3,510,857.

Byler, William H., Ham, George E., and Anspon, Harry D., to Gulf Oil Corporation. Ethylene/acrylate ester copolymers containing fillers. 3,510,448, Cl. 260-041.

Cabot Corporation: *See—*
Hardy, John F., and Jordan, Merrill E., 3,510,292.

Cadotte, John E., to Conwed Corporation. Production of water-laid felted mineral fiber panels including use of flocculating agent. 3,510,394, Cl. 162-145.

Calder, Robert A.C., to International Harvester Company. Harvester platform for windrowers. 3,509,699, Cl. 056-023.

Callahan, Thomas T., Worters, Allen J., and Zambuto, Domenic A., to Sylvania Electric Products, Inc. Digital vector generator. 3,510,865, Cl. 340-324.

Callan, John E., to Allen-Bradley Company. Instantaneous peak current limit circuit. 3,510,744, Cl. 318-434.

Calor Appareils Electro-Domestiques: *See—*
Trouilhet, Maurice Marie Achille, 3,509,744.

Camp, Frederick W.: *See—*
Smith, Marshall R., Camp, Frederick W., Evans, George H., and Tinkler, Jack D. 3,509,641.

Camp, Frederick W., to Great Canadian Oil Sands Limited. Method of mining bituminous tar sands. 3,510,168, Cl. 299-005.

Campbell, Robert Edward, to British Ropes Limited. Corrosion preventing compositions. 3,510,440, Cl. 260-023.

Canada Packers Limited: *See—*
Koh, Teow Yan, 3,510,561.

Canadian Patents and Development Limited: *See—*
Makow, David M., 3,510,859.

Cannon, John B., Jr., to HRB-Singer, Inc. Optical scanning system. 3,510,191, Cl. 350-007.

Cantatore, Giuseppe: *See—*
Bonvicini, Alberto, and Cantatore, Giuseppe 3,510,437.

Carborundum Company, The: *See—*
Strater, Henry H., 3,510,347.

Carburetion Units Limited: *See—*
Ferriday, Percival Victor, 3,509,860.

Carlson, Carl B., Dent, Benjamin A., and McKeeman, William M., to Burroughs Corporation. Address manipulation circuitry for a digital computer. 3,510,847, Cl. 340-172.5

Carlson, David J., to RCA Corporation. Ultra-high frequency transistor oscillator. 3,510,802, Cl. 331-117.

Carlson, Gordon R. Macerator unit. 3,510,000, Cl. 210-152.

Carlson, Otto K.: *See—*
Stewart, Mary J., and Carlson, Otto K. 3,510,450.

Carmody, Donald W., to Hardy Salt Company. Methods of solution mining. 3,510,167, Cl. 299-004.

Caropreso, Frank E., Chang, Clarence D., Craddock, John H., and Spector, Marshall L., to Pullman Incorporated. Halogenation of an acyclic olefin. 3,510,532, Cl. 260-658.

Carpco Research & Engineering, Inc.: *See—*
Tomlinson, William B., 3,509,997.

Carpenter, Keith H., to General Motors Corporation. Vehicle fluid suspension leveling system with automatic control valve. 3,510,143, Cl. 280-006.

Carr, Donald R., and Berger, S. Edmund, to Allied Chemical Corporation. Curable urethane compositions. 3,510,456, Cl. 260-075.

Carreira, Leonard M., and Tulagin, Vsevolod, to Xerox Corporation. Photoelectrophoretic imaging method. 3,510,419, Cl. 204-181.

Carrier Corporation: *See—*
Thompson, Joseph L., 3,509,696.

Carsello, Anthony J. Valve and seal therefor. 3,510,103, Cl. 251-333.

Carsey, Eugene A., to Kirk & Blum Manufacturing Co., The. Dust collecting plenum installation. 3,509,911, Cl. 137-602.

Carter, William A., to I-T-E Imperial Corporation, mesne. Adjustable three electrode spark gap. 3,510,716, Cl. 313-147.

Carturan, Imerio. Machine for cutting cheese. 3,509,628, Cl. 031-025.

Carver, Paige E. Necktie assistant. 3,510,032, Cl. 223-111.

Cary Corporation: *See—*
Karlen, Harvey R., 3,510,627.

Cary, Henry H., to Cary Instruments, mesne. Polarimeter with regulated photomultiplier tube. 3,510,226, Cl. 356-117.

Cary Instruments: *See—*
Cary, Henry H., 3,510,226.
Hooper, Paige B., 3,510,224.

Casadei, Antonio. Sled for snow and ice. 3,510,144, Cl. 280-021.

Case, J. I., Company: *See—*
Clarke, Evans L., 3,509,701.
Schowalter, Lewis G., 3,509,943.

Case, John William, and Shaw, John, to Imperial Chemical Industries Limited. Process for textile treatment. 3,510,250, Cl. 008-139.1

Case, Leslie Catron. Novel polyether polyols and process for preparing the same. 3,510,471, Cl. 260-209.

Caskey, William J., and Burke, William J., to Speed Equipment Incorporated. Dispenser with cutting means for rolls of wrapping film. 3,510,034, Cl. 225-077.

Castaigne, Albert Rene Joseph, to Centre d'Etudes Pour l'Industrie Pharmaceutique. Urea derivatives as therapeutic agents. 3,510,557, Cl. 424-248.

Caterpillar Tractor Company: *See—*
Waldman, Donald J., 3,510,062.

C.A.V. Limited: *See—*
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Johnson, Douglas A., Tomsic, Robert J., and Goodrich, Hunter C., to RCA Corporation. Linear flux control circuit. 3,510,675, Cl. 307-101.

Johnson, George R., to Arpax Company, The. Mechanism for producing cushioning dunnage. 3,509,797, Cl. 093-001.

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Johnson, Leslie A., to Westinghouse Electric Corporation. Washing machine clutch mechanism. 3,509,743, Cl. 068-023.7

Johnston, Lawton L., to Graniteville Company. Cloth treating apparatus. 3,509,745, Cl. 068-175.

Johnston, William S.: *See—*
Hollibaugh, Richard E., and Johnston, William S. 3,509,901.

Jones, Clarence O., Jr., and Abraham, William F., to Niagara Machine & Tool Works. Switching apparatus. 3,510,610, Cl. 200-025.

Jones, Evan T.: *See—*
Brooks, Dugald A., Jones, Evan T., and Spayd, Richard W. 3,510,348.

Jones, Hugh L., to Xerox Corporation. Double-action rotary solenoid drive mechanism. 3,509,780, Cl. 074-107.

Jones, Richard T., to United States of America, Air Force. Vacuum deposited interconnection matrix. 3,510,349, Cl. 117-212.

Jonker, Gerard Heinrich, and Noorlander, Willem, to U.S. Philips Corporation, mesne. Thermistor. 3,510,820, Cl. 338-022.

Jordan, Merrill E.: *See—*
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Jourdan-Laforte, Eric, to L'Air Liquide, Societe Anonyme Pour L'Etude et et l'Exploitation des Procedes Georges Claude. Method for preparing stable monoperphthalic acid. 3,510,512, Cl. 260-502.

Joyce, Richard D.: *See—*
Loughry, Clark R., and Joyce, Richard D. 3,509,980.

Jull, Norman A., McCracken, Herbert A., and Graham, James C. L., to Technequip Company Limited, The. Large ball check valves. 3,509,900, Cl. 137-112.

Jullien, Jean: *See—*
Frejaville, Gerard, and Jullien, Jean 3,510,519.

Junger, Hans, and Weissenfels, Franz, to Dynamit Nobel Aktiengesellschaft. Fire-preventive structural matrix and process of making the same. 3,510,446, Cl. 260-038.

Kabushiki Kaisha Tone Boring: *See—*
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Kafer, Gordon C.: *See—*
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Kako, Hiroyoshi: *See—*
Sumiyoshi, Masaharu, and Kako, Hiroyoshi 3,509,972.

Kalle Aktiengesellschaft: *See—*
Borchers, Henning H., Steppan, Hartmut, and Uhlig, Fritz, 3,510,307.
Indrike, Viktor, 3,510,550.

Kal-Pac Engineering Ltd.: *See—*
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Kaltenbach, Thomas F., and Wright, Paul E., to General Motors Corporation. Structural adhesives. 3,510,439, Cl. 260-018.

Kamamoto, Kentaro: *See—*
Tsuruta, Motohiro, Kimura, Hiroshiro, Koshimo, Akio, Kobayashi, Nobuhiro, Ishibashi, Matafumi, Mineda, Yoshinori, Yasuzuka, Katsumi, Kamamoto, Kentaro, and Matsuo, Takaaki 3,509,709.

Kamibayashi, Tetsusaburo: *See—*
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Kamitsu Seisakusho Ltd.: *See—*
Tsukuma, Shin, and Higuchi, Akio, 3,510,078.

Kampert, Keith W., and Houtz, Kenneth E., to International Harvester Company. Internal resistance roller clutch. 3,509,974, Cl. 192-085.

Kane, Patrick A. Method and means for self teaching. 3,509,643, Cl. 035-009.

Kaneko, Yoichi, and Sasaki, Yoshimitsu, to Hitachi, Ltd. Negative resistance oscillator stabilized with fundamental and harmonic frequency cavity resonators. 3,510,800, Cl. 331-096.

Kaniwec, George N., to Ingraham Company, The. Alarm condition indicator. 3,509,711, Cl. 058-022.7

Kanoh, Teruchika: *See—*
Tsuboshima, Kazuhiko, and Kanoh, Teruchika 3,510,549.

Kapalko, Erwin J., and Martin, Richard A., to PPG Industries, Inc. Resinous coating compositions containing amide interpolymers. 3,510,540, Cl. 260-831.

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Kappeler, Otto, and Messner, Rudolf, to Elka-Werke Fritz Kiehn GmbH. Mechanisms for filling tobacco into preformed cigarette papers. 3,509,887, Cl. 131-070.

Karapetian, Carl. Disposable barbeque grill. 3,509,814, Cl. 099-445.

Karlen, Harvey R., to Cary Corporation. Hot water supply apparatus. 3,510,627, Cl. 219-320.

Karlin, Jack B., and Droeske, Gordon W. Retractor. 3,509,873, Cl. 128-017.

Karner, Garnet L.: *See—*
Didden, William, Fisher, Earl E., and Karner, Garnet L. 3,510,428.

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Katagi, Takashi: *See—*
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Katsnelson, Moisei Abramovich: *See—*
Grinchenko, Nikolai Grigorievich, Gradov, Oleg Borisovich, Kildishev, Vasily Semenovich, Kramarenko, Vladimir Vasilievich, Katsnelson, Moisei Abramovich, Makogonenko, Ivan Eliseevich, Rudnitsky, Mikhailovich, Stanislavsky, Lazar Yankelevich, Semernin, Mikhail Iosifovich, Chigirinsky, Alexandr Abramovich, and Shulga, Andrei Leontievich 3,510,700.

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Kau, Joshua. Spinning amusement device. 3,509,659, Cl. 046-047.

Kaulfuss, Rudi: *See—*
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Kawabata, Frederick Y., to Tektronix, Inc. Transmission line coupled tunnel diode pulse generator. 3,510,690, Cl. 307-258.

Kawahata, Masayuki, to General Electric Company. Wastewater treatment apparatus incorporating activated carbon bed and regenerator therefor. 3,510,265, Cl. 023-260.

Kawamoto, Katsuaki: *See—*
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Kazan, Benjamin, to Xerox Corporation. Method for visual comparison of information. 3,510,660, Cl. 250-213.

Kazmann, Raphael G., and McEntire, John A., III. Well drilling mud and screen composition and method of use thereof. 3,509,950, Cl. 175-065.

Kearfott, Joseph B., and Baer, Charles E., Jr., to Nalco Chemical Company, mesne. Coated articles and method of reducing the erosion of ingot mold stools. 3,509,936, Cl. 164-072.

Keen, James L.: *See—*
Thielen, Jean B., Keen, James L., and Elmquist, Lyle F. 3,510,248.

Keen, James L., and Elmquist, Lyle F., to General Mills, Inc. Treatment of cellulosic fibers with certain quaternary ammonium compounds. 3,510,246, Cl. 008-116.2

Keesling, Clifford E.: *See—*
Anderson, Earl R., and Keesling, Clifford E. 3,509,983.

Kell, Furman Donald, to RCA Corporation. Drum construction for helical scan tape recorder. 3,510,604, Cl. 179-100.2

Keller, Joseph Richard, to AMP Incorporated. Electrical connector. 3,510,829, Cl. 339-177.

Kelly, Donald A. Stirling engine power system. 3,509,719, Cl. 060-024.

Kelsey-Hayes Company: *See—*
Hall, Robert T., 3,510,563.

Kemp, Kenneth Albert Walters, and Glikin, Paul Edgar, to C.A.V. Limited. Liquid fuel pumping apparatus. 3,509,823, Cl. 103-002.

Kendall Company, The: *See—*
Mellberg, James Richard, 3,510,553.
Olson, Arthur R., 3,510,389.

Kennedy, Charles J., and Byler, Konrad L., to Kennedy, J. C., Company. Tape recording error check system. 3,510,857, Cl. 340-174.1

Kennedy, J. C., Company: *See—*
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Kent-Moore Corporation: *See—*
Berger, James E., 3,510,367.

Kern, Earl C. Vehicle traffic sign. 3,509,652, Cl. 040-125.

Kern, Hans. Telegraph apparatus (5-unit-code) for the setting of symbols which are arranged on a type cylinder. 3,510,583, Cl. 178-034.

Kernander, Warren N.: *See—*
Bakke, Hans A., Corson, Almon J., Kernander, Warren N., and Van Bennekom, Carl F. 3,510,774.

Kernbach, Wilfried A., to Baxter Laboratories, Inc. Method of smoking and cooking stockinette enclosed meat. 3,510,318, Cl. 099-229.

Kerstetter, Donald R.: *See—*
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Kettenmann, Rolf, and Muller-Lobeck, Eberhard, to Schoko-Buck GmbH., Firma. Device for transferring articles onto trays. 3,509,692, Cl. 053-250.

Keulen, Jan J.: *See—*
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Kexel, Edward Philip: *See—*
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Keystone Consolidated Industries, Inc.: *See—*
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Kidokoro, Masanao, Ogawa, Mikio, Morimoto, Motoi, Takei, Hisao, Ogawa, Noboru, and Fukuda, Koji, to Mitsubishi Denki Kabushiki Kaisha. Portable and adjustable contra-angle dental instrument. 3,509,629, Cl. 032-027.

Kieser, Hartmut: *See—*
Erb, Rolf, Irmscher, Klaus, Bruckner, Klaus, Kraft, Hans-Gunther, and Kieser, Hartmut 3,510,556.

Kiessling, Rudolf H., to Square D Company. Single pole snap acting switch. 3,510,614, Cl. 200-067.

Kifer, David E., to Oatey, L. R., Company, The. Rasp file. 3,509,611, Cl. 029-078.

Kikuchi, Hisahide: *See—*
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Kildishev, Vasily Semenovich: *See—*
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Kimata, Shigehiro, to Isuzu Motors Ltd. Anti-squeal disc braking device. 3,509,973, Cl. 188-218.

Kimberly-Clark Corporation: *See—*
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Kimura, Hiroshiro: *See—*
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King, Bertell W., deceased (by King, Bertell W., Jr., executor), and Sherower, Marquerite N., executrix. Casing unit for an instrument for measuring an elevation above water level. 3,509,766, Cl. 073-290.

King, Bertell W., Jr.: *See—*
King, Bertell W., and Sherower, Marquerite N., executrix 3,509,766.

Kintner, Paul M. Cutler-Hammer, Inc. Digital pulse generation system. 3,510,633, Cl. 235-092.

Kiper, Gerd, to Agfa-Gevaert Aktiengesellschaft. Shutter-flash system for photographic cameras. 3,509,806, Cl. 095-010.

Kirk & Blum Manufacturing Co., The: *See—*
Carsey, Eugene A., 3,509,911.

Kirk, Robert S., to General Electric Company. Diamond high pressure cell. 3,509,597, Cl. 018-016.5

Kirkamp, Rolf, Klein, Hartmut, and Rossner, Hans Peter, to Vereinigte Flugtechmische Werke G.m.b.H. Portable ground cover for starting and landing surfaces for vertically and short-starting and landing vehicles. 3,509,800, Cl. 094-013.

Kisinko, Paul M.: *See—*
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Kjonaas, Manley: *See—*
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Klapper, Jacob, to RCA Corporation. Varying bandwidth frequency shift keying receiver. 3,510,779, Cl. 325-320.

Klaue, Hermann. Electric generator. 3,510,703, Cl. 310-070.

Klein, Hartmut: *See—*
Kirkamp, Rolf, Klein, Hartmut, and Rossner, Hans Peter 3,509,800.

Klein, Roelof Jan, to Ingenieursbureau Dwars. Sewage purification. 3,510,110, Cl. 259-107.

Klein, Wolfgang, to International Standard Electric Corporation. Control for an automatic reveille alarm device in telephone systems. 3,510,591, Cl. 179-002.

Kliewer, George G., and Roberts, John H., to Dun-Rite Manufacturing Corporation. Method for tying carcasses. 3,509,594, Cl. 017-045.

Klingler, Emil A.: *See—*
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Klygis, Mindaugas J.: *See—*
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KMS Industries, Inc.: *See—*
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Knowles, Edwin C.: *See—*
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Kobayashi, Nobuhiro: *See—*
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Kobayashi, Sumio: *See—*
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Koblitz, Francis Frederick: *See—*
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Koenig, Andrew C., to Whirlpool Corporation. Method of forming an air conditioner louver structure. 3,509,613, Cl. 029-157.

Koh, Teow Yan, to Canada Packers Limited. Sulfone-enhanced heparin absorption through mucous membranes. 3,510,561, Cl. 424-183.

Kohjin Company, Limited: *See—*
Tsuboshima, Kazuhiko, and Kanoh, Teruchika, 3,510,549.

Kohler, Wolfgang, Roth, Christa, and Debus, Karl-Jurgen, to Linotype G.m.b.H. Photocomposing machines. 3,509,804, Cl. 095-004.5

Kohn, Gustave K.: *See—*
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Koide, Takeo: *See—*
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Kokusai Denshin Denwa Kabushiki Kaisha: *See—*
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Komuro, Keigo: *See—*
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Koseki, Yasuo: *See—*
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Koshimo, Akio: *See—*
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Koshiyama, Hideya, to Hitachi, Ltd. Vacuum cleaner. 3,509,590, Cl. 015-323.

Kough, Blair B.: *See—*
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Kough, John K., and Kough, Blair B., 4/6 to Martin, Otis M., and Miller, Silas N. Blowback seal for building panels. 3,509,676, Cl. 052-541.

Koval, Ivan Ivanovich: *See—*
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Kowalick, Donald F.: *See—*
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Kraft, Hans-Gunther: *See—*
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Kraft, Wolfgang: *See—*
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Kramer, Forrest A., to FMC Corporation. Cylinder fabricating machine. 3,510,378, Cl. 156-218.

Kramer, Henry H.: *See—*
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Kramer, Irvin R., and Burrows, Charles F., to Martin-Marietta Corporation. Method of completely impregnating a medium hard anodized surface witholt straight-chain sturated aliphatic compounds and the product thereof. 3,510,411, Cl. 204-038.

Krasin, Lester D., and Greene, Clifford E., to Superior Cable Corporation. Telephone system with added main line subscriber facilities. 3,510,584, Cl. 179-002.5

Krawetz, Arthur Altshuler, and Tovrog, Theodore, to Henry Valve Company. Method for determining acid content of oil sample. 3,510,260, Cl. 023-230.

Kremer, Gilbert Victor Henri, and Sureau, Robert Frederic Michel, to Kuhlmann, Ugine, mesne. Pyridazone-hydrazones. 3,510,488, Cl. 260-250.

Kresge, Alfred N.: *See—*
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Kreuz, Kenneth L.: *See—*
Larkin, John M., and Kreuz, Kenneth L. 3,510,531.

Krex, Helge E., and Waerum, Julius N. M., to Byggeriets Maskinstationer, Aktieselskab (BMS). Crane jib or mast. 3,509,677, Cl. 052-646.

Kronick, Harvey E., Newcomb, Charles E., and Singer, Sidney, to International Business Machines Corporation. Reverse scanning system. 3,510,866, Cl. 340-324.

Kropp, Paul J., to Procter & Gamble Company, The. Novel reactions of 4-acyloxy-3-caranols and novel bicyclic compounds resulting from said reactions. 3,510,510, Cl. 260-489.

Krucker, Werner: *See—*
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Krueger, John R., Howard, Anthony, and Fackler, George E., to Xerox Corporation. Document registration system. 3,510,125, Cl. 271-010.

Krumbein, Fritz, and Becker, Dietrich, to Zeiss Ikon Aktiengesellschaft. Film projector with automatic correction of the framing of the picture. 3,510,212, Cl. 352-160.

Krumkalns, Eriks V.: *See—*
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Kuehne, Heinz: *See—*
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Kuga, Mutsuo: *See—*
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Kuhlmann, Ugine: *See—*
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Kuhn, Konrad F., to All-O-Matic Manufacturing Corporation. Repair bracket for a transmission housing. 3,509,783, Cl. 074-606.

Kuhne, Gerhard, and Zentner, Erich, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Vinyl chloride polymer mixture for the preparation of transparent rigid sheets. 3,510,543, Cl. 260-876.

Kukihara, Fukuichi, to Kabushiki Kaisha Tone Boring. Excavation of trenches for buried walls. 3,509,949, Cl. 175-040.

Kulka, Thomas S. Ball point pen cleaner. 3,509,591, Cl. 015-423.

Kunert, Alfred: *See—*
Oesterhelt, Gerhard, de Bucs, Eugen Szabo, and Kunert, Alfred 3,510,304.

Kunz, Martin W., to M. T. & D. Company, The. Mower blade housing. 3,509,703, Cl. 056-025.4

Kurashiki Rayon Co., Ltd.: *See—*
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Kutzner, Luitpold: *See—*
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Kweller, Esher R.: *See—*
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L. & C. Steinmuller G.m.b.H.: *See—*
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La Belle, Robert L.: *See—*
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Lacan, Guy H.: *See—*
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Laessig, Rudolph R.: *See—*
Winkler, Seymour H., and Laessig, Rudolph R. 3,510,363.

Laine, Bernard Maurice, and Vernet, Charles L., to British Petroleum Company Limited, The. Cultivation of hydrocarbon-consuming micro-organisms. 3,510,403, Cl. 195-082.

L'Air Liquide, Societe Anonyme Pour L'Etude et et l'Exploitation des Procedes Georges Claude: *See—*
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L'Air Liquide Societe Anonyme pour l'Etude et l'Exploitation des Procedes George Claude: *See—*
Zumbrunn, Jean-Pierre, 3,510,424.

Lalandre, Andre. Apparatus for selecting and positioning films. 3,510,211, Cl. 352-123.

Lamb, Robert M. Endless track vehicle. 3,510,174, Cl. 305-027.

Lamont, Lawrence T., Jr.: *See—*
Rabinowitz, Mario, and Lamont, Lawrence T., Jr. 3,510,712.

Landeborg, Lars Erik: *See—*
Henriksson, Sune Torsten, and Landeborg, Lars Erik 3,509,829.

Landee, Robert W. Self calibrating frequency discriminator circuit. 3,510,769, Cl. 324-082.

Landis & Gyr: *See—*
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Lane Company, Inc., The: *See—*
Brown, Calvin E., 3,510,188.

Lane, William L.: *See—*
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Lang, Armin, to Zahnradfabrik Friedrichshafen Aktiengesellschaft. Power steering apparatus, especially for motor vehicles. 3,509,958, Cl. 180-079.2

Langlieb, Arthur L.: *See—*
Hudson, James L., and Langlieb, Arthur L. 3,510,809.

Lankin, Richard, to Borite Manufacturing Corporation. Milling cutter and blade assembly. 3,509,612, Cl. 029-105.

Lanz, Sigward: *See—*
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Lappala, Risto P.: *See—*
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Larkin, Donald R., Horlenko, Theodore, Tatum, Hopkins Wade, Hood, Coy H., and Cureton, Wilber S., to Celanese Corporation. Purification of hexamethylenediamine by recrystallization from cyclohexane. 3,510,522, Cl. 260-583.

Larkin, John M., and Kreuz, Kenneth L., to Texaco Inc. Preparation of nitroolefins. 3,510,531, Cl. 260-644.

Larkin, Joseph F.: *See—*
Fluhrer, Charles W., and Larkin, Joseph F. 3,509,690.

La Roche, Ulrich, to Contraves AG. Suppression of schlieren phenomena. 3,510,193, Cl. 350-063.

Larsen, Robert N., to United States of America, Atomic Energy Commission. Pulse-stretching circuit. 3,510,691, Cl. 307-267.

Larson, Charles O., to Larson, Chas. O., Co. Stapling machine. 3,510,043, Cl. 227-113.

Larson, Chas. O., Co.: *See—*
Larson, Charles O., 3,510,043.

Larson, Daniel A., Smith, John D., and Martin, Jack, to Westinghouse Electric Corporation. Method of dosing incandesible lamps with halogen. 3,510,189, Cl. 316-003.

Larson, John C., to Rotron Incorporated. Journal bearing system. 3,510,179, Cl. 308-114.

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Melman, Israel J., to Xerox Corporation. Electronic lenticular display system. 3,510,570, Cl. 178-005.4
Menicou, George, to International Standard Electric Corporation. Coded audio frequency digital transmission system. 3,510,592, Cl. 179-002.
Meopta, narodni podnik: *See—*
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Mercer, Stanley, Haslam, Alan Alfred, and Charlesworth, Paul L., to Petrocarbon Developments Limited. Low temperature separation of gases utilizing two distillation columns having a common condenser-evaporator. 3,509,728, Cl. 062-028.
Mercier, Jacques H. Pressure vessel. 3,509,916, Cl. 138-030.
Merck & Co., Inc.: *See—*
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Rogers, Edward F., and Clark, Robert L., 3,510,480.
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Rogalski, Werner, Wahlig, Helmut, and Hepding, Ludwig, 3,510,555.
Mercury Electronics (Scotland) Limited: *See—*
Greer, James Robertson Bouvard, 3,509,767.
Mersereau, John M., to Uniroyal, Inc. Conversion of hydroxylic polymers to carboxylic polymers. 3,510,459, Cl. 260-078.4
Meschi, Joseph E.: *See—*
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Michel, Frank, to Pfizer, Chas & Co., Inc. Packaging tray. 3,509,993, Cl. 206-065.
Mickelson, Floyd L., and Bland, Robert W., to Diversey Corporation, The. Compositions for treating aluminum surfaces. 3,510,430, Cl. 252-079.1
Micro & Precision Mouldings (Cheltenham) Limited: *See—*
James, Michael Joseph, 3,509,812.
Midland-Ross of Canada Limited: *See—*
Macleod, Gordon Ross, 3,509,638.
Midler, Michael, Jr., to Merck & Co., Inc. Production of crystals in a fluidized bed with ultrasonic vibrations. 3,510,266, Cl. 023-273.
Miehle-Goss-Dexter, Incorporated: *See—*
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Thumim, Carl, Herman, Nicholas, and Des Jardins, James, 3,510,123.
Mijich, Joseph T.: *See—*
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Orkney, James Bruce, Mijich, Joseph T., and Tyler, Donald W. 3,509,650.
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Miki, Hiroshi: *See—*
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Miki, Minoru. Expansive cement and the method of producing such cement. 3,510,326, Cl. 106-089.
Miller, Eugene J., Jr., Mais, Ago, Berenschot, Donald J., and Berger, Robert L., to Armour Industrial Chemical Company. Branched fatty tetraamines and alkyl and alkoxy derivatives thereof. 3,510,521, Cl. 260-583.
Miller, George T., to Hooker Chemical Corporation. Stable phosphorus containing solutions. 3,510,327, Cl. 106-287.
Miller, Rolland L., to Robertson, H. H., Company. Closures. 3,509,663, Cl. 049-248.
Miller, Silas N.: *See—*
Kough, John K., and Kough, Blair B., 3,509,676.
Mills, Frank S., to Honeywell Inc. Polarographic cell with composite electrode-diffusion medium. 3,510,420, Cl. 204-195.
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Mirtain, Henri, to Uniroyal Englebert France S.A. Pneumatic tires. 3,509,930, Cl. 152-354.

Mitchell, Charles B. Sailing catamaran with pivoting hulls. 3,509,842, Cl. 114-061.

Mitchell, John E., Company: *See—*
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Mitchell, Maurice E. Mobile overhead service unit. 3,509,965, Cl. 182-062.5

Mitchell, Orville, Roden, Richard L., Freeman, William P., Jr., Harris, John D., and Smith, Dudley C., to Mitchell, John E., Company. Dual action pressure switch. 3,510,617, Cl. 200-083.

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Mitsubishi Denki Kabushiki Kaisha: *See—*
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Mitsubishi Jukogyo Kabushiki Kaisha: *See—*
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Mizutani, Yukio, Yamane, Reiichi, Sata, Toshikatsu, and Izuo, Ryuji, to Tokuyama Soda Kabushiki Kaisha. Electrodialysis process for selectively transferring ions of the same charge. 3,510,417, Cl. 204-180.

Mizutani, Yukio, Yamane, Reiichi, Sata, Toshikatsu, and Izuo, Ryuji, to Tokuyama Soda Kabushiki Kaisha. Ion selective membrane. 3,510,419, Cl. 204-181.

Moberg, Milton L., and Wilson, Elmer Milton, to Aerojet-General Corporation. Breath sampling apparatus. 3,509,771, Cl. 073-421.5

Mobil Oil Corporation: *See—*
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Crean, Robert B., 3,510,328.
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Moeditzer, Kurt, to Monsanto Company. Polymeric germanosiloxanes. 3,510,502, Cl. 260-429.

Mogg, Donald W.: *See—*
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Mohawk Data Sciences Corporation: *See—*
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Moller, Werner, to Oerlikon Engineering Company. Method of manufacturing a heat-resistant high voltage insulation for electrical machines. 3,510,373, Cl. 156-053.

Molnar, William S. Flexible control cable. 3,509,782, Cl. 074-501.

Monge, Michele, and Daga, Angelo Abbate, to I-T-E Imperial Corporation. Fluid amplifier. 3,509,898, Cl. 137-081.5

Mono, Rune G., to Aktiebolaget Skagersviks Industrier. Arrangement in oven openings. 3,509,868, Cl. 126-198.

Monogram Industries, Inc.: *See—*
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Monsanto Chemicals Limited: *See—*
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Moore, Charles C., to American Machine & Foundry Company. Ultrasonic thickness measuring apparatus. 3,509,752, Cl. 073-067.9

Moore, William Henry: *See—*
Walker, John L., and Moore, William Henry 3,510,709.

Mora, Alcide. Method and apparatus for joining an elastic cover sheet to a configured cellular sheet. 3,510,377, Cl. 156-212.

Morat, Franz, G.m.b.H.: *See—*
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Moravek, Josef, and Skoda, Jan, to Ceskoslovenska Akademie ved. Process of producing nucleotides and oligonucleotides by a thermal reaction. 3,510,473, Cl. 260-211.5

Mordaunt, Walter G., and Robertson, Carter, to Lockheed Aircraft Corporation. Gravity insensitive mercury contactor switch. 3,510,618, Cl. 200-152.

More, Philip J., to General Electric Company. Slidable fastening means between related members. 3,509,605, Cl. 024-073.

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Morey, Everett D., to General Electric Company. Labyrinth seal tub cover. 3,509,741, Cl. 068-027.

Morez, Gene S., to Warwick Electronics, Inc. Electronic organ with musical notes comprising beat frequencies of a reference generator and note generators utilizing magnetostrictive oscillators. 3,510,565, Cl. 084-001.06

Morgan, Gerard E., to Riddell, Inc. Shoulder pad construction. 3,509,579, Cl. 002-002.

Morimoto, Motoi: *See—*
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Mork, George W., and Novotny, Carl F., to Bucyrus-Erie Company. Cable support for the bucket attachment of a stick clam excavator or the like. 3,510,018, Cl. 214-147.

Morris, Nathan K. Slicer. 3,509,926, Cl. 146-171.

Mortimer, Austin J., to RCA Corporation. Load sensing and compensating control circuits. 3,510,743, Cl. 318-332.

Morton, James L., to American Hoist & Derrick Co. Sampling process and apparatus for paving material plants. 3,509,770, Cl. 073-421.

Moss, Albert E., to Great Canadian Oil Sands Limited. Method of mining bituminous tar sands. 3,510,169, Cl. 299-007.

Motorola, Inc.: *See—*
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Hahn, Clarence D., 3,510,368.
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Mueller, Hubert W., Jr.: *See—*
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Muhl, Robert C., to National Automatic Tool Company, Inc. Screw feed machine unit. 3,509,793, Cl. 090-021.

Mukai, Hisakazu: *See—*
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Mullaney, John H., to Multronics, Inc. Compact high frequency transportable spiral antenna system. 3,510,872, Cl. 343-745.

Muller, Gerhard: *See—*
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Muller, Hermann G., and Krucker, Werner, to Aktiengesellschaft Cilander. Method of and apparatus for treating textile material. 3,509,746, Cl. 068-177.

Muller, Werner, and Oehler, Werner, to L. & C. Steinmuller G.m.b.H. Pipe wall for steam producers. 3,509,856, Cl. 122-006.

Muller-Lobeck, Eberhard: *See—*
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Muller-Schlenker: *See—*
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Mullins, John W. Line clamping self-tapping service valve. 3,509,905, Cl. 137-318.

Multronics, Inc.: *See—*
Mullaney, John H., 3,510,872.

Murdock, James P., and Pouli, Dirk, to Allis-Chalmers Manufacturing Company. Process for producing high surface area nickel powder. 3,510,408, Cl. 204-010.

Murphy, Charles F., and Page, Leo W., to VSI Corporation. Method of making combination record and erase head. 3,509,623, Cl. 029-603.

Murray, Donald Wayne, and Wheeler, Robert W., to PPG Industries, Inc. Fusing glass sheets by electric heat. 3,510,285, Cl. 065-040.

Mutchnik, Henry, and Mutchnik, Melvin. Bracket mounting for wooden furniture legs. 3,510,096, Cl. 248-188.

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Muth, Karl: *See—*
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Muzinich, William A. Flange spacers. 3,509,918, Cl. 138-178.

Myers, Felix E.: *See—*
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Myers, Felix E., to I-T-E Imperial Corporation. Automatic circuit breaker with cammed over-center operating mechanism. 3,510,818, Cl. 337-055.

Nabiullin, Faat Khatovich, Koval, Ivan Ivanovich, Buzova, Zoya Mikhailovna, Gertsik, Efim Mikhailovich, Marfin, Boris Vasilievich, and Rabinovich, Vyacheslav Anatolievich. Primary alkaline cell. 3,510,358, Cl. 136-107.

Nador, Peter, to Northern Electric Company Limited. Method and apparatus for gauging and adjusting multiple contact relays. 3,510,759, Cl. 324-028.

Nagata, Minoru, to Hitachi, Ltd. Semiconductor differential amplifier providing no level shift between the input and output signal levels. 3,510,791, Cl. 330-030.

Nagato, Syoichi, Suzuki, Juro, and Miki, Hiroshi, to Daicel Ltd. Polypivalolactone compositions stabilized with mercaptans. 3,510,449, Cl. 260-045.7

Nakagome, Yukio, Teramura, Hiroichi, Kamibayashi, Tetsusaburo, Hattori, Naohiko, and Ando, Sumitoshi, to Kokusai Denshin Denwa Kabushiki Kaisha. Readout system for numerical information. 3,510,851, Cl. 340-173.

Nakaguti, Koohei, Ando, Tatuo, Hirooka, Masaaki, and Huzita, Tosimiti, to Sumitomo Chemical Company, Ltd. Process for polymerizing olefinic hydrocarbons. 3,510,465, Cl. 260-093.7

Nakanishi, Isao: *See—*
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National Cash Register Company, The: *See—*
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National Research Development Corporation: *See—*
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National Tube and Reel Corporation: *See—*
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National Union Electric Corporation: *See—*
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Naumann, Fritz, to Daimler-Benz Aktiengesellschaft. Control device, especially height-control device for hydropneumatic spring installations with flow control. 3,509,914, Cl. 137-628.

Neal, Jacoson S.: *See—*
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Neighbors, Ralph P., to Gulf Oil Corporation, mesne. N-Aromatic methyl itaconamates. 3,510,509, Cl. 260-471.

Nelson, Norman A., and Tomlin, Jerry B., to ACF Industries, Incorporated. Submergible wellhead valve and control system. 3,509,910, Cl. 137-594.

Nelson, Robert E., Green, Russell D., and Sanders, Robert K., to General Motors Corporation. Electronic fuel control system. 3,510,697, Cl. 307-308.

Nesslinger, Fritz J., and Borgman, Arthur C., to Harsco Corporation. Hopper support structure. 3,510,020, Cl. 214-703.

Neu, Hermann: *See—*
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Neuman, Edward R. Auto wash. 3,510,352, Cl. 134-045.

Neureiter, Norman P.: *See—*
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Neuzil, Richard W., and De Rosset, Armand J., to Universal Oil Products Company. Olefin separation process. 3,510,423, Cl. 208-310.

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New Directions Film Co., Inc.: *See—*
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New, Russel W., to Meter-All Mfg. Co., Inc. Coin control system for a liquid dispensing machine. 3,509,979, Cl. 194-013.

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Newhouse, Marinus, Jr. Bale-shredding machine. 3,509,924, Cl. 146-070.1

Newman, James B., to United States of America, Atomic Energy Commission. Gas leak rate monitor. 3,509,758, Cl. 073-049.2

Newton, James M., to Shaffer Tool Works. Universal connecting joint. 3,510,153, Cl. 285-018.

Niagara Machine & Tool Works: *See—*
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Nichols, Gordon W., to GAF Corporation. Laser beam scanning film flaw detector. 3,510,664, Cl. 250-217.

Nichols, Richard A., to Collins Radio Company. Digital controlled variable gain circuit. 3,510,682, Cl. 307-230.

Niebel, Ernst: *See—*
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Niederer, Kurt W.: *See—*
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Nielsen, Niels C., to National Union Electric Corporation. Thermally activated ammonia vapor battery. 3,510,357, Cl. 136-086.

Nieuwpoort, Willem Cornelis, and Bleekrode, Richard, to U.S. Philips Corporation, mesne. Acetylene flame laser. 3,510,797, Cl. 331-094.5

Nikawitz, Edward J., to Givaudan Corporation. Polynuclear substituted aminoketones, their salts and intermediates therefor. 3,510,475, Cl. 260-239.

Nippon Electric Company Limited: *See—*
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Nippon Rayon Company Limited (Nippon Rayon Kabushiki Kaisha): *See—*
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Nippon Telegraph and Telephone Public Corporation: *See—*
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Nishidai, Jun: *See—*
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Nishitai, Iwaki: *See—*
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Nishiyama, Akira, to Matsushita Electric Industrial Co., Ltd. Sampling oscilloscope for nonrepeated input signals including a looped circuit. 3,510,767, Cl. 324-077.

Nishiyama, Atsushi, and Kasamatsu, Toshio, to Sumitomo Electric Industries, Ltd. Method of manufacturing nuclear fuel rods. 3,510,545, Cl. 264-000.5

Nissin Electric Co., Ltd.: *See—*
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Nitachi, Ltd.: *See—*
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Nitschke, Norman C.: *See—*
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Nitto Kaser Co., Ltd.: *See—*
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Noble, Milton L., to General Electric Company. Immersed fiber optics structure. 3,510,195, Cl. 350-096.

Noble, Paul Hodgson, to Fellows Gear Shaper Company, The. Electrohydraulic servo control. 3,509,600, Cl. 018-030.

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Nordfors, Edgar G., to Automatic Switch Company. Solenoid operator having armature provided with guide rings. 3,510,814, Cl. 335-262.

Nordstrom, Duane M., to Longview Fibre Company. Inspection and reclosure box. 3,510,051, Cl. 229-051.

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North American Rockwell Corporation: *See—*
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Northern Electric Company Limited: *See—*
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Northern Natural Gas Company: *See—*
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Novotny, Carl F.: *See—*
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N.V. Koninklijke Nederlandsche Zoutindustrie: *See—*
Van Es, Adrianus, 3,510,529.

N.V. v/h P. J. Kipp & Zonen: *See—*
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Oak Electro/Netics Corporation: *See—*
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Oatey, L. R., Company, The: *See—*
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O'Brien, Philip R.: *See—*
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O'Connor, William H., III, to Black and Decker Manufacturing Company, The. Modular brush holder assembly. 3,510,708, Cl. 310-242.

Oden, Hoeckley, to International Standard Electric Corporation. Arrangement for automatic assessment of fees in conference call circuits. 3,510,594, Cl. 179-007.1

Oehler, Werner: *See—*
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Oerlikon Engineering Company: *See—*
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Oesterhelt, Gerhard, de Bucs, Eugen Szabo, and Kunert, Alfred, to Siemens Aktiengesellschaft. Contact structure for a thermoelectric device. 3,510,364, Cl. 136-239.

Ogawa, Mikio: *See—*
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Ogawa, Noboru: *See—*
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Ogden, Kenneth Whittier, and Chapman, Donald Frederick, to British Lighting Industries Limited. Discharge-lamp starting circuits producing high voltage pulses. 3,510,727, Cl. 315-194.
Ogilvie, Frank R. Precision forming press. 3,509,747, Cl. 072-429.
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Orkney, James Bruce, Mijich, Joseph T., Tyler, Donald W., and Wood, Byron A., deceased (by Wood, Eleante F., administratrix), assor. to said Orkney, James Bruce, and Mijich, Joseph T. Method of and apparatus for feeding sheets of flatwork to a flatwork ironer. 3,509,649, Cl. 038-007.
Orlandini, Bruno, and Schmittroth, Walter, to Bunker Hill Company, The. Process of recovering metals from zinc plant residue. 3,510,414, Cl. 204-119.
Orloff, William R., to American Electronic Laboratories, Inc. In-circuit semiconductor leakage testing means and method. 3,510,775, Cl. 324-158.
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Resch, Robert J., to TRW Inc. Naturally sampled quad pulse width modulated inverter. 3,510,751, Cl. 321-019.

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Egan, Richard T., and Roberts, Lawrence M., 3,509,695.

Reuther, Richard. Adjustable height balance beam. 3,510,129, Cl. 272-064.

Revell, Inc.: *See—*
Weinberg, Stanley, and Parker, John C., 3,510,631.

Rex Chainbelt Inc.: *See—*
Sowatzke, Ronald C., 3,510,178.

Rey, Paul Pierre Marie: *See—*
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Reynolds, Charles Edward, to AMP Incorporated. Light base and light-conducting member attached thereto. 3,510,641, Cl. 240-001.

Reynolds Metals Company: *See—*
Goolsby, Patrick F., 3,510,665.
Hollingsworth, John D., 3,510,381.
Schmidt, Walther, 3,510,277.
Wilson, Calvin L., Fox, John H., and Serio, Vincent J., Jr., 3,510,104.

Reynolds, William R., and Tucker, John R., to Garrett Corporation, The. Turbine inlet average temperature system. 3,509,768, Cl. 073-341.

Rheinstahl Huttenwerke AG: *See—*
Hermann, Theodor, 3,510,140.
Lipp, Willi, 3,509,619.

Rhinehart, Earl T., to Magic Chef, Inc. Pilot burner. 3,510,240, Cl. 431-350.

Rhodes, Roland Norman, and Macovski, Albert, to RCA Corporation. Video Circuits for color television receivers. 3,510,573, Cl. 178-005.4

Rhone-Poulenc S.A.: *See—*
Blachere, Albert Marie Ernest, and Breant, Claude Jean Maurice, 3,510,508.
Bonnart, Jacques Paul Marie, Bonnet, Yannik, and Rey, Paul Pierre Marie, 3,510,526.
Conseiller, Yvon, Fontaine, Gerard, and Quiquempois, Andre, 3,510,511.

Rice, Millard Lee, Burton, Joe M., and Shaver, Robert G., to Susquehanna Corporation, The. Propellent grains. 3,509,822, Cl. 102-102.

Richardson, Eric H. Superpositioning image slicer. 3,510,203, Cl. 350-200.

Richardson, Lonnie J., to Oak Electro/Netics Corporation. Rotor actuator. 3,510,810, Cl. 335-068.

Richardson, Ray Alma. Chair supported exercising device with overhead bar and leg exercising means. 3,510,128, Cl. 272-062.

Richman, Peter D., to Leesona Corporation, mesne. Electrochemical cell including electrode having Pd-Pt catalyst. 3,510,356, Cl. 136-186.

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Richter, Gerhard. Thoracic brace. 3,509,875, Cl. 128-078.

Richter, Sidney B., and Mayer, David P., to Velsicol Chemical Corporation. 2-Dimethylamino-5-chloro-benzhydrols. 3,510,517, Cl. 260-570.

Rickenbrode, Gary H.: *See—*
Anderson, Clarence E., and Rickenbrode, Gary H. 3,509,750.

Rickerd, Calvin P., to International Harvester Company. Fruit and nut harvesting machine. 3,509,702, Cl. 056-328.

Riddell, Inc.: *See—*
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Riese, Jerome W.: *See—*
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Riester, Albert, to Daimler-Benz Aktiengesellschaft. Motor vehicle with protection installation against contamination of interior space by means of ABC-war materials. 3,509,810, Cl. 098-001.5

Riga, Udo: *See—*
von Beckman, Helmuth, and Riga, Udo 3,510,106.

Rigaku Denki Company Limited: *See—*
Shimula, Yoshihiro, 3,510,177.

Riley, Harry A.: *See—*
David, Charles W., Penny, Richard J., and Riley, Harry A. 3,509,634.

Robb, Walter L., to General Electric Company. Thin, substantially defect-free organopolysiloxane membrane. 3,510,387, Cl. 161-112.

Robbins, Daniel H., Fairbanks, Henry N., Powers, Robert H., and Pierce, Edmund J., to Itek Corporation. Optical viewer. 3,509,651, Cl. 040-078.

Robbins, Jim, Seat Belt Company: *See—*
Stoffel, Robert W., 3,510,085.

Roberts, John H.: *See—*
Kliewer, George G., and Roberts, John H. 3,509,594.

Roberts, Lawrence M.: *See—*
Egan, Richard T., and Roberts, Lawrence M. 3,509,695.

Robertshaw Control Company: *See—*
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Robertson, Carter: *See—*
Mordaunt, Walter G., and Robertson, Carter 3,510,618.

Robertson, David M., to British Oxygen Company Limited, The. Acceleration responsive fluid flow regulators. 3,509,893, Cl. 137-038.

Robertson, H. H., Company: *See—*
Miller, Rolland L., 3,509,663.

Robertson, John C.: *See—*
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Robinson, Donald E., to Philips Industries, Inc. Panel for heater construction. 3,509,865, Cl. 126-085.

Robinson, La Roy E.: *See—*
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Robinson, Robert Burch. Apparatus for folding sheets. 3,510,031, Cl. 223-037.

Roden, Richard L.: *See—*
Mitchell, Orville, Roden, Richard L., Freeman, William P., Jr., Harris, John D., and Smith, Dudley C. 3,510,617.

Roeder, John, Jr., to Whirlpool Corporation. Absorption refrigeration system. 3,509,732, Cl. 062-476.

Rogalski, Werner, Wahlig, Helmut, and Hepding, Ludwig, to Merck, E., A.G. Antibiotics prepared from tetracycline and gentamicin. 3,510,555, Cl. 424-119.

Rogers, Edward F., and Clark, Robert L., to Merck & Co., Inc. Anticoccidial pyrimidines. 3,510,480, Cl. 260-240.

Romanens, Victor, to Bobst, J., and Son S.A. Mechanism for feeding a sheet material to a processing machine. 3,510,126, Cl. 271-032.

Romere, John M., to American Machine & Foundry Company. Aligning device. 3,510,042, Cl. 226-177.

Rose, Downs & Thompson Limited: *See—*
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Rosen, David: *See—*
Waag, Otto, and Rosen, David 3,510,159.

Rosenberg, Harry W.: *See—*
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Rosenberg, Robert B., Huebler, Jack, and Kweller, Esher R., to Institute of Gas Technology. Incinerator. 3,509,834, Cl. 110-008.

Rosenbrock, Earl H., and Doedens, James D., to Dow Chemical Company, The. Fortfied phenolic resins. 3,510,445, Cl. 260-038.

Rosenthal, Harry Pierre, and Degenhart, Viktor. Production of electrolytic condensers. 3,510,410, Cl. 204-028.

Rosenthal, Rudolph, to Atlantic Richfield Company. Continuous process for dehydration of tertiary butyl alcohol. 3,510,538, Cl. 260-682.

Roshaven, Harold L. Tailgate loading ramp. 3,510,015, Cl. 214-085.

Ross, Charles W., to Leeds & Northrup Company. Load-frequency control system. 3,510,637, Cl. 235-151.21

Rossner, Hans Peter: *See—*
Kirkamp, Rolf, Klein, Hartmut, and Rossner, Hans Peter 3,509,800.

Roth, Christa: *See—*
Kohler, Wolfgang, Roth, Christa, and Debus, Karl-Jurgen 3,509,804.

Rotier, Donald J.: *See—*
Hendrick, Russell C., and Rotier, Donald J. 3,510,092.

Rotier, Donald J., to Honeywell Inc. Control apparatus having integrating means for synchronizing and adjusting the phase of input and counter signals. 3,510,683, Cl. 307-232.

Rotron Incorporated: *See—*
Larson, John C., 3,510,179.

Rotzinger, Bruno: *See—*
Aumuller, Walter, Weber, Helmut, Weyer, Rudi, Muth, Karl, Peschke, Wilhelm Ludwig Andreas Richard, and Rotzinger, Bruno, curator 3,510,496.

Roussel-Uclaf: *See—*
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Rouxel, Roland, and Sourisse, Claude, to Battelle Development Corporation, The. Apparatus for rendering extremal the value of an installation operating criterion. 3,510,635, Cl. 235-150.1

Rovin, Herman, to Ivanhoe Research Corporation. Lockstitch sewing method and system providing bobbinless feed of the bottom thread from a bulk source. 3,509,840, Cl. 112-181.

Rowan Controller Company, The: *See—*
Lawn, Francis, 3,510,753.

Rowe, George E., and Rydlewicz, Alexander H., to Emhart Corporation. Glassware handling apparatus for use with a glassware forming machine to deposit newly formed ware on a take-away conveyor. 3,510,288, Cl. 065-167.

Rubenstein, Freda, and Weisberg, Jack. Multi-purpose dress accessory. 3,509,580, Cl. 002-065.

Rubin, Leonard R., to Engelhard Industries, Inc. Seal for hydrogen diffusion apparatus. 3,510,157, Cl. 285-286.

Ruda, Raymond J., to Bagcraft Corporation of America. Disposable litter bag. 3,510,052, Cl. 229-062.

Rudert, Wolfgang: *See—*
Deutschmann, Herbert, Wahnschaffe, Jurgen, Rudert, Wolfgang, and Mader, Herbert 3,509,861.

Rudnitsky, Mikhailovich: *See—*
Grinchenko, Nikolai Grigorievich, Gradov, Oleg Borisovich, Kildishev, Vasily Semenovich, Kramarenko, Vladimir Vasilievich, Katsnelson, Moisei Abramovich, Makogonenko, Ivan Eliseevich, Rudnitsky, Mikhailovich, Stanislavsky, Lazar Yankelevich, Semernin, Mikhail Iosifovich, Chigirinsky, Alexandr Abramovich, and Shulga, Andrei Leontievich 3,510,700.

Ruf, Walter. Ball mount, particularly for armored vehicles. 3,509,792, Cl. 089-037.

Rupprecht, Heinrich, and Popp, Lorenz, to Bast Hefe- und Spirituswerke GmbH. Preparation of stable concentrates of baking flours containing yeasts. 3,510,312, Cl. 099-094.

Ruspoli, Edmondo. Device for practising golf strokes. 3,510,136, Cl. 273-185.

Russell, Charles E.: *See—*
Russell, Fred E., and Russell, Charles E. 3,510,766.

Russell, Fred E., and Russell, Charles E., to Safetematic, Inc. Probe device having a pair of aligned tubular sections for detecting electric leakage. 3,510,766, Cl. 324-072.5

Russell, Robert H.: *See—*
Bargen, David W., Russell, Robert H., and Zollinger, Richard J. 3,510,696.

Ruth, Richard L.: *See—*
Couleur, John F., Gudenschwager, Philip F., Ruth, Richard L., Shelly, William A., and Trubisky, Leonard G. 3,510,845.

Ryan, Herbert G., and Orsten, George S. F., to Veeder Industries Inc. Accounting system for fuel dispensing equipment. 3,510,630, Cl. 235-092.

Rybar, Clement S.: *See—*
Petros, Andrew J., and Rybar, Clement S. 3,510,045.

Rydlewicz, Alexander H.: *See—*
Rowe, George E., and Rydlewicz, Alexander H. 3,510,288.

Rynbrandt, Ronald H., to Upjohn Company, The. 2-Benzylaminomethyl cycloalkylamines. 3,510,493, Cl. 260-294.7

S. A. Les Fabriques de Balanciers Reunies: *See—*
Bozzone, Paul, 3,510,813.

Saab Aktiebolag: *See—*
Burman, John Birger, 3,510,279.

Saari, Oliver E., to United States Golf Association. Apparatus for testing impact reaction of resilient bodies. 3,509,736, Cl. 073-013.

Sabee, Reinhardt N. Absorbent pad holder and web for the production thereof. 3,509,881, Cl. 128-287.

Sable, Chester A. Swimming pool recreational device. 3,509,584, Cl. 004-172.

Safetematic, Inc.: *See—*
Russell, Fred E., and Russell, Charles E., 3,510,766.

Safford, Earl. Portable refuse container. 3,510,055, Cl. 232-043.2

Sakamoto, Teiichi, and Nishidai, Jun, to Nissin Electric Co., Ltd. Simplified polarity reversal system for D.C. high voltage generator. 3,510,748, Cl. 321-008.

Salmon, Robert F. Marine transport apparatus and method. 3,509,848, Cl. 114-235.

Salzberg, Emmett R.: *See—*
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Sanders Associates, Inc.: *See—*
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Sanders, Robert K.: *See—*
Nelson, Robert E., Green, Russell D., and Sanders, Robert K. 3,510,697.

Sanni, Dominic A., and Di Carlo, Dino, to Di Carlo, Dino, mesne. Dispenser packer. 3,510,054, Cl. 229-066.

Santa Rita Technology, Inc.: *See—*
Stewart, John L., 3,510,588.

Santell, Michael P., Powers, Richard E., and Claus, Steven F. Self-cleaning blackboard. 3,509,644, Cl. 035-066.

Sanyo Electric Co., Ltd.: *See—*
Shigihara, Takanori, 3,510,778.

Sarkes Tarzian, Inc.: *See—*
Fisher, Robert Dean, 3,510,567.

Sarno, Richard L., to Automatic Sprinkler Corporation of America. Scaffold structure. 3,509,966, Cl. 182-119.

Sasaki, Yoshimitsu: *See—*
Kaneko, Yoichi, and Sasaki, Yoshimitsu 3,510,800.

Sass, Frank J., to FMC Corporation. Cartoning machine and method. 3,509,681, Cl. 053-035.

Sata, Toshikatsu: *See—*
Mizutani, Yukio, Yamane, Reiichi, Sata, Toshikatsu, and Izuo, Ryuji 3,510,417.
Mizutani, Yukio, Yamane, Reiichi, Sata, Toshikatsu, and Izuo, Ryuji 3,510,418.

Sato, Kenji, to Kurashiki Rayon Co., Ltd. Process for the preparation of saponified homopolymers of vinyl acetate and copolymers and vinyl acetate. 3,510,464, Cl. 260-087.3

Saunders, Harry L., to Smith Kline & French Laboratories. Method of producing anti-adrenal activity with diarylalkylamines. 3,510,560, Cl. 424-324.

Saunders, Lawrence L., to Whittaker Corporation. Battery activator and venting system. 3,510,361, Cl. 136-162.

Savino, Henry C.: *See—*
Suozzo, John, and Savino, Henry C. 3,509,969.

Scanbe Manufacturing Corporation: *See—*
Schwab, Helmut, and Beale, Stanley E., 3,510,828.

Schaefer, Robert H., to General Motors Corporation. Bidirectional fluid speed senser. 3,509,776, Cl. 073-521.

Schafer, Heinrich, to Farbenfabriken Bayer Aktiengesellschaft. Alkali treatment of chromium ores. 3,510,256, Cl. 023-056.

Schafer, Heinz, Hauske, Gerhard, and Niebel, Ernst, to Clark Equipment Company. Support structure for roller vehicle. 3,509,801, Cl. 094-050.

Schaller, Artur: *See—*
Bittner, Friedrich, Simmersbach, Edmund, Dahm, Franz Ludwig, and Schaller, Artur 3,510,269.

Schauf, Francis J. Smoking pipe cartridge. 3,509,888, Cl. 131-207.

Scheibe, Elias W., and Orent, Edward, to General Motors Corporation. Overhead cam valve lifter. 3,509,858, Cl. 123-090.

Scheitlin, Thomas G.: *See—*
Dewey, James F., Scheitlin, Thomas G., and Thomas, William R. 3,509,697.

Schenk, Dieter, and Gaupp, Horst, to International Standard Electric Corporation. Teleprinter arrangement for reducing received signal distortion. 3,510,582, Cl. 178-017.5

Schickedanz, Erich: *See—*
Bittner, Ernst, and Schickedanz, Erich 3,510,380.

Schiffman, Julius, and Lynn, Howard F., to Chain Lakes Research Associates, Inc. Mirror apparatus with automatic dimming control. 3,510,205, Cl. 350-279.

Schlaginhaufen, Eric A., and Goodwin, Andrew W., to Geigy Chemical Corporation. Dyeing cellulosic fibers or blends thereof with a chloropyrimidyl reactive dye and a resin bonded pigment in a hydroxyethylcellulose-ethyl acrylate- methylmenthacrylate copolymer or butadiene styrene copolymer dispersion. 3,510,244, Cl. 008-062.

Schlatter, Hugo: *See—*
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Schloemann Aktiengesellschaft: *See—*
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Schlumberger Technology Corporation: *See—*
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Young, David E., 3,509,940.

Schmank, Horst W., and Holbert, James M., to Chattem Chemicals, division of Chattem Drug & Chemical Company. Method for producing calcium and magnesium aluminum oxyhydroxides. 3,510,272, Cl. 023-315.

Schmidly, James, Jr., to G-C Electronics, Inc. Well pumping control system. 3,509,824, Cl. 103-025.

Schmidt, Karl-Julius, Hammann, Ingeborg, and Unterstenhofer, Gunter, to Farbenfabriken Bayer Aktiengesellschaft. Phosphoric (-phosphonic) and thiono-phosphoric (-phosphonic) acid esters. 3,510,484, Cl. 260-248.

Schmidt, Walther, to Reynolds Metals Company. Metallic article. 3,510,277, Cl. 029-183.5

Schmittroth, Walter: *See—*
Orlandini, Bruno, and Schmittroth, Walter 3,510,414.

Schnabel, Harry, Jr. Method and structure for reinforcing tunnels. 3,509,725, Cl. 061-045.

Schneider, Gerhard O. K.: *See—*
Pearce, James G., Pharis, William W., and Schneider, Gerhard O. K. 3,510,601.

Schneider, Jos., & Co., Optische Werke Kreuznach: *See—*
Elle, Klaus, 3,510,201.

Schnell, Hermann: *See—*
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Schnetzer, Edgar. Dressing table with pivotable receptacles. 3,509,831, Cl. 108-026.

Schoko-Beck GmbH., Firma: *See—*
Kettenmann, Rolf, and Muller-Lobeck, Eberhard, 3,509,692.

Scholin, Harold W., and Pedersen, Holger E., said Pedersen assor. to said Scholin. Adjustable hydraulic buffering device. 3,510,117, Cl. 267-001.

Scholl Mfg. Co., Inc., The: *See—*
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Schonfelder, Helmut, to Fernseh GmbH. Method of and apparatus for the gradation correction of color television signals. 3,510,572, Cl. 178-005.4

Schowalter, Lewis G., to Case, J. I., Company. Sensing mechanism. 3,509,943, Cl. 172-007.

Schrader, Gert, to Teves, Alfred, GmbH. Master cylinder. 3,509,722, Cl. 060-054.6

Schramm, Richard F., and Burke, William J., to Speed Equipment Incorporated. Dispenser for rolls of perforated foil. 3,510,033, Cl. 225-077.

Schreyer, Kenneth D., to Lyon Metal Products, Incorporated. Cabinet shelf construction. 3,510,187, Cl. 312-304.

Schrock, Richard L., to Goodrich, B. F., Company, The. Plastic extrusion. 3,509,592, Cl. 016-110.

Schulenberg, John W., to Sterling Drug Inc. N-haloalkanoyl-2-nitrodiphenyl-amines. 3,510,516, Cl. 260-562.

Schulz, Heinrich: *See—*
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Schulz, Johann G. D.: *See—*
McCracken, John H., Schulz, Johann G. D., and Ward, John V. 3,510,513.

Schutze, Henry G.: *See—*
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Schwab, Helmut, and Beale, Stanley E., to Scanbe Manufacturing Corporation. Microcircuit hardware. 3,510,828, Cl. 339-174.

Schwope, Arthur D., Jech, Robert W., and Weber, Edward P. Metal fiber composites. 3,510,275, Cl. 029-182.2

Scientific Data Systems, Inc.: *See—*
Potter, Gene Barrack, 3,510,735.

SCM Corporation: *See—*
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Scott, John C.: *See—*
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Scribner, Thomas L.: *See—*
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Security Chemicals, Inc.: *See—*
Fike, Elmer A., 3,510,460.

Seffens, William E., to Petrolite Corporation. Naphthenyl-acylated polyamines and uses. 3,510,282, Cl. 044-063.

Seidel, Don C.: *See—*
Fitzhugh, Edward F., Jr., and Seidel, Don C. 3,510,273.

Seip, Paulus Johannes, to Lever Brothers Company. Glyceride oils. 3,510,501, Cl. 260-425.

Seki, Takeo, Fukumura, Masuo, and Fukke, Hajime, to Hitachi, Ltd. Projection screen. 3,510,197, Cl. 350-117.

Seki, Toshio, and Suzuki, Kozaburo, to Nitto Kaser Co., Ltd. Stabilized polypropylene compositions. 3,510,451, Cl. 260-045.75

Selover, Theodore B., Jr., and Benak, James L., to Standard Oil Company, The (Ohio). Fused salt electrochemical battery with inorganic separator. 3,510,359, Cl. 136-146.

Semernin, Mikhail Iosifovich: *See—*
Grinchenko, Nikolai Grigorievich, Gradov, Oleg Borisovich, Kildishev, Vasily Semenovich, Kramarenko, Vladimir Vasilievich, Katsnelson, Moisei Abramovich, Makogonenko, Ivan Eliseevich, Rudnitsky, Mikhailovich, Stanislavsky, Lazar Yankelevich, Semernin, Mikhail Iosifovich, Chigirinsky, Alexandr Abramovich, and Shulga, Andrei Leontievich 3,510,700.

Sensel, Eugene E.: *See—*
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Serio, Vincent J., Jr.: *See—*
Wilson, Calvin L., Fox, John H., and Serio, Vincent J., Jr. 3,510,104.

Setina, John R. Automobile partition apparatus pivoted on guardplate. 3,510,164, Cl. 296-024.

Seuret, Marcel, Leutenegger, Willi, and Wegmuller, E. Hans, to Geigy, J. R., A.G. Process for the continuous dyeing and printing of fibre material from linear, high molecular esters of aromatic polycarboxylic acids with polyfunctional alcohols. 3,510,243, Cl. 008-039.

Sexton, Earl A., and Williams, Arthur T., to Williams, Arthur T., mesne. Pneumatic chuck. 3,510,082, Cl. 242-068.2

Seymour Foods, Inc.: *See—*
Colaw, Marvin E., 3,509,995.

Seymour, William D. Hula hoop with orbiting satellite. 3,509,660, Cl. 046-051.

Shaffer, Howard R., to I-T-E Imperial Corporation, mesne. Automatic electric brake for electric motor. 3,510,704, Cl. 310-077.

Shaffer Tool Works: *See—*
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Sharpe, Everett E., to Better Packages, Inc. Device for feeding pressure sensitive tape without coil. 3,510,037, Cl. 226-005.

Shattuck, Meredith David: *See—*
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Shaver, Robert G.: *See—*
Rice, Millard Lee, Burton, Joe M., and Shaver, Robert G. 3,509,822.

Shaw, Charles H., and Strauss, Robert G., to Monsanto Company. Apparatus for blow molding plastic articles. 3,509,596, Cl. 018-005.

Shaw, Harry: *See—*
Blair, George S., and Shaw, Harry 3,509,849.

Shaw, Hugh E., Jr., to PPG Industries, Inc. Method and apparatus for measuring optical properties in the surface of materials. 3,510,222, Cl. 356-033.

Shaw, John: *See—*
Case, John William, and Shaw, John 3,510,250.

Shaw, Joseph D. Vectorcardiogrape. 3,509,878, Cl. 128-002.06

Sheets, Thomas Melvin: *See—*
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Sheff, Sander D., to Farr Company. Rotary cam fastener. 3,510,154, Cl. 285-039.

Shelly, William A.: *See—*
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Sheng, Ming Nan, and Zajacek, John G., to Atlantic Richfield Company. Formation of diolefins from internal olefins. 3,510,537, Cl. 260-681.

Sheppard, Darrel J., 50% to Brooks, Willard A. Lunch-box and food-warmer assemblies. 3,509,870, Cl. 126-265.

Sherower, Marquerite N.: *See—*
King, Bertell W., and Sherower, Marquerite N., executrix 3,509,766.

Shigihara, Takanori, to Sanyo Electric Co., Ltd. Combined AM-FM receiver. 3,510,778, Cl. 325-317.

Shima, Masahiro. Needle bed for a flat knitting machine. 3,509,737, Cl. 066-115.

Shimada, Yoshihiko, to Mitsui Shipbuilding & Engineering Co., Ltd. Freight container storing apparatus for cargo ship. 3,509,845, Cl. 114-202.

Shimazawa, Chikara, to Toshiba Kikai Kabushiki Kaisha. Oil cooling arrangement in refrigeration system. 3,509,731, Cl. 062-469.

Shimizu, Masanao: *See—*
Takamatsu, Hideji, Minami, Shinsaku, Fujita, Akio, Yamamoto, Tadatsugu, Fujimoto, Katsuro, Shimizu, Masanao, Takase, Yoshiyuki, and Nakanishi, Isao 3,510,479.

Shimoyama, Eiji. Adjustable sliding compasses. 3,509,631, Cl. 033-027.

Shimula, Yoshihiro, to Rigaku Denki Company Limited. Seal for a rotary shaft. 3,510,177, Cl. 308-036.1

Shinbori, Osamu: *See—*
Amano, Kitsutaro, Koseki, Yasuo, Komuro, Keigo, Tanaka, Takao, Shinbori, Osamu, and Yamamoto, Takaya 3,510,799.

Shinohara, Takeo: *See—*
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Shipp, Robert F.: *See—*
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Shiraiwa, Toshio, and Kobayashi, Sumio, to Sumitomo Metal Industries Ltd. Method and apparatus for detecting local irregularities on strips and controlling the evenness of strips. 3,509,751, Cl. 072-016.

Shulga, Andrei Leontievich: *See—*
Grinchenko, Nikolai Grigorievich, Gradov, Oleg Borisovich, Kildishev, Vasily Semenovich, Kramarenko, Vladimir Vasilievich, Katsnelson, Moisei Abramovich, Makogonenko, Ivan Eliseevich, Rudnitsky, Mikhailovich, Stanislavsky, Lazar Yankelevich, Semernin, Mikhail Iosifovich, Chigirinsky, Alexandr Abramovich, and Shulga, Andrei Leontievich 3,510,700.

Siegel, Alvin M., to American Brightlights Corporation. Flouorescent lights. 3,510,645, Cl. 240-051.11

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Talvenheimo, Gerhardt, and Bergmann, Robert J., to Engelhard Minerals & Chemicals Corporation, mesne. Method for processing clay and product thereof. 3,510,331, Cl. 106-288.
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Terasawa, Shoichi, and Inoue, Kotaro, to Nitachi, Ltd. Control system for fast reactors. 3,510,399, Cl. 176-086.
Tesoro, Giuliana C., to Stevens, J. P., & Co., Inc. Modification of cellulosic materials with tertiary bis-acrylamides. 3,510,247, Cl. 008-116.2
Test Quip Inc.: *See—*
Stratton, Donald A., 3,510,671.
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Schrader, Gert, 3,509,722.
Texaco Inc.: *See—*
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Paap, Hans J., and Hall, Hugh E., Jr., 3,510,654.
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Textrol, Inc.: *See—*
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Textron Inc.: *See—*
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Thayer, Gordon L., Jr., to Du Pont de Nemours, E. I., and Company. Polycarbonates of perfluoroalkyl-terminated alkyl- 1,3-propanediols. 3,510,458, Cl. 260-077.5

Thermo Electron Corporation: *See—*
Brosens, Pierre J., and Glucksman, Dov Z., 3,509,867.

Thielen, Jean B., Keen, James L., and Elmquist, Lyle F., to General Mills, Inc. Treatment of cellulosic fibers with certain chloroamines and chloroquaternaries. 3,510,248, Cl. 008-116.2

Thiem, Dieter: *See—*
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Thiem, Sigrid, and Thiem, Dieter, to Siemens Aktiengesellschaft. Electrolytic capacitor with electrolyte having a solvent containing dimethyl formamide and γ- butyrolactone. 3,510,731, Cl. 317-230.

Thomas & Betts Corporation: *See—*
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Thomas, Arthur L.: *See—*
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Thomas, William R.: *See—*
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Thompson, Joseph L., to Carrier Corporation. Collector assembly for electrostatic air precipitators. 3,509,696, Cl. 055-131.

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Thumim, Carl, Herman, Nicholas, and Des Jardins, James, to Miehle-Goss-Dexter, Incorporated. Depositing and stacking mechanism for continuous three-knife trimmer. 3,510,123, Cl. 271-004.

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Timex Corporation: *See—*
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Tinkler, Jack D.: *See—*
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Titanium Metals Corporation: *See—*
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Mizutani, Yukio, Yamane, Reiichi, Sata, Toshikatsu, and Izuo, Ryuji, 3,510,418.

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Tolliver, Donald L., to Motorola, Inc. Isolation of multiple layer metal circuits with low temperature phosphorus silicates. 3,510,728, Cl. 317-101.

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Topp, Wilhelm, deceased (by Kaulfuss, Rudi, executor), to Bernd Kretzschmer. Cowls for air vent pipes. 3,509,811, Cl. 098-078.

Torfeh, Mark A.: *See—*
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Toulemonde, Jacques, to Compagnie Generale d'Electricite. Control arrangement for series connected thyristors. 3,510,687, Cl. 307-252.

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Trehn, Bengt Ison, to Metior AB. Set of differently coded counter pieces and apparatus for sensing the same. 3,510,659, Cl. 250-209.

Trepanier, Donald L., to Dow Chemical Company, The. Substituted 1,4,5,6-tetrahydro-as-triazine methohalides. 3,510,483, Cl. 260-248.

Trevisan, Sergio, to Comelit-Compagnia Elettronica. Horn-reflector antenna. 3,510,873, Cl. 343-784.

Trouilhet, Maurice Marie Achille, to Calor Appareils Electro-Domestiques. Washing machines, and especially laundry machines. 3,509,744, Cl. 068-132.

Trout, Donald M. Quickly-attachable resiliently-mountable sash guide structure. 3,509,666, Cl. 049-504.

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Truhan, Andrew. Body fluid test stick. 3,509,872, Cl. 128-002.

Trumble, John G. Camping unit fuel tank filler spout attachment. 3,510,024, Cl. 222-005.

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Trupp, Mason. Propulsion system. 3,510,089, Cl. 244-062.

TRW Inc.: *See—*
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Fluhrer, Charles W., and Larkin, Joseph F., 3,509,690.
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Tsuruta, Motohiro, Kimura, Hiroshiro, Koshimo, Akio, Kobayashi, Nobuhiro, Ishibashi, Matafumi, Mineda, Yoshinori, Yasuzuka, Katsumi, Kamamoto, Kentaro, and Matsuo, Takaaki, to Nippon Rayon Kabushiki Kaisha (Nippon Rayon Company Limited). Pneumatically bundled yarn. 3,509,709, Cl. 057-140.

Tsuruta, Motohiro, Kuga, Mutsuo, Mashimo, Takeshi, and Matsumura, Wakuo, to Nippon Rayon Company Limited (Nippon Rayon Kabushiki Kaisha). Biaxially drawing polyamide film. 3,510,552, Cl. 264-289.

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Turner, James G., Jr. Flotation jacket inflating device. 3,510,025, Cl. 222-005.

Turner, Lawrence Alexander, to Fluid Dynamics (Proprietory) Limited. Gate valve means for controlling the flow of water over a weir, dam wall or the like. 3,509,724, Cl. 061-025.

Turner, Robert L. Sealant for pipe joints. 3,510,321, Cl. 106-033.

Turner, William R., to Vitro Corporation of America. Frequency conversion imaging system. 3,510,833, Cl. 340-013.

Turriere; Jean Emile, to International Standard Electric Corporation. Antenna positioning device for following moving bodies. 3,510,877, Cl. 343-760.

Tusa, John, and Lawrence, Leslie C., to Bata Shoe Company, Inc. Articles of footwear. 3,509,647, Cl. 036-002.5

Twells, Robert G., to PPG Industries, Inc. Durable metal oxide coated glass articles. 3,510,343, Cl. 117-070.

Twentieth Century Manufacturing Company: *See—*
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Orkney, James Bruce, Mijich, Joseph T., and Tyler, Donald W. 3,509,650.

Tyler, Tommy N., to Honeywell Inc. Ignition circuit for an arc discharge lamp. 3,510,725, Cl. 315-183.

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Tyrcz, Edward T.: *See—*
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Uhland, Floyd M. Two coil, triple point ignition system. 3,510,670, Cl. 307-010.

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Ullman, Frederick E., and Klygis, Mindaugas J., to Inland Steel Company. Plastic container and lid therefor. 3,510,023, Cl. 220-060.

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Jonker, Gerard Heinrich, and Noorlander, Willem, 3,510,820.
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Vaccari, Pietro, Palvarini, Attilio, De Vita, Mario, and Pece, Pietro, to Manifattura Ceramica Pozzi S.p.A. Process for the dry chlorination of polyvinyl chloride in the presence of gaseous hydrogen. 3,510,416, Cl. 204-159.18

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Van Bennekom, Carl F.: *See—*
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van den Biggelaar, Paul V. M., to American Enka Corporation. Spinneret pack assembly. 3,509,598, Cl. 018-008.

Vandenberg, Edwin J., and Willis, William D., to Hercules Incorporated. Filled epihalohydrin polymer. 3,510,443, Cl. 260-037.

Vandenberg, Edwin J., and Willis, William D., to Hercules Incorporated. Filled epihalohydrin polymers. 3,510,444, Cl. 260-037.

van Dillen, Paul, and Vollmer, Eva, 1/2 to Siemens Aktiengesellschaft, and 1/2 to Borg Service GmbH. Method for etching and cleaning of objects and plants, particularly tube systems and boiler plants, consisting of iron or steel. 3,510,351, Cl. 134-022.

Van Dyken, John: *See—*
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Van Es, Adrianus, to N.V. Koninklijke Nederlandsche Zoutindustrie. Method for the production of pentachlorophenol and of intermediates therefor. 3,510,529, Cl. 260-623.

Van Meteren, Johannes, to Lummus Company, The. Tube bundle handling apparatus. 3,510,012, Cl. 214-001.

Van Winsen, Friedrich H., and Loffler, Erwin, to Daimler-Benz Aktiengesellschaft. Axle suspension for motor vehicles with wheels supported on inclined guide members. 3,509,957, Cl. 180-073.

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Phillips, Robert M., 3,510,711.
Putz, John L., 3,510,720.
Rabinowitz, Mario, and Lamont, Lawrence T., Jr., 3,510,712.

Varron, Arleen S., to Inmont Corporation. Method of electrostatic printing. 3,510,338, Cl. 117-017.5

Vassberg, Charles J. Support framework for farm implements. 3,509,945, Cl. 172-285.

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Velsicol Chemical Corporation: *See—*
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Verlinden, Harry W., to Electrohome Limited. Methods and apparatus for determining the response of an amplifier. 3,510,789, Cl. 330-002.

Vermillion, Herbert E., and Eckert, George W., to Texaco Inc. Jet fuel composition. 3,510,281, Cl. 044-058.

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Vietas, Frank, to Hyde, A. R., & Sons Co. Shoe. 3,509,646, Cl. 036-002.5

VioBin Industries, Inc.: *See—*
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Virtis Company, Inc., The: *See—*
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Vitro Corporation of America: *See—*
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V-M Corporation: *See—*
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Voelcker, Herbert B., Jr., to Research Corporation. Method and apparatus for interpolation and conversion of signals specified by real and complex zeros. 3,510,640, Cl. 235-197.

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von Beckman, Helmuth, and Riga, Udo, to Tamper Inc. Liner assembly. 3,510,106, Cl. 254-043.

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Waag, Otto, and Rosen, David, said Rosen assor. to said Waag. Hollow leg joint construction. 3,510,159, Cl. 287-056.

Waddle, Craig C., Scott, John C., and Harris, Robert K., to Mintech Corporation. Discharge grate mechanism for shaft kiln. 3,510,114, Cl. 263-029.

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Waldman, Donald J., to Caterpillar Tractor Company. Delivery valve for engine fuel pump. 3,510,062, Cl. 239-096.

Walischmiller, Hans. Manipulator for working in non-accessible spaces. 3,510,011, Cl. 214-001.

Walker, Charles S., to Industrial Nucleonics Corporation. Method and control apparatus for regulating apparatuses. 3,510,374, Cl. 156-064.
Walker, John L., and Moore, William Henry, to C.A.V. Limited. Dynamoelectric machines. 3,510,709, Cl. 310-239.
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Walsh, William L., to Gulf Research & Development Company. Process for preparing an ester from a monobasic organic acid and an organic halide. 3,510,500, Cl. 260-410.5
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Walter, Karl-Heinz, to Siemens Aktiengesellschaft. Method for the control of a thin film transformer for the execution of logical operations. 3,510,673, Cl. 307-088.
Walton, Richard S., to Hamilton Watch Company. Electromechanical timepiece. 3,509,714, Cl. 058-023.
Ward, Daniel Douglas, to Allis-Chalmers Manufacturing Company. Mechanical interlock for electrical switches or the like. 3,510,612, Cl. 200-050.
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Warne, Eugene Harold, to Lucas, Joseph, (Industries) Limited. Fuel systems for gas turbine engines. 3,509,720, Cl. 060-039.28
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Watanabe, Makoto, Mukai, Hisakazu, and Kataoka, Keisuke, to Nippon Telegraph and Telephone Public Corporation. High speed semiconductor switching circuitry. 3,510,685, Cl. 307-248.
Watanabe, Masaru, Tamama, Tetsuo, and Eguchi, Norihide, to Mitsubishi Denki Kabushiki Kaisha. Radio detection apparatus. 3,510,87[illegible], Cl. 343-016.
Watkins, Charles William, to Singer Company, The. Pattern mechanism for tufting machines. 3,510,039, Cl. 226-109.
Watkins, Willis T., to Parmelee Plastics Company. Extensible temples for spectacles. 3,510,208, Cl. 351-118.
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Weber, Edward T., and Greenhalgh, Wilbur O., to United States of America, Atomic Energy Commission. Method of preparing a nitride nuclear reactor fuel. 3,510,434, Cl. 252-301.1
Weber, Frank W., to Burroughs Corporation. Convertible timing circuit. 3,510,784, Cl. 328-063.
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Weber, Horst, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of zirconium-praseodymium yellow pigments. 3,510,332, Cl. 106-299.
Weber, Max, to Sulzer Brothers, Ltd. Heat exchanger for a steam raiser with support. 3,509,939, Cl. 165-162.
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Weber, William J., to Phillips Petroleum Company. Printing on packages. 3,509,680, Cl. 053-014.
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Wegner, Eugene H., to Phillips Petroleum Company. Production, recovery and application of enzymatically active microorganisms. 3,510,40[illegible], Cl. 195-051.
Weichel, Ernst. Apparatus for gradually breaking up a heap of cereal or leaf crop. 3,509,925, Cl. 146-105.
Weidenfeld, Abraham, and Hirsch, Louis W. Apparatus for fastening plies of sheet material together. 3,510,044, Cl. 227-118.
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Pelensky, Walter J. Stringed musical instrument. 217,505, 5–5–70, Cl. D56—1.
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Rams, Dieter, to Braun Aktiengesellschaft. Heating fan. 217,459, 5–5–70, Cl. D23—73.
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Sorrell, Seymour S., to Pentapco, Inc. Pair of scissors. 217,433, 5–5–70, Cl. D8—53.
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Traeger, Norman L., to Varsity House, Inc. Shirt. 217,422, 5–5–70, Cl. D2—46.
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Wells, Bertram B., to Bathurst Sales Ltd. Wig holder. 217,516, 5–5–70, Cl. D80—8.
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CLASSIFICATION OF PATENTS

ISSUED MAY 5, 1970

NOTE.—First number, class; second number, subclass; third number, patent number

2– 2	3,509,579	30–125	3,509,627	58– 23	3,509,714	84– 1.04:	3,510,564	114– 29	3,509,841	137–112	3,509,900
65	3,509,580	31– 25	3,509,628	50	3,509,715	.06:	3,510,565	61	3,509,842	204	3,509,901
240	3,509,581	32– 27	3,509,629	60– 10	3,509,716	.16:	3,510,566	77	3,509,843	223	3,509,902
3– 1	3,509,582	58	3,509,630	22	3,509,717	.25:	3,510,567	147	3,509,844	246.15:	3,509,903
.1	3,509,583	33– 27	3,509,631	24	3,509,718	89– 37	3,509,792	202	3,509,845	269	3,509,904
4–172	3,509,584	75	3,509,632		3,509,719	135	3,509,791	208	3,509,846	318	3,509,905
.12:	3,509,585	174	3,509,633	39.28:	3,509,720	90– 21	3,509,793	210	3,509,847	323	3,509,906
190	3,509,586		3,509,634	53	3,509,721	91– 3	3,509,794	235	3,509,848	512	3,509,907
288	3,509,587		3,509,635	54.6	3,509,722	92– 92	3,509,795	117– 1.7	3,510,336	527	3,509,908
8– 4	3,510,241	211	3,509,636	57	3,509,723	251	3,509,796	5.3	3,510,337	565	3,509,909
25	3,510,242	34– 22	3,509,637	61– 25	3,509,724	93– 1	3,509,797	17.5	3,510,338	594	3,509,910
39	3,510,243	54	3,509,638	45	3,509,725		3,509,798	26	3,510,339	602	3,509,911
62	3,510,244	129	3,509,639		3,509,726	35	3,509,799	38	3,510,340	610	3,509,912
94.21:	3,510,245	133	3,509,640	64	3,509,727	94– 13	3,509,800	46	3,510,341	614.11:	3,509,913
116.2 :	3,510,246	134	3,509,641	62– 28	3,509,728	50	3,509,801	68.5	3,510,342	628	3,509,914
	3,510,247	35– 9	3,509,643	37	3,509,729	95– 1	3,509,802	70	3,510,343	637	3,509,915
	3,510,248	10	3,509,645	58	3,509,730	4.5	3,509,803	76	3,510,344	138– 30	3,509,916
.3	3,510,249	18	3,509,642	469	3,509,731		3,509,804	114	3,510,345	32	3,509,917
139.1	3,510,250	66	3,509,644	476	3,509,732	10	3,509,805	154	3,510,346	178	3,509,918
152	3,510,251	36– 2.5	3,509,646	63– 14	3,509,733		3,509,806	169	3,510,347	141– 11	3,509,919
156	3,509,588		3,509,647	15	3,509,734	13	3,509,807	201	3,510,348	100	3,509,920
13– 10	3,510,562	37–142	3,509,648	65– 25	3,510,284	64	3,509,808	212	3,510,349	205	3,509,921
22	3,510,563	38– 7	3,509,649	40	3,510,285	94	3,509,809	118– 6	3,509,849	144– 34	3,509,922
15– 1.7	3,509,589	143	3,509,650	104	3,510,286	96– 1	3,510,297	221	3,509,850	136	3,509,923
323	3,509,590	40– 78	3,509,651	113	3,510,287	.5	3,510,298	316	3,509,851	146– 70.1	3,509,924
423	3,509,591	125	3,509,652	167	3,510,288	.7	3,510,299	323	3,509,852	105	3,509,925
16–110	3,509,592	129	3,509,653	335	3,510,289	27	3,510,300	411	3,509,853	171	3,509,926
17– 43	3,509,593	42– 6	3,509,654	66– 24	3,509,735	29	3,510,301	119– 19	3,509,855	148– 6.15:	3,510,365
45	3,509,594	50	3,509,655	115	3,509,737		3,510,302	20	3,509,854	.35:	3,510,366
18– 1	3,509,595	43– 3	3,509,656	154	3,509,738	36.4 :	3,510,303	122– 6	3,509,856	131	3,510,367
5	3,509,596	57	3,509,657	157	3,509,739	44	3,510,305	31	3,509,857	175	3,510,368
8	3,509,598	44– 58	3,510,281	68– 23.1	3,509,742	48	3,510,304	123– 90	3,509,858	187	3,510,369
16.5 :	3,509,597	63	3,510,282	.7	3,509,743	55	3,510,306	122	3,509,859	149– 46	3,510,370
19	3,509,599	46– 33	3,509,658	27	3,509,740	75	3,510,307		3,509,860	150– 3	3,509,927
30	3,509,600	47	3,509,659		3,509,741	90	3,510,308	196	3,509,861	152–158	3,509,928
	3,509,601	51	3,509,660	132	3,509,744		3,510,309	124– 1	3,509,862	354	3,509,929
42	3,509,602	149	3,509,661	175	3,509,745	98– 1.5 :	3,509,810	16	3,509,863		3,509,930
	3,509,603	232	3,509,662	177	3,509,746	78	3,509,811	125– 11	3,509,864	359	3,509,931
19–156.3 :	3,509,604	49–248	3,509,663	70–363	3,509,748	121	3,509,812	126– 85	3,509,865	156– 11	3,510,371
21– 74	3,510,252	251	3,509,664	364	3,509,749	99– 28	3,510,310	93	3,509,866	14	3,510,372
23– 2	3,510,253	410	3,509,665	71– 90	3,510,290	78	3,510,311	116	3,509,867	53	3,510,373
22	3,510,254	504	3,509,666	72– 16	3,509,751	94	3,510,312	198	3,509,868	64	3,510,374
52	3,510,255	51–295	3,510,283	60	3,509,785	98	3,510,313	248	3,509,869	132	3,510,375
56	3,510,256	328	3,509,667	177	3,509,753	100	3,510,314	265	3,509,870	212	3,510,377
89	3,510,257	52– 28	3,509,668	349	3,509,754	113	3,510,315	271.2 :	3,509,871	218	3,510,378
113	3,510,258	36	3,509,669	355	3,509,755	136	3,510,316	128– 2	3,509,872	221	3,510,379
117	3,510,259	99	3,509,670	386	3,509,756	150	3,510,317	.06:	3,509,878	251	3,510,380
230	3,510,260	145	3,509,671	414	3,509,757	229	3,510,318	17	3,509,873	313	3,510,381
253	3,510,262	235	3,509,672	429	3,509,747	235	3,510,319	66	3,509,874	425	3,510,382
	3,510,263	242	3,509,673	73– 13	3,509,736	365	3,510,320	78	3,509,875	462	3,510,383
254	3,510,261	302	3,509,674	49.2	3,509,758	432	3,509,813	84	3,509,876	505	3,510,384
259.2	3,510,264	462	3,509,675	52	3,509,759	445	3,509,814	130	3,509,877	159– 2	3,509,932
260	3,510,265	541	3,509,676	67.9	3,509,752	100– 47	3,509,815	214	3,509,879	16	3,509,933
273	3,510,266	646	3,509,677	88	3,509,760	101– 1	3,509,816	221	3,509,880	160– 84	3,509,934
285	3,510,267	721	3,509,678		3,509,761	93	3,509,817	284	3,510,587	161– 33	3,510,385
293	3,510,268	731	3,509,679	104	3,509,762	295	3,509,818	287	3,509,881	66	3,510,386
302	3,510,269	53– 14	3,509,680	141	3,509,763	378	3,509,819	325	3,509,882	112	3,510,387
308	3,510,270	35	3,509,681	155	3,509,764	102– 24	3,509,820	348	3,509,883	119	3,510,388
312	3,510,271	39	3,509,682	178	3,509,765	49.3	3,509,821	350	3,509,884	148	3,510,389
315	3,510,272	42	3,509,683	290	3,509,766	102	3,509,822	130– 27	3,509,885	150	3,510,390
321	3,510,273	48	3,509,684	341	3,509,768	104– 88	3,509,826	30	3,509,886	160	3,510,391
345	3,510,274	55	3,509,685	398	3,509,767	105–248	3,509,827	131– 70	3,509,887	162	3,510,392
24– 73	3,509,605	112	3,509,686		3,509,769	282	3,509,828	207	3,509,888	178	3,510,393
25–124	3,509,606	116	3,509,687	421	3,509,770	368	3,509,829	132– 53	3,509,889	162–145	3,510,394
26– 68	3,509,607	163	3,509,688	.5	3,509,771	455	3,509,830	134– 22	3,510,350	164– 25	3,509,935
29– 25.19:	3,509,609	188	3,509,689	425.2	3,509,772	106– 33	3,510,321		3,510,351	72	3,509,936
.42:	3,509,610	246	3,509,690	509	3,509,773	35	3,510,322	45	3,510,352	87	3,509,937
78	3,509,611	247	3,509,691	515	3,509,774	41	3,510,323	122	3,509,890	292	3,509,938
105	3,509,612	250	3,509,692		3,509,775	49	3,510,324	135– 4	3,509,891	165–162	3,509,939
157	3,509,613	54– 83	3,509,693	521	3,509,776	54	3,510,325	136– 13	3,510,353	166–121	3,509,940
159	3,509,614	55– 16	3,509,694	74– 5.2	3,509,777	89	3,510,326	86	3,510,354	149	3,509,941
182.2	3,510,275	120	3,509,695	.6	3,509,778	273	3,510,328		3,510,355	169– 2	3,509,942
.8	3,510,276	131	3,509,696		3,509,779	287	3,510,327		3,510,356	172– 7	3,509,943
183	3,510,278	276	3,509,697	107	3,509,780		3,510,329		3,510,357	19	3,509,944
.5	3,510,277	302	3,509,698	395	3,509,781	288	3,510,330	107	3,510,358	285	3,509,945
195	3,510,279	56– 23	3,509,699	501	3,509,782		3,510,331	146	3,510,359	570	3,509,946
196	3,510,280	25.4 :	3,509,703	606	3,509,783	299	3,510,332	162	3,510,360	721	3,509,947
203	3,509,615	34	3,509,700	869	3,509,784	300	3,510,333		3,510,361	173– 44	3,509,948
420	3,509,616	208	3,509,701	75– .5	3,510,291		3,510,334	181	3,510,376	174– 5	3,510,568
467	3,509,618	291	3,509,704		3,510,292		3,510,335	202	3,510,362	70	3,510,569
482	3,509,608	328	3,509,702	84.4 :	3,510,293	108– 26	3,509,831	205	3,510,363	175– 40	3,509,949
497.5	3,509,617		3,509,705	171	3,510,294	51	3,509,832	239	3,510,364	65	3,509,950
568	3,509,619	338	3,509,706	175.5 :	3,510,295	109– 82	3,509,833	137– 9	3,509,892	70	3,509,951
573	3,509,620	370	3,509,707	201	3,510,296	110– 8	3,509,834	38	3,509,893	339	3,509,952
596	3,509,621	57– 58.32:	3,509,708	77– 2	3,509,750		3,509,835	48	3,509,894	405	3,509,953
599	3,509,622	140	3,509,709	81– 9.22:	3,509,786		3,509,836	81	3,509,895	176– 59	3,510,395
603	3,509,623	153	3,509,710	119	3,509,787	111– 77	3,509,837	.5	3,509,896	61	3,510,396
624	3,509,624	58– 22.7	3,509,711	83–114	3,509,788	112–110	3,509,838		3,509,897	78	3,510,397
30– 2	3,509,625	23	3,509,712	145	3,509,789	121.29:	3,509,839		3,509,898	86	3,510,398
45	3,509,626		3,509,713	697	3,509,790	181	3,509,840	87	3,509,899		3,510,399

177–122	3,509,954	206–48	3,509,989	240–10.6	3,510,644	260–82.1	3,510,462	271–86	3,510,123	313–57	3,510,713
178–5.4	3,510,570	57	3,509,990	51.11:	3,510,645	87.3	3,510,463	272–33	3,510,127	94	3,510,714
	3,510,571	59	3,509,991	241–17	3,510,067		3,510,464	62	3,510,128	108	3,510,715
	3,510,572	62	3,509,992	25	3,510,068	93.7	3,510,465	64	3,510,129	147	3,510,716
	3,510,573	65	3,509,993	33	3,510,069	94.3	3,510,466	67	3,510,130	210	3,510,717
	3,510,574		3,509,994	46	3,510,070	.4	3,510,467	78	3,510,131	318	3,510,718
	3,510,575	208–120	3,510,422	61	3,510,071	97.7	3,510,468	79	3,510,132	333	3,510,719
6	3,510,576	310	3,510,423	73	3,510,072	200	3,510,469	273–103	3,510,133	315–3.5	3,510,720
	3,510,581	209–73	3,509,995	81	3,510,073	207.1	3,510,470	157	3,510,134		3,510,721
.6	3,510,577	111.7	3,509,996	153	3,510,074	209	3,510,471	183	3,510,135	20	3,510,722
.8	3,510,669	158	3,509,997	186	3,510,075	210.5	3,510,472	185	3,510,136	27	3,510,723
7.1	3,510,578	210–63	3,510,424	197	3,510,076	211.5	3,510,473	274–9	3,510,137	39.51:	3,510,724
7.82:	3,510,589	98	3,509,998	241	3,510,077	239	3,510,474	277–35	3,510,138	183	3,510,725
.3	3,510,579	149	3,509,999	242–18	3,510,078		3,510,475	198	3,510,139	189	3,510,726
	3,510,580	152	3,510,000	46.21:	3,510,079		3,510,476	205	3,510,140	194	3,510,727
17.5	3,510,582	192	3,510,001	54.1	3,510,080	.5	3,510,477	279–51	3,510,141	316–3	3,510,189
34	3,510,583	232	3,510,002	67.1	3,510,081	.57:	3,510,478	280–5	3,510,142	26	3,510,190
66	3,510,585	284	3,510,003	68.2	3,510,082	240	3,510,479	6	3,510,143	317–101	3,510,728
69	3,510,586	321	3,510,004	84.51:	3,510,083		3,510,480	21	3,510,144	119	3,510,729
179–1	3,510,588	400	3,510,005	.52:	3,510,084	243	3,510,481	47.19:	3,510,145	137	3,510,730
	3,510,590	522	3,510,006	107.4	3,510,085	247.5	3,510,482	63	3,510,147	230	3,510,731
2	3,510,591	211–24	3,510,007	244–1	3,510,086	248	3,510,483	96.2	3,510,148	234	3,510,732
	3,510,592	40	3,510,008	17.19:	3,510,087		3,510,484	124	3,510,149		3,510,733
.5	3,510,584	49	3,510,009	46	3,510,088	249.5	3,510,485	150	3,510,150		3,510,734
5	3,510,593	176	3,510,010	62	3,510,089	250	3,510,486		3,510,151	235	3,510,735
7.1	3,510,594	214–1	3,510,011	63	3,510,091		3,510,487	484	3,510,152		3,510,736
15	3,510,595		3,510,012	77	3,510,090		3,510,488	491	3,510,146	318–18	3,510,737
	3,510,596	6	3,510,013		3,510,092	256.5	3,510,490	285–18	3,510,153		3,510,738
.55:	3,510,597	62	3,510,014	104	3,510,093	268	3,510,491	39	3,510,154		3,510,739
18	3,510,598	85	3,510,015	130	3,510,094	293	3,510,492	98	3,510,155	28	3,510,740
	3,510,599	86	3,510,016		3,510,095	294.7	3,510,493	132	3,510,156	221	3,510,741
	3,510,600	138	3,510,017	248–188	3,510,096	295	3,510,494	286	3,510,157	313	3,510,742
	3,510,601	147	3,510,018	243	3,510,097	325	3,510,496	287–52.07:	3,510,158	332	3,510,743
90	3,510,602	620	3,510,019	249–20	3,510,098	326.3	3,510,495	56	3,510,159	434	3,510,744
100.2	3,510,603	703	3,510,020	250–41.9	3,510,646	345.2	3,510,497	289–14	3,510,160	320–7	3,510,745
	3,510,604	215–9	3,510,021		3,510,647	385	3,510,498	292–169	3,510,161	39	3,510,746
	3,510,605	219–10.53:	3,510,619	43.5	3,510,648	410.5	3,510,500	241	3,510,162	59	3,510,747
180–5	3,509,955	69	3,510,620	49.5	3,510,649	.9	3,510,499	294–29	3,510,163	321–8	3,510,748
9.5	3,509,956		3,510,621	65	3,510,650	425	3,510,501	296–24	3,510,164	9	3,510,749
73	3,509,957	75	3,510,622	66	3,510,651	429	3,510,502	136	3,510,165		3,510,751
79.2	3,509,958	86	3,510,623	70	3,510,652	455	3,510,503	297–89	3,510,166	18	3,510,750
181–.5	3,509,959	91	3,510,624	71	3,510,653	462	3,510,506	299–4	3,510,167	322–28	3,510,752
	3,509,960	125	3,510,625	.5	3,510,654	463	3,510,507	5	3,510,168	323–1	3,510,753
	3,509,961		3,510,626	83.3	3,510,655	471	3,510,504	7	3,510,169	9	3,510,754
	3,509,962	320	3,510,627	84	3,510,656		3,510,508	33	3,510,170	22	3,510,755
33	3,509,963	366	3,510,628	201	3,510,657		3,510,509	302–61	3,510,171		3,510,756
	3,509,964	220–54	3,510,022	202	3,510,658	489	3,510,510	303–6	3,510,172	324–.5	3,510,758
182–62.5	3,509,965	60	3,510,023	209	3,510,659	496	3,510,511	36	3,510,173		3,510,832
119	3,509,966	222–5	3,510,024	213	3,510,660	502	3,510,512	305–27	3,510,174	6	3,510,757
184–6	3,509,967		3,510,025	214	3,510,661	517	3,510,513	307–10	3,510,670	28	3,510,759
187–26	3,509,968	20	3,510,026		3,510,662	526	3,510,514	39	3,510,671		3,510,760
29	3,509,969	109	3,510,027	215	3,510,663	534	3,510,515	53	3,510,672	30	3,510,761
90	3,509,970	174	3,510,028	217	3,510,664	557	3,510,505	88	3,510,673	52	3,510,762
188–1	3,509,971	402.12:	3,510,029	218	3,510,665	562	3,510,516	.3	3,510,674	54	3,510,763
77	3,509,972	545	3,510,030		3,510,666	570	3,510,517	101	3,510,675	58.5	3,510,764
218	3,509,973	223–37	3,510,031	227	3,510,667	576	3,510,518	108	3,510,676	68	3,510,765
192–85	3,509,974	111	3,510,032	233	3,510,668	583	3,510,519	116	3,510,677	70	3,510,809
110	3,509,975	225–77	3,510,033	251–116	3,510,099		3,510,520	202	3,510,678	72.5	3,510,766
142	3,509,976		3,510,034	138	3,510,100		3,510,521	208	3,510,679	77	3,510,767
193–22	3,509,977	226–1	3,510,035	228	3,510,101		3,510,522	216	3,510,681		3,510,768
35	3,509,978	2	3,510,036	278	3,510,102	603	3,510,523	221	3,510,680	82	3,510,769
194–13	3,509,979	5	3,510,037	333	3,510,103	604	3,510,524	230	3,510,682	122	3,510,771
195–37	3,510,400	7	3,510,038	335	3,510,104	606	3,510,525	232	3,510,683	130	3,510,770
51	3,510,401	109	3,510,039	252–46.6	3,510,425	610	3,510,526	235	3,510,688	142	3,510,772
62	3,510,402	141	3,510,040		3,510,426	622	3,510,527	238	3,510,689	146	3,510,773
82	3,510,403	172	3,510,041	48.2	3,510,427	623	3,510,528	240	3,510,684		3,510,774
197–1	3,509,980	177	3,510,042		3,510,428		3,510,529	248	3,510,685	158	3,510,775
82	3,509,981	227–113	3,510,043	57	3,510,431	631	3,510,530	252	3,510,686	325–55	3,510,776
113	3,509,982	118	3,510,044	62	3,510,429	644	3,510,531		3,510,687		3,510,777
198–26	3,509,983	228–5	3,510,045	79.1	3,510,430	658	3,510,532	258	3,510,690	317	3,510,778
33	3,509,984	229–27	3,510,046	146	3,510,432	666	3,510,533	267	3,510,691	320	3,510,779
36	3,509,985	36	3,510,047	180	3,510,433	671	3,510,534	284	3,510,692	321	3,510,780
69	3,509,986	40	3,510,048	301.1	3,510,434	674	3,510,535	287	3,510,693	451	3,510,781
195	3,509,987	44	3,510,049	316	3,510,435	680	3,510,536	290	3,510,694	328–14	3,510,782
219	3,509,988	51	3,510,050	389	3,510,436	681	3,510,537	296	3,510,695	63	3,510,783
200–19	3,510,608		3,510,051	254–4	3,510,105	682	3,510,538	308	3,510,696		3,510,784
	3,510,609	62	3,510,052	43	3,510,106	683.15:	3,510,539		3,510,697	134	3,510,785
25	3,510,610		3,510,053	173	3,510,107	831	3,510,540	308–9	3,510,175	155	3,510,786
48	3,510,611	66	3,510,054	259–4	3,510,108		3,510,541		3,510,176	206	3,510,787
50	3,510,612	232–43.2	3,510,055	18	3,510,109	874	3,510,542	36.1	3,510,177	329–124	3,510,788
67	3,510,606	234–45	3,510,056	107	3,510,110	876	3,510,543	72	3,510,178	330–2	3,510,789
	3,510,613	235–61.9	3,510,629	260–2	3,510,437	925	3,510,544	114	3,510,179	11	3,510,790
	3,510,614	92	3,510,630	.5	3,510,438	261–29	3,510,111	137	3,510,180	30	3,510,791
80	3,510,615		3,510,631	18	3,510,439	37	3,510,112	152	3,510,181	51	3,510,792
81	3,510,607		3,510,632	23	3,510,440	263–3	3,510,113	187.2	3,510,182	52	3,510,793
.9	3,510,616		3,510,633		3,510,441	29	3,510,114	188	3,510,183	126	3,510,794
83	3,510,617	150	3,510,634		3,510,442	33	3,510,115	189	3,510,184	331–94.5	3,510,795
152	3,510,618	.1	3,510,635	37	3,510,443	264–.5	3,510,545	194	3,510,185		3,510,796
202–248	3,510,404	.23:	3,510,636		3,510,444	13	3,510,546	310–8.5	3,510,698		3,510,797
203–9	3,510,405	151.21:	3,510,637	38	3,510,445	33	3,510,547	49	3,510,699		3,510,798
204–1	3,510,406	168	3,510,638		3,510,446	51	3,510,548	54	3,510,700		3,510,799
	3,510,407	195	3,510,639	40	3,510,447	95	3,510,549	64	3,510,701		3,510,801
10	3,510,408	197	3,510,640	41	3,510,448	242	3,510,550	70	3,510,702	96	3,510,800
15	3,510,409	236–1	3,510,057	45.7	3,510,449	250	3,510,551		3,510,703	117	3,510,802
28	3,510,410	34.5	3,510,060	.75:	3,510,451	255	3,510,489	77	3,510,704	332–14	3,510,803
38	3,510,411	68	3,510,058	.9	3,510,450	289	3,510,552	93	3,510,705	333–1.1	3,510,804
103	3,510,412	93	3,510,059	46.5	3,510,452	266–38	3,510,116	103	3,510,706	7	3,510,805
109	3,510,413	239–8	3,510,061	47	3,510,453	267–1	3,510,117	112	3,510,707	80	3,510,806
119	3,510,414	96	3,510,062		3,510,454	269–104	3,510,118	239	3,510,709	334–40	3,510,807
159.18:	3,510,416	127.1	3,510,063	67.6	3,510,455	270–54	3,510,119	242	3,510,708	49	3,510,808
.2	3,510,415	424	3,510,064	75	3,510,456	58	3,510,120	249	3,510,710	335–68	3,510,810
180	3,510,417	590	3,510,065		3,510,457	68	3,510,121	312–35	3,510,186	142	3,510,811
181	3,510,418	657	3,510,066	77.5	3,510,458		3,510,122	304	3,510,187	153	3,510,812
	3,510,419	240–1	3,510,641	78.4	3,510,459	271–8	3,510,124	325	3,510,188	205	3,510,813
195	3,510,420	6.4	3,510,642	79.5	3,510,460	10	3,510,125	313–7	3,510,711	262	3,510,814
	3,510,421	.46:	3,510,643	80.78:	3,510,461	32	3,510,126		3,510,712	336–133	3,510,815

337–2	3,510,816	340–71	3,510,838	340–200	3,510,859	350–10	3,510,192	352–166	3,510,213	417–206	3,509,823
6	3,510,817	81	3,510,839	227.1	3,510,860	63	3,510,193	353–21	3,510,214	218	3,510,231
55	3,510,818	146.1	3,510,840	246	3,510,861	95	3,510,194	25	3,510,215	415	3,510,232
246	3,510,819	151	3,510,841	259	3,510,862	96	3,510,195	32	3,510,216	450	3,510,234
338–22	3,510,820	168	3,510,842	276	3,510,863	114	3,510,196	355–16	3,510,217	454	3,510,233
183	3,510,821	172.5	3,510,843	311	3,510,864	117	3,510,197	51	3,510,218	462	3,510,235
339–14	3,510,822		3,510,844	324	3,510,865	157	3,510,198	55	3,510,219	424–52	3,510,553
17	3,510,823		3,510,845		3,510,866	160	3,510,199	67	3,510,220	61	3,510,554
29	3,510,824		3,510,846	347	3,510,867	163	3,510,200	77	3,510,221	119	3,510,555
	3,510,825		3,510,847		3,510,868	176	3,510,201	356–4	3,510,225	183	3,510,561
50	3,510,826	173	3,510,848		3,510,869	187	3,510,202	33	3,510,222	240	3,510,556
97	3,510,827		3,510,849	343–6.8	3,510,870	200	3,510,203	71	3,510,223	248	3,510,557
174	3,510,828		3,510,850	16	3,510,871	244	3,510,204	97	3,510,224	274	3,510,558
177	3,510,829		3,510,851	745	3,510,872	279	3,510,205	117	3,510,226	324	3,510,559
198	3,510,830	.2	3,510,852	760	3,510,877	292	3,510,206	401–199	3,510,227	330	3,510,560
258	3,510,831	174	3,510,853	784	3,510,873	351–40	3,510,207	415–121	3,510,228	431–29	3,510,236
340–13	3,510,833		3,510,854	786	3,510,874	118	3,510,208	141	3,510,229	79	3,510,237
27	3,510,834		3,510,855		3,510,875	352–27	3,510,209	173	3,510,230	116	3,510,238
57	3,510,835		3,510,856	798	3,510,876	39	3,510,210	417–12	3,509,824	328	3,510,239
59	3,510,836	.1	3,510,857	346–1	3,510,878	123	3,510,211	36	3,509,825	350	3,510,240
61	3,510,837	187	3,510,858	350–7	3,510,191	160	3,510,212				

Classification of Designs

D 2–46	217,422	D 9–164	217,435	D23–13	217,457	D33–14	217,474	D48–20	217,495	D74–17	217,513
248	217,421	171	217,437	71	217,458		217,476		217,497	D80–1	217,514
419	217,419	177	217,440	73	217,459		217,477	23	217,494	8	217,515
422	217,420	187	217,436	98	217,456		217,478	27	217,496		217,516
447	217,418	232	217,441	155	217,460	D34–4	217,480	D49–35	217,498	9	217,517
452	217,423	D13–1	217,442	D26–1	217,466	5	217,479	D52–7	217,499	D81–10	217,518
D 8–53	217,424		217,443	5	217,463		217,482		217,500	D83–1	217,519
	217,432	D14–3	217,444		217,464		217,483	D54–12	217,501	D85–8	217,520
	217,433		217,446	6	217,465		217,486	D55–1	217,502	D86–10	217,521
	217,434		217,448	14	217,461		217,487		217,503	D89–1	217,522
61	217,426	5	217,447		217,462	15	217,481	D56–1	217,504	D90–5	217,523
62	217,427	24	217,445		217,467		217,484		217,505	8	217,525
63	217,425	D15–1	217,450	D29–1	217,469		217,485	D57–1	217,506	20	217,524
70	217,428	11	217,449	20	217,468		217,488	D59–2	217,507		217,526
98	217,430	D16–1	217,451	D30–13	217,471		217,489	D61–1	217,508		217,527
147	217,431	D22–22	217,452		217,472	D44–15	217,490		217,509	D95–3	217,528
220	217,429	27	217,453	15	217,470	29	217,491	D64–12	217,510		217,529
D 9–44	217,439		217,455	D33–8	217,473	D45–1	217,492	D70–1	217,511	D96–12	217,530
154	217,438	29	217,454	12	217,475		217,493	D71–1	217,512		

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
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(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

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May 5, 1970 Volume 874 Number 1

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 103,906 (MANHATTAN), The Manhattan Shirt Company, Outer shirts, dress-shirts, negligee shirts, and high-grade underwear as follows, shirts, drawers, and union suits made of textile materials; **Reg. No. 124,019**, same, Outer shirts and dress-shirts; **Reg. No. 140,890**, same, Outer shirts, dress-shirts, and pajamas; **Reg. No. 397,414**, same, Articles of wearing apparel specially designed for use by women—namely, skirts, blouses, shirts, and pajamas; **Reg. No. 728,350** (LADY MANHATTAN), same, Articles of wearing apparel for women and young women—namely, dress and sport shirts, blouses, sweaters, bowies, pajamas, pajama coats, casual jackets, skirts, outer shorts, and casual trousers, **filed** Oct. 8, 1969, D.C., S.D.N.Y., Doc. 69–C–4409, *Manhattan Industries, Inc.* v. *Manhandlers Inc.* Default judgment, defendant Manhandlers, Inc. cease and desist from any and all use of Manhandlers as part of a trade name, Dec. 3, 1969.

Reg. No. 124,019. (See Reg. No. 103,906.)

Reg. No. 140,890. (See Reg. No. 103,906.)

Reg. No. 194,124 (WHITE SWAN UNIFORM DRESSES AND DESIGN), White Swan Uniforms, Inc., Uniform dresses, house dresses, porch dresses, daytime frocks, bath robes, evening dresses, street dresses, cloaks, suits, waists, and night dresses; **Reg. No. 286,103** ("WHITE SWAN" ETC. AND DESIGN), same, Men's professional and work uniforms—namely, coats, smocks, gowns, frocks, caps, neckties, vests, and aprons; **Reg. No. 530,368** (WHITE SWAN), same, Uniform dresses, **filed** Jan. 14, 1970, D.C.N.J. (Newark), Doc. C–49–70, *White Swan Uniforms, Inc.* v. *Servisco (Inc.)*.

Reg. No. 286,103. (See Reg. No. 194,124.)

Reg. No. 309,368 (DIXIE CREAM), Dixie Cream Flour Company, Doughnuts and doughnut flour, **filed** Jan. 23, 1970, D.C., E.D. Mo (St. Louis), Doc. 70C–37(2), *Dixie Cream Flour Co.* v. *Robert C. Burns Enterprises, Inc.*

Reg. No. 375,163 (DOLLY MADISON), Interstate Bakeries Corporation, Bakery sweet goods—namely, cakes, soft cakes, angel food cakes, fruit cakes, doughnuts, cookies, and sweet rolls, **filed** Nov. 25, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2436, *Interstate Brands Corporation* v. *Dolly Madison Industries, Inc.*

Reg. No. 397,414. (See Reg. No. 103,906.)

Reg. No. 530,368. (See Reg. No. 194,124.)

Reg. No. 565,061 (TIME), Time, Incorporated, Weekly magazine, **filed** Jan. 21, 1970, D.C., Colo. (Denver), Doc. C–2024, *Time, Inc.* v. *Time International, Inc.*

Reg. No. 654,885 (ELIZABETH POST), Lander Co., Inc., Lipstick, rouge, face powder, liquid cake and cream make-up, dusting powder, talcum powder, perfume, brilliantine, face and hand lotion, cosmetic skin creams for the face, hands and body, eye cream, port cleanser, and hair spray; **Reg. No. 667,199**, same, Nail polish, nail polish remover, wave setting

CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	21,090
Date of oldest new application	January 24, 1969
Date of oldest amended application (filing date)	February 21, 1966

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4-4-69	11-9-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	1-24-69	10-20-66
(III) C. R. FOWLER, Classes 19, 21, 23, 26, 31, 34, 35, 36	9-4-69	2-21-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	3-21-69	11-15-66
Renewals (All Classes)	2-5-70	
Sec. 12(c) Publications (All Classes)	2-12-70	

Applications filed during the month of March 1970—2,908

Registrations Issued ---------- 406—No. 890,305 to No. 890,710
Renewals Issued ---------- 130

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

lotion and eyebrow pencils; **Reg. No. 674,663,** same, Combs; **Reg. No. 676,004,** same, Costume jewelry; **Reg. No. 676,049,** same, Dresses, brassieres, gloves, and undergarments, filed Feb. 3, 1970, D.C., S.D.N.Y., Doc. 70–449, *Lander Co., Inc.* v. *S. H. Kress & Co.*

Reg. No. 667,189. (See Reg. No. 654,885.)

Reg. No. 669,234 (WHITE), White Sewing Machine Corporation, Sewing machines, filed June 23, 1969, D.C., Ariz. (Phoenix), Doc. 69–268–C, *White Sewing Machine Company* v. *Rooney et ux, Sewing Distributors, Inc. et al.* Decree injunction judgment permanent injunction against use of the word "White," Jan. 25, 1970.

Reg. No. 670,255 (MUSIDISC), Nilo Santos Pinto, Grooved phonograph records, filed June 25, 1969, D.C., S.D.N.Y., Doc. 69–C–2743, *Nilo Santos Pinto, Records Distributors of America Inc.* v. *Talmadge Productions Inc.* Stipulation of dismissal, Jan. 21, 1970.

Reg. No. 672,232 (HABITAT), Habitat, Inc. Lighting fixtures, filed Feb. 4, 1970, D.C., W.D. Wis. (Madison), Doc. 70–C–28, *Habitat, Inc.* v. *Habitat Ltd.*

Reg. No. 674,663. (See Reg. No. 654,885.)

Reg. No. 676,004. (See Reg. No. 654,885.)

Reg. No. 676,049. (See Reg. No. 654,885.)

Reg. No. 728,350. (See Reg. No. 103,906.)

Reg. No. 831,747 (MATCHBOX), Lesney Products & Co., Ltd., Toys—namely, model vehicles, model machines, plastic fire stations, ambulance stations, service stations, and cardboard road layouts, filed Apr. 1, 1969, D.C., S.D.N.Y., Doc. 69–C–1330, *Lesney Products & Co. Ltd. et ano.* v. *Schoolinc Corporation.* Order dismissing action, Oct. 27, 1969.

Reg. No. 838,405 (PHOTOMATIC AND DESIGN), The Photo-Matic Corporation, Photographers used entirely for commercial purposes, either singly or in combination, including prints, enlargements, colored photographs, color separations, transparencies, photomurals, and photo tip-ons, filed Aug. 11, 1969, D.C., S.D. Calif. (San Diego), Doc. 69–238–S, *The Photo-Matic Corporation* v. *Fotomat Corporation.* Stipulated dismissal between parties pursuant to Rule 41(a)(1) F.R.C.P., Feb. 10, 1970.

Reg. No. 848,227 (DESIGN OF PEACOCK), Jakob Schlapfer & Co. AG, Schiffli embroideries, filed Apr. 16, 1969, D.C., S.D.N.Y., Doc. 69–1571, *Jakob Schlapfer & Co. Ltd.* v. *Park Schiffli Inc.* Consent decree, Park Schiffli Inc. are perpetually enjoined, Feb 9, 1970.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 287,332. Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning, Frankfurt am Main, Germany. Filed Dec. 21, 1967.

HOECHST

Owner of German Reg. No. 765,192, dated June 1, 1956; and U.S. Reg. Nos. 542,319, 786,235, and others.

Class 1—Raw or Partly Prepared Materials

For Synthetic Resins; Lime, Gravel, Gypsum, Pitch, Asphalt, and Tar (Int. Cls. 1 and 19).

Class 4—Abrasives and Polishing Materials

For Shoe Polishes, Floor Polishes, and Polishing Waxes (Int. Cl. 3).

Class 5—Adhesives

For Synthetic Adhesives and Wood-Glues for Industrial Use (Int. Cl. 1).

Class 6—Chemicals and Chemical Compositions

For Scudding Agents, Tanning Agents and Preservatives for Leather, Herbicides, Pesticides, and Disinfectants; Timber Preservatives; Acids, Alkalis, Salts and Chlorine; Solvents; Plasticizers; Chlorinated Paraffins; Glycols; Catalysts; Driers; Refrigerants; Aerosol Propellants; Foaming Agents; Gases; Heavy Water; Radio-Active Substances; Odorants; Photographic Chemicals; Fire Extinguishing Agents; Dyestuffs, Pigments, Mordants, Color Additives, and Coloring Matter (Int. Cls. 1, 2, and 5).

Class 10—Fertilizers

For Chemical Fertilizers (Int. Cl. 1).

Class 12—Construction Materials

For Cut Stones, Artificial Stones, Cement, Lime, Gypsum, Pitch, Asphalt, Tar, Roofing Felts, Movable Buildings, and Chimneys (Int. Cl. 19).

Class 16—Protective and Decorative Coatings

For Rust Preventatives, Varnishes, Paints, Lacquers and Enamels, Binders for Paints, Primers and Strengtheners for Plaster and Paints, Emulsion Paints Including Flame-Retardant Types, and Primers (Int. Cl. 2).

Class 18—Medicines and Pharmaceutical Preparations

For Pharmaceuticals and Chemical Products for Healing Purposes and Hygiene, Pharmaceutical Drugs—Namely, Analgesics, Anesthetics, Antimalarials, Antihistamines, Disinfectants, Sulfa Drugs, Antibiotics, Vasoconstrictors and Dilators, Heart Stimulants, Blood Plasma, Hormone Preparations, Vaccines, and Diagnostics (Int. Cl. 5).

Class 44—Dental, Medical, and Surgical Appliances

For Molding Materials for Dental Purposes, Dental Fillers, Bandage Materials, Slings and Bandages, Plasters, Syringes, and Syringe Cartridges (Int. Cls. 5 and 10).

Class 46—Foods and Ingredients of Foods

For Canned Dietary Fruits and Vegetables, and Food Preservatives (Int. Cls. 1 and 5).

Class 52—Detergents and Soaps

For Stain-Removing Agents, Pickling Agents for Metals, Rust Removers, and Metal Degreasing Agents (Int. Cls. 1 and 3).

SN 302,432. Mite Corporation, New Haven, Conn. Filed July 10, 1968.

STROMBERG

The drawing is lined to indicate the color gray, but no claim is made for the color. Owner of Reg. Nos. 529,486, 813,365, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Actuated Audible and Visible Indicators for Industrial Use—Namely, Horns, Whistles and Flashing Lights, Readouts, Annunciators, Amplifiers, and Relays (Int. Cls. 9 and 11).

Class 26—Measuring and Scientific Appliances

For Attendance Recorders, Job Cost Recorders, Timers, Time Stamps, and Automatic Programmers (Int. Cl. 9).

Class 27—Horological Instruments

For Master and Secondary Clocks, and Master Timers (Int. Cl. 14).

First use January 1967.

SN 308,653. Profitunities Incorporated, New York, N.Y. Filed Oct. 2, 1968.

PROFITUNITIES

DOT ● MATS

Owner of Reg. Nos. 262,486, 404,137, and 878,684.

Class 38—Prints and Publications

For Catalogs Containing Mats of Advertising by Others (Int. Cl. 16).

Class 101—Advertising and Business

For Services of Providing Mats, Mat Services, and Related Catalogs to Newspapers and Magazines, and Compiling Lists and Clippings and Rendering Reports to Business and Industrial Clients Re Various Advertisements Which Have Appeared in Newspapers, Magazines, etc. (Int. Cl. 35).

First use Sept. 10, 1968.

SN 310,083. Fuller Laboratories, Inc., Eden Prairie, Minn. Filed Oct. 21, 1968.

BIRCHWOOD CASEY

Class 4—Abrasives and Polishing Materials

For Gun Stock Polish and Conditioner and Gun Stock Wax (Int. Cl. 3).
First use October 1966.

Class 6—Chemicals and Chemical Compositions

For Leather Dressing (Int. Cl. 4).
First use October 1966.

Class 16—Protective and Decorative Coatings

For Gun Stock Filler, Gun Stock Stain, Gun Stock Finishing Oil, Gun Stock Finishing Kit (Including Wool Pad, Fine and Coarse Production Papers and Finishing Oil), Gun Bluing Paste, Gun Bluing Liquid, Gun Stock Polyurethane Finish, Gun Bluing Touch-Up, Gun Bluing Kits (Including Gun Bluing, Gun Cleaner-Degreaser, Bluing and Rust Remover, Bluing Remover Cloth, Steel Wool Pads, Bluing Applicators, Service Cloth and Silicone Cloth), and on Gun Stock Refinishing Kits (Including Gun Stock Finishing Oil, Gun Stock Sheen and Conditioner, Gun Stock Wax, Silicone Cloth, Fine and Coarse Gun Production Papers, Steel Wool Pads, and Service and Polishing Cloths) (Int. Cls. 2 and 21).
First use January 1967.

Class 52—Detergents and Soaps

For Brass Cartridge Case Cleaners, Gun Bore Solvent, Gun Stock Finish Remover, Gun Cleaner and Degreaser, and Gun Bluing and Rust Remover (Int. Cl. 3).
First use October 1966.

SN 341,887. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1969.

ASILI

The word "Asili" translates as the Latin plural of "gadfly" and from the Swahili language as "natural."

Class 51—Cosmetics and Toilet Preparations

For Hair Pressing Creme, Creme Rinse, Hair Conditioner Spray-On Brilliantine and Hair Dressing (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).
First use Oct. 16, 1969.

SN 341,888. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1969.

RECLAIR

Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparations, Hair Lightener, Hair Conditioner, Hair Setting Lotion, Permanent Wave Preparations, Nail Polish, Lipstick, Moisture Make-Up Foundation, Eye Shadow, Eyeliner, Eyebrow Make-Up, Mascara, Highlightener for Eyes, and Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo and Toilet Soap (Int. Cl. 3).
First use Aug. 29, 1969.

SN 347,136. Hoffmann-La Roche Inc., Nutley, N.J. Filed Dec. 29, 1969.

ROCOM

Class 26—Measuring and Scientific Appliances

For Sound Film Projectors and Sound Film Strip Projectors for Health and Medical Educational Use (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Pre-Recorded Audio Tapes for Health and Medical Educational Use (Int. Cl. 9).
First use Aug. 1, 1969.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.
[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 319,834. Porex Materials Corporation, Fairburn, Ga. Filed Feb. 19, 1969.

POR-X

For Porous Plastic Molded Compound for General Use in the Industrial Arts (Int. Cl. 1).
First use on or about Apr. 1, 1968.

SN 319,843. Pioneer Hi-Bred Corn Company, Des Moines, Iowa. Filed Feb. 24, 1969.

Hy-Line

Owner of Reg. Nos. 387,198, 544,829, and 798,668.
For Seed Corn, Live Poultry Chicks, and Poultry Hatching Eggs (Int. Cl. 31).
First use About Jan. 14, 1969, on poultry chicks and hatching eggs.

SN 323,175. United Chinchilla Associates, Inc., New York, N.Y. Filed Mar. 28, 1969. COLLECTIVE MARK.

Aurora

Owner of Reg. No. 720,163.
For Chinchilla Pelts (Int. Cl. 18).
First use Nov. 16, 1960.

SN 329,325. American Modoc, Inc., d.b.a. Redwood-Pacific Co., Davis, Calif. Filed June 6, 1969.



For Decorative Bark for Playground, Garden and Patio Use and as a Mulch (Int. Cl. 1).
First use May 7, 1969.

SN 330,170. The Mogul Corporation, Chagrin Falls, Ohio. Filed June 16, 1969.

DI-SEKTO

For Preserved Fetals, Animals and Tissues, Fluids, Glands and Organs Thereof for Research and Education (Int. Cl. 31).
First use Mar. 3, 1969.

SN 331,595. Docktor Pet Centers, Inc., d.b.a. Docktor's, Philadelphia, Pa. Filed July 2, 1969.

QUEENSLAND

For Live Parakeets (Int. Cl. 31).
First use on or about Jan. 1, 1949.

SN 331,779. Textron, Inc., Providence, R.I. Filed July 3, 1969.

BURKRON

Owner of Reg. Nos. 634,247 and 666,184.
For Bonded Polyester Batting (Int. Cl. 17).
First use Jan. 9, 1969.

SN 332,156. Shaver Poultry Breeding Farms Limited, Galt, Ontario, Canada. Filed July 9, 1969.

SHAVER MINICROSS

Owner of Reg. Nos. 705,723, 831,287, and others.
For Live Poultry and Hatching Eggs (Int. Cl. 31).
First use Sept. 2, 1968; in commerce Apr. 16, 1969.

SN 332,352. Indpol, Cucamonga, Calif. Filed July 11, 1969.

MONOPOL

For One-Component, Solvent Free, Castable Polyurethane Elastomer (Int. Cl. 1).
First use May 15, 1969.

SN 332,906. American Cyanamid Company, Wayne, N.J. Filed July 18, 1969.

ADAPHAX

For Polyurethane (Int. Cl. 1).
First use at least March 1969.

SN 346,689. Engelhard Minerals & Chemicals Corporation, Edison, N.J. Filed Dec. 19, 1969.

ANSILEX

For Clays for Coating and Filling Paper and Paperboard (Int. Cl. 1).
First use Nov. 21, 1969.

Class 2—Receptades

SN 342,909. Sunbeam Corporation, Chicago, Ill. Filed Nov. 6, 1969.

SUNBEAM

For Vacuum Cleaner Filter Bags (Int. Cl. 21).
First use July 29, 1959.

SN 342,957. Continental Can Company, Inc., New York, N.Y. Filed Nov. 7, 1969.

WEATHERPAK

For Fiber Drums (Int. Cl. 20).
First use Oct. 14, 1969.

SN 343,342. Vision Wrap Industries, Inc., Palatine, Ill. Filed Nov. 12, 1969.

REDI-RAK

For Transparent Plastic Bags (Int. Cl. 20).
First use during January 1963.

SN 343,390. Cumberland Corporation, Chattanooga, Tenn. Filed Nov. 18, 1969.

WIRE-LITE

For Dairy Delivery Cases (Int. Cl. 6).
First use at least as early as Oct. 15, 1969.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 340,828. Scarves By Vera, Inc., New York, N.Y. Filed Oct. 15, 1969.

VERA

For Suitcases, Handbags, Purses, Valises, Attache Cases, and Wallets (Int. Cl. 18).
First use Oct. 2, 1969.

Class 4—Abrasives and Polishing Materials

SN 281,102. Nutrilite Products, Inc., Buena Park, Calif. Filed Sept. 25, 1967.

NPI

Owner of Reg. No. 792,770.
For Aerosol Product for Instantly Dusting and Polishing Furniture, an Aerosol Product for Simultaneously Cleaning Floors and Giving Them a Dust Resistant Wax Shine, a Car Polish and Protective Glaze of Silicone Derivatives for Cleaning and Protecting the Finish on Automobiles, and a Shoe Shine Product in Aerosol Form (Int. Cl. 3).
First use May 29, 1967.

Class 5—Adhesives

SN 338,494. Reichhold Chemicals, Inc., White Plains, N.Y. Filed Sept. 22, 1969.

DECOBOND

Owner of Reg. No. 884,884.
For Construction Adhesive for Beams, Panels, and the Like (Int. Cl. 1).
First use May 8, 1969.

SN 341,870. The Valspar Corporation, Rockford, Ill. Filed Oct. 27, 1969.

RELEASTICK

For Carpet Adhesives (Int. Cl. 1).
First use on or about Sept. 2, 1969.

Class 6—Chemicals and Chemical Compositions

SN 311,484. Givaudan Corporation, Clifton, N.J. Filed Nov. 6, 1968.

GIVAUDAN

For Owner of Reg. Nos. 391,676 and 504,203.
For Natural, Artificial and Synthetic Essential Oils and Perfume Compositions, and Bactericidal and Preservative Chemicals and Compositions Sold in Bulk Form for Use as an Ingredient in the Manufacture of Soaps and Detergents (Int. Cls. 1 and 3).
First use June 28, 1940.

SN 316,712. Dow Corning Corporation, Midland, Mich. Filed Jan. 16, 1969.

DOW CORNING 510

Owner of Reg. Nos. 571,013 and 576,946.
For Methylphenyl Polysiloxane Hydraulic Fluid (Int. Cl. 1).
First use Dec. 1, 1948.

SN 316,713. Dow Corning Corporation, Midland, Mich. Filed Jan. 16, 1969.

DOW CORNING 550

Owner of Reg. Nos. 571,013 and 576,946.
For Phenyl Silicone Hydraulic Fluid (Int. Cl. 1).
First use Feb. 25, 1946.

SN 316,714. Dow Corning Corporation, Midland, Mich. Filed Jan. 16, 1969.

DOW CORNING 702

Owner of Reg. Nos. 571,013 and 576,946.
For Silicone Vacuum Diffusion Pump Hydraulic Fluid (Int. Cl. 1).
First use Dec. 24, 1959.

SN 316,715. Dow Corning Corporation, Midland, Mich. Filed Jan. 16, 1969.

DOW CORNING 704

Owner of Reg. Nos. 571,013 and 576,946.
For Silicone Vacuum Diffusion Pump Hydraulic Fluid (Int. Cl. 1).
First use Dec. 4, 1959.

SN 316,716. Dow Corning Corporation, Midland, Mich. Filed Jan. 16, 1969.

DOW CORNING 705

Owner of Reg. Nos. 571,013 and 576,946.
For Silicone Vacuum Diffusion Pump Hydraulic Fluid (Int. Cl. 1).
First use Oct. 1, 1962.

SN 324,824. M.F.A. Oil Company, Columbia, Mo. Filed Apr. 17, 1969.

AGRI-STOCK

For Insecticide for Livestock (Int. Cl. 5).
First use Apr. 4, 1969.

SN 325,137. Olin Mathieson Chemical Corporation, New Haven, Conn. Filed Apr. 22, 1969.

LWS

For Hydraulic Brake Fluid (Int. Cl. 1).
First use Mar. 7, 1969.

SN 325,553. Poviet Producten, N.V., Amsterdam, Netherlands. Filed Apr. 25, 1969.



For Grouping, Typing, Testing and Treatment of Blood, for the Preparation of Sera and Culture Media, and for Protein Determinations (Int. Cl. 1).
First use Feb. 11, 1956; in commerce Aug. 28, 1956.

SN 325,944. Air Products and Chemicals, Inc., Allentown, Pa. Filed Apr. 30, 1969.

APACHI

For Liquified Hydrocarbon Gas for Use in Metalworking (Int. Cl. 4).
First use on or about July 18, 1968.

SN 326,122. Pilot Chemical Company, Santa Fe Springs, Calif. Filed May 1, 1969.

CALIMER

For Emulsion Polymer Suitable for Dilution to a Floor Finish Liquid Suitably Compounded With Resins, Plasticizers, and Evaporation Control Agents To Give a Protective Floor Finish Marked by Controllable Gloss, Heel Mark Resistance, Non-Yellowing and Good Wear Characteristics (Int. Cl. 1).
First use Feb. 3, 1969.

SN 326,123. Pilot Chemical Company, Santa Fe Springs, Calif. Filed May 1, 1969.

CALIPOL

For Emulsion Polymer Suitable for Dilution to a Floor Finish Liquid Suitably Compounded With Resins, Plasticizers and Evaporation Control Agents To Give a Protective Floor Finish Marked by Controllable Gloss, Heel Mark Resistance, Non-Yellowing, and Good Wear Characteristics (Int. Cl. 1).
First use Feb. 3, 1969.

SN 326,124. Pilot Chemical Company, Santa Fe Springs, Calif. Filed May 1, 1969.

CALFLOOR

For Emulsion Polymer Suitable for Dilution to a Floor Finish Liquid Suitably Compounded With Resins, Plasticizers and Evaporation Control Agents To Give a Protective Floor Finish Marked by Controllable Gloss, Heel Mark Resistance, Non-Yellowing, and Good Wear Characteristics (Int. Cl. 1).
First use Feb. 3, 1969.

SN 330,228. The Western Company of North America, d.b.a. The Western Company, Fort Worth, Tex. Filed June 16, 1969.

INSTANT BANANA PEEL

For Friction Reducing Chemical for Making Surfaces Slick (Int. Cl. 1).
First use Sept. 7, 1967.

SN 330,684. American Cyanamid Company, Wayne, N.J. Filed June 23, 1969.

CYTROLANE

For Insecticide (Int. Cl. 5).
First use June 5, 1969.

SN 330,747. Hoffmann-La Roche Inc., Nutley, N.J. Filed June 23, 1969.

GELISONDE

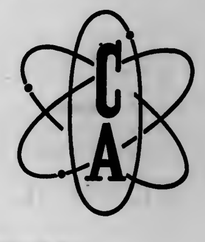
For Skin Contact Jelly Used as a Coupling Composition With Blood Pressure Monitor (Int. Cl. 1).
First use June 4, 1969.

SN 331,334. Chemical Additives Company, Houston, Tex. Filed June 30, 1969.

LARIAT

For Wellbore Fluid Additives (Int. Cl. 1).
First use Jan. 1, 1963.

SN 331,636. Monsanto Company, St. Louis, Mo. Filed July 2, 1969.



For Herbicide (Int. Cl. 5).
First use June 5, 1969.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 318,062. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.



Owner of Reg. Nos. 572,924, 575,348, and 580,875.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

SN 318,063. Lorillard Corporation, New York, N.Y. Filed Jan. 31, 1969.

NEWPORT



Owner of Reg. Nos. 678,757 and 689,653.
For Cigarette Lighters (Int. Cl. 34).
First use Dec. 16, 1968.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 344,515. Atlas Chemical Industries, Inc., Wilmington, Del. Filed Nov. 24, 1969.

TIMEMASTER

For Electric Blasting Caps (Int. Cl. 13).
First use Oct. 29, 1969.

SN 344,560. Lockheed Aircraft Corporation, Burbank, Calif. Filed Nov. 25, 1969.

LOCKHEED

For Ballistic Missiles and Parts Thereof (Int. Cl. 13).
First use at least as early as 1956.

Class 12—Construction Materials

SN 287,836. Siemens-Bauunion G.m.b.H., Munich, Germany. Filed Dec. 29, 1967.

SIEMCRETE

Owner of German Reg. No. 706,149, dated Apr. 4, 1956.
For Glidably Displaceable Formwork (Slip Forms) for Concrete Construction Work and Parts of Such Framework (Int. Cl. 19).

SN 301,608. The Seagrave Corporation, New York, N.Y., assignee, by mesne assignment, of Continental Curtain Closures, Inc., Salt Lake City, Utah. Filed June 26, 1968.

TRANSIDOR

For Collable Partitions (Int. Cl. 19).
First use July 30, 1964.

SN 316,140. Sidney Sachs, Paramus, N.J. Filed Jan. 8, 1969.

San-a-Just

For Fixed Kennels (Int. Cl. 20).
First use Nov. 2, 1968.

SN 341,738. Bread Box Mfg., Inc., Kokomo, Ind. Filed Nov. 27, 1969.

BREAD BOX

For Movable Prefabricated Structures for Commercial Use (Int. Cl. 12).
First use Aug. 15, 1969.

SN 344,369. General Products Company Incorporated, Fredericksburg, Va. Filed Nov. 24, 1969.

BENCHMARK

For Doors for Buildings (Int. Cl. 19).
First use at least as early as Sept. 19, 1969.

SN 344,914. Atlos Rubber, Inc., Los Angeles, Calif. Filed Nov. 26, 1969.

MEDALIST

For Rubberized Asphalt Paving Composition for Resilient Paved Surfaces (Int. Cl. 19).
First use Oct. 31, 1969.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 324,672. American Standard Inc., New York, N.Y. Filed Apr. 16, 1969.

AKRON

For Sanitary Ware Such as Sinks and Wash Basins (Int. Cls. 6 and 12).
First use on or about December 1962.

SN 327,372. Eastern Products Corporation, Columbia, Md. Filed May 15, 1969.



The drawing is lined for the color orange, but color is not an essential feature of the mark.
For Drapery Hardware (Int. Cl. 6).
First use February 1969.

SN 329,873. The Lindsay Wire Weaving Company, Cleveland, Ohio. Filed June 12, 1969.

POLYCRIMP

For Fourdrinier Wire for Use in Paper Making Belts (Int. Cl. 6).
First use Aug. 19, 1968.

SN 331,046. Henry Lindsay Limited, Shipley, England. Filed June 26, 1969.

LINDAPTER

Owner of U.S. Reg. No. 418,463.
For Bolt Adapters With and Without Bolts (Int. Cl. 6).
First use at least as early as Oct. 28, 1938; in commerce at least as early as October 1939.

SN 331,047. Henry Lindsay Limited, Shipley, England. Filed June 26, 1969.

LINDIBOLT

Owner of U.S. Reg. Nos. 522,518, 523,701, and 554,962.
For Bolts (Int. Cl. 6).
First use at least as early as April 1952; in commerce at least as early as April 1952.

Class 14—Metals and Metal Castings and Forgings

SN 303,664. Dynamet Corporation, Burlington, Mass. Filed July 26, 1968.

DYNAMET

For Sintered Titanium Metal (Int. Cl. 6).
First use at least as early as February 1968.
Subj. to Intf. with SN 301,002.

SN 341,086. Technical Materials, Inc., Providence, R.I. Filed Oct. 15, 1969.

TMI

For Clad Metals (Int. Cl. 6).
First use Nov. 4, 1968.

Class 15—Oils and Greases

SN 331,014. Anton Borer, Solothurn, Switzerland. Filed June 26, 1969.

GLISSEAL

For Grease for Laboratory Use (Int. Cl. 4).
First use Apr. 24, 1969; in commerce Apr. 24, 1969.

SN 337,994. Williamsburg Soap and Candle Co., Williamsburg, Va. Filed Sept. 15, 1969.



For Candles (Int. Cl. 4).
First use October 1966.

SN 347,007. Standard Oil Company, Flemington, N.J. Filed Dec. 23, 1969.

LIGREN

For Industrial Oils and Greases (Int. Cl. 4).
First use at least as early as Sept. 10, 1969.

Class 16—Protective and Decorative Coatings

SN 314,469. D. A. Stuart Oil Co., Limited, Chicago, Ill. Filed Dec. 13, 1968.

DASCO ARC

Owner of Reg. Nos. 524,061, 806,617, and others.
For Rust Preventing Coating Compositions in Liquid Form for Depositing on Metal Surfaces (Int. Cl. 2).
First use November 1960.

Class 17—Tobacco Products

SN 284,127. Daniel Rodriguez and Diego Rodriguez, d.b.a. Daniel and/or Diego Rodriguez, Havana, Fla. Filed Oct. 12, 1967.

EL COROJO

For Cut Tobacco and Cigars (Int. Cl. 34).
First use 1927.

SN 322,684. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Mar. 25, 1969.

HUMI-FOIL POUCH

The word "Pouch" is disclaimed apart from the mark as a whole.
For Tobacco Pouches Containing Smoking Tobacco (Int. Cl. 34).
First use Mar. 20, 1969.

SN 333,432. Petersen & Sorensen Cigar-OG Tobaksfabriker A/S, Horsens, Jutland, Denmark. Filed July 24, 1969.

BANK OF ENGLAND

The word "England" is disclaimed apart from the mark shown. Owner of Danish Reg. No. 1,634–1962, dated Sept. 1, 1962.
For Cigars, Cheroots, Cigarillos, and Pipe Tobacco (Int. Cl. 34).

SN 338,968. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Sept. 26, 1969.

MR. FLAVOR

Applicant disclaims the word "Flavor" apart from the mark as shown.
For Cigarettes (Int. Cl. 34).
First use Sept. 24, 1969.

Class 18—Medicines and Pharmaceutical Preparations

SN 298,496. A. R. Williams & Co., Carteret, N.J. Filed May 20, 1968.

HOSPITALITY

For Medicated Anti-Bacterial Hand and Body Lotion (Int. Cl. 5).
First use Apr. 15, 1968.

SN 312,534. Dee Cee Laboratories, Inc., Madison, Tenn. Filed Nov. 14, 1968.

STIM-U-CAP

For Stimulant Drug (Int. Cl. 5).
First use Jan. 18, 1968.

SN 321,205. Faith Laboratories, Inc., Pittsburgh, Pa. Filed Mar. 10, 1969.

CERVABID T.D.

For Dialator for Blood Vessels To Assist in the Flow of Blood to the Brain (Int. Cl. 5).
First use Dec. 30, 1968.

SN 321,528. A. Nattermann & Cie. G.m.b.H., Cologne-Braunsfeld, Germany. Filed Mar. 12, 1969.

ESSENTIALE 303 NATTERMANN

Owner of German Reg. No. 639,493, dated Jan. 28, 1952.
For Medicinal Preparations for the Treatment of Conditions for the Following Indications: All Acute and Chronic Disorders of the Liver, Including Fatty Degeneration; Cholostasis; Also Radiation Syndrome; Preparation for Cholecystography; Hepatopathies of All Types and Stages, Even the Most Severe; Coma and Ascites (Int. Cl. 5).

SN 322,930. USV Pharmaceutical Corporation, New York, N.Y. Filed Mar. 26, 1969.

DERMASPAN

For Pharmaceutical Preparation for Treatment of Allergic Dermatoses (Int. Cl. 5).
First use Feb. 20, 1969.

SN 323,966. Shield Laboratories, Inc., Yonkers, N.Y. Filed Apr. 7, 1969.

RIASOL

Owner of Reg. No. 444,687.
For Dermatologic Lotion (Int. Cl. 5).
First use June 30, 1940.

SN 324,063. The Hamilton Pharmacal Company, Inc., Hamilton, N.Y. Filed Apr. 9, 1969.

BOSOM BUDDY

For Ointment Preparation for Dairy Cows for Treatment of Diseases of the Udder (Int. Cl. 5).
First use Mar. 23, 1969.

SN 325,561. American Cyanamid Company, Wayne, N.J. Filed Apr. 25, 1969.



Applicant disclaims the pictorial representation of a steer, apart from the mark as shown. Owner of Reg. Nos. 771,414 and 793,588.
For Medicated Anical Feed Supplement (Int. Cl. 5).
First use Oct. 15, 1968.

SN 325,586. Custom/Laboratories Incorporated, Baltimore, Md. Filed Apr. 25, 1969.

KOLADEX

For Preparation for Use in Glucose Tolerance Testing on Humans (Int. Cl. 5).
First use May 20, 1966.

SN 326,237. Johnson & Johnson, New Brunswick, N.J. Filed May 2, 1969.

RETINEX

For Acne Preparations (Int. Cl. 5).
First use Apr. 18, 1969.

SN 326,875. Max J. Gruhin, d.b.a. Rofay Products, Carteret, N.J. Filed May 9, 1969.

Rofay

Owner of Reg. No. 609,845.
For Medicinal Ointment Used for Relief of Muscular Aches and Pains (Int. Cl. 5).
First use on or about Jan. 1, 1947.

SN 331,302. Agway, Inc., Dewitt, N.Y. Filed June 30, 1969.

CAGE-CHIK

For Medicated Poultry Feed (Int. Cl. 5).
First use Jan. 30, 1969.

SN 338,717. Ingram Pharmaceutical Co., San Francisco, Calif. Filed Sept. 24, 1969.

THEX

For Vitamin Preparations in Capsule, Liquid, and Injectable Form (Int. Cl. 5).
First use Feb. 1, 1940.

Class 19—Vehicles

SN 309,975. Molded Products Co., Fort Worth, Tex. Filed Oct. 18, 1968.

[redacted] PRODUCTS CO.

The trade name "Molded Products Co." is disclaimed apart from the mark as shown.
For Molded Plastic Cases for Automobile Air Conditioners, Molded Plastic Louvers, and Molded Plastic Control Knobs (Int. Cl. 12).
First use Dec. 16, 1964.

SN 333,727. M & W Gear Company, Gibson City, Ill. Filed July 28, 1969.

LITTLE RED WAGON

The word "Wagon" is disclaimed apart from the mark as shown.
For Farm Hopper Car for Grain Hauling (Int. Cl. 12).
First use October 1965.

SN 339,830. American Machine & Foundry Company, New York, N.Y. Filed Oct. 6, 1969.



For Sailboats (Int. Cl. 12).
First use December 1968.

SN 340,687. Topy Industries Limited, Chiyoda-ku, Tokyo, Japan. Filed Oct. 14, 1969.

TOPY

For Wheel Rims for Automobiles (Int. Cl. 12).
First use December 1964; in commerce July 1967.

SN 346,329. Ungers Coach Company, Madison, Ohio. Filed Dec. 15, 1969.

CROWN COMMANDER

For Motorhomes (Int. Cl. 12).
First use Aug. 18, 1969.

SN 347,164. K-C Mfg. Co., Inc., Quincy, Fla. Filed Dec. 29, 1969.

THE DURA-BIKE

For Motor Scooters (Int. Cl. 12).
First use Feb. 12, 1969.

SN 347,746. Heald, Inc., Benton Harbor, Mich. Filed Jan. 5, 1970.



For Powered Bikes and Motorcycles (Int. Cl. 12).
First use Oct. 4, 1969.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 308,614. General Battery Corporation, Reading, Pa., by change of name from General Battery and Ceramic Corp., Reading, Pa. Filed Oct. 1, 1968.

EASTERN

For Batteries (Int. Cl. 9).
First use July 1936.

SN 314,092. Austin W. La Marche, Des Plaines, Ill. Filed Dec. 10, 1968.

CONSTAVOLT SIGNAMATIC

Owner of Reg. No. 575,945.
For Electrical Current Converters for Converting Alternating Current to Direct Current (Int. Cl. 9).
First use prior to 1955.

SN 339,141. Computer Products, Inc., Ft. Lauderdale, Fla. Filed Sept. 29, 1969.

CompuLogIC

For Logic Circuits (Int. Cl. 9).
First use Sept. 4, 1969.

SN 341,357. Bat Aero, Inc., Port Chester, N.Y. Filed Oct. 22, 1969.



For Nickel-Cadmium Aircraft Batteries (Int. Cl. 9).
First use July 17, 1964.

SN 341,809. Gen-Rite Auto Electric, Inc., Hicksville, N.Y. Filed Oct. 27, 1969.



For Solenoids (Int. Cl. 9).
First use October 1963.

SN 343,255. Cherry Electrical Products Corporation, Highland Park, Ill. Filed Nov. 12, 1969.

LEVERWHEEL

For Electrical Switches (Int. Cl. 9).
First use July 1, 1968.

Class 22—Games, Toys, and Sporting Goods

SN 289,404. Information, Incorporated, New York, N.Y. Filed Jan. 23, 1968.

EFFORTLESS EXERCISER

No registration rights are claimed for the word "Exerciser" apart from the mark, but applicant waives none of its common law rights in the mark shown or any feature thereof.
For Manually Operated Spring Type Body Conditioning Apparatus (Int. Cl. 28).
First use Oct. 29, 1967.

SN 294,209. Romper Room Enterprises, Inc., Baltimore, Md., assignee of Romper Room, Inc., Baltimore, Md. Filed Mar. 26, 1968.

HAPPY JACK

For Line of Educational Toys and Boxed Games for Children (Int. Cl. 28).
First use Mar. 4, 1966.

SN 298,353. Raybestos-Manhattan, Inc., Passaic, N.J. Filed May 16, 1968.



The drawing is lined for the color red.
For Bowling Balls With Sighting Device (Int. Cl. 28).
First use Sept. 16, 1966.

SN 311,871. Henk Visser, d.b.a. Henk Visser Sporting Goods, Santa Barbara, Calif. Filed Nov. 12, 1968.

OBOL

For Discuses (Int. Cl. 28).
First use May 5, 1966.

SN 315,676. Ord Alexander Associates, Inc., Washington, D.C. Filed Dec. 17, 1968.

scuba com

For Diaphragm-Type Under Water Communications Unit (Int. Cl. 9).
First use on or about Sept. 15, 1967.

SN 317,771. C. P. Swing, Inc., Woodside, N.Y. Filed Jan. 28, 1969.

CP SWING

"CP Swing" is not the name of a particular individual, but rather is a fictitious name.
For Fishing Lure (Int. Cl. 28).
First use June 5, 1968.

SN 318,767. Denys Fisher Toys Limited, Boston Spa, England. Filed Feb. 10, 1969.

stickle bricks

The word "Bricks" is disclaimed apart from the mark as shown.
For Toy Building or Construction Kits (Int. Cl. 28).
First use November 1968; in commerce November 1968.

SN 319,522. Vanport Pacific Inc., Burlingame, Calif. Filed Feb. 18, 1969.

VANPAC

For Baseball Gloves, Game Balls, Tennis Rackets and Presses, Badminton Sets and Shuttlecocks, Table Tennis Sets; Golf Club Head Covers; Dart Boards and Darts; Target Throwers; Inflatable Mattresses, Snow Skis and Accessories Therefor; Fishing Equipment—Namely, Rods, Reels and Cases Therefor, Spears, Rod Holders, Stringers, Hooks and Hook Holders, Creels, Nets, Bait and Fly Boxes, Floats, Swivels, Sinkers, Artificial Bait, Rigs, Leaders, Fishing Line, Bait Baskets and Buckets, Crab Traps, and Fishing Line Signals (Int. Cls. 22 and 28).
First use Nov. 15, 1967.

SN 320,478. The Franklin Mint, Inc., Yeadon, Pa., Filed Mar. 3, 1969.

AMERICA THE BEAUTIFUL

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,484. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

WONDERS OF AMERICA

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,487. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

AMERICAN LANDMARKS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,490. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

FAMOUS SIGHTS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,493. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

RACE TO OUTER SPACE

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,496. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

HISTORY OF FLIGHT

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,499. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

STAR TREK

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,502. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

ROAD TO THE FUTURE

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,511. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

SATELLITES AND PRIZES

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,514. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

HISTORY IN ACTION

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,520. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

TOUR THROUGH HISTORY

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,523. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT EXPLORERS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,526. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT EXPLORATIONS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,532. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT DISCOVERERS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,535. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT INVENTORS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,546. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

CAVALCADE OF SPORTS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,552. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

MAN OF THE YEAR

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,555. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

HEROES OF THE WEST

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,558. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT STARS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,561. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

HISTORY MAKERS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,567. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

AMERICAN PATRIOTS

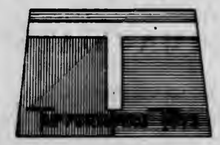
For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,574. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

REVOLUTIONARY HEROES

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 321,273. Dart Industries Inc., Los Angeles, Calif., by change of name from Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Mar. 10, 1969.



The word "Toys" is disclaimed apart from the mark as shown. The drawing is lined for red and blue but color is not claimed as a feature of the mark. Owner of Reg. No. 859,641.
For Puzzle Toys and Camera Banks (Int. Cl. 28).
First use April 1968 on camera banks.

SN 322,319. Miner Industries, Inc., New York, N.Y. Filed Mar. 20, 1969.

BALLOON OLYMPICS

No claim of exclusive right is made to the word "Balloon" for the goods recited apart from the mark as shown.
For Play Set of Balloons and Accessories for Use With the Balloons in Playing Various Games (Int. Cl. 28).
First use Mar. 17, 1969.

SN 322,490. Skor-Mor Corporation, Anaheim, Calif. Filed Mar. 21, 1969.

LOOPY HOOP

No claim is made to the word "Hoop" apart from the mark as shown.
For Tethered Ring Toys (Int. Cl. 28).
First use Feb. 18, 1969.

SN 323,597. Riddell, Inc., Des Plaines, Ill. Filed Apr. 3, 1969.

MICRO FIT

For Protective Headgear, Particularly Football Helmets (Int. Cl. 28).
First use Mar. 6, 1969.

SN 327,287. The Franklin Mint, Inc., Yeadon, Pa. Filed May 14, 1969.

ASTRO-COIN

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use May 1, 1969.

SN 329,192. Absolutely Free Unlimited, Madison, Wis. Filed June 5, 1969.



For Game Balls for Throwing and Kicking (Int. Cl. 28).
First use May 7, 1969.

SN 333,596. Jack Nadel, Inc., Culver City, Calif. Filed July 25, 1969.

PERMA-COATED

For Playing Cards (Int. Cl. 16).
First use May 15, 1969.

SN 345,244. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969.

CHATTER-BUGGIES

For Toy Vehicle Having a Phonographic Device (Int. Cl. 28).
First use Oct. 9, 1969.

SN 345,247. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969.

CLANGY-CLANGER

For Toy Vehicle Having a Phonographic Device (Int. Cl. 28).
First use Oct. 29, 1969.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 293,733. Midland-Ross Corporation, Cleveland, Ohio. Filed Mar. 20, 1968.

DAIRY-FORM

For Extruding and Processing Machine for Blow Molding Plastic Bottles (Int. Cl. 7).
First use on or about Aug. 15, 1967.

SN 305,189. Jackson Products Company, Tampa, Fla. Filed Aug. 14, 1968.

UTM

For Automatic Material or Tool Handling Equipment—Namely, Universal Transfer Machines Which Are Programmed for Automatically Positioning, Controlling, Lifting and Moving Materials and Work Pieces (Int. Cl. 7).
First use at least as early as July 3, 1968.

SN 306,070. Plant Protection Limited, Yalding, Kent, England. Filed Aug. 27, 1968.

VIBRAJET

Owner of British Reg. No. B872,076, dated Nov. 19, 1964.
For Spraying Machines (Consisting of Oscillators and Nozzles) for Use in Agriculture and Horticulture (Int. Cl. 7).

SN 317,672. Petrus Johannes Aloysius deKinkelder, Zevenaar, Netherlands. Filed Nov. 18, 1968.



For Manual Power-Operated Portable and Vehicle Mounted Garden and Agricultural Sprayers and Parts Thereof (Int. Cl. 7).
First use during 1945; in commerce in or about 1962.

SN 326,885. Berwind Corporation, Rosemont, Ill. Filed May 9, 1969.

KOMAREK-GREAVES

For Briquetting Machines for Compacting and Agglomerating Solid Matter (Int. Cl. 7).
First use at least as early as 1932.

SN 337,647. Ermanco Incorporated, Grand Haven, Mich. Filed Sept. 11, 1969.



For Conveyors of the Belt, Roller, Wheel and Live Roller Type, and Conveyor Systems Comprising One or More of Same (Int. Cl. 7).
First use May 28, 1969.

SN 340,120. J. I. Case Company, Racine, Wis. Filed Oct. 8, 1969.

AGRI KING

For Tractors for Use in Farming (Int. Cl. 12).
First use as early as July 30, 1969.

SN 340,226. Sealed Power Corporation, Muskegon, Mich. Filed Oct. 9, 1969.

SEALED POWER

Owner of Reg. Nos. 303,861 and 306,126.
For Engine Parts—Namely, Valves, Valve Guides, Valve Keys, Valve Springs, Piston Pin Bushings, Water Pumps, Piston Groove Inserts, Valve Stem Seals, Tappets, Rocker Arm Assemblies, Camshafts, Push Rods, and Engine Bearings (Int. Cl. 7).
First use March 1936.

SN 341,005. "Automatic" Sprinkler Corporation of America, Cleveland, Ohio. Filed Oct. 17, 1969.

JACK-JIB

For Hydraulic Cranes (Int. Cl. 7).
First use on or about Sept. 30, 1969.

SN 341,117. Sealed Power Corporation, Muskegon, Mich. Filed Oct. 20, 1969.



Owner of Reg. Nos. 698,991 and 710,859.
For Engine Parts—Namely, Valve Stem Seals, Rocker Arm Assemblies, Camshafts, Push Rods, and Engine Bearings (Int. Cl. 7).
First use August 1949.

SN 341,268. Dorr-Oliver Incorporated, Stamford, Conn. Filed Oct. 21, 1969.

MERCO

Owner of Reg. No. 509,271.
For Industrial Centrifuges for Extracting Solids From Fluids and for Concentrating Solids (Int. Cl. 7).
First use on or about June 30, 1937.

SN 341,924. Hi-Lo Manufacturing Company, Minneapolis, Minn. Filed Oct. 28, 1969.

HI-LO

For Variable Speed Pulleys (Int. Cl. 7).
First use July 1935.

SN 341,933. William W. Maloney, d.b.a. Check-O-Graph Checkwriter Co., Chicago, Ill. Filed Oct. 28, 1969.

CHECK-O-GRAPH

For Checkwriters (Int. Cl. 16).
First use on or about May 1, 1966.

SN 344,350. Dorr-Oliver Incorporated, Stamford, Conn. Filed Nov. 24, 1969.



Owner of Reg. No. 509,272.
For Industrial Centrifuges for Extracting Solids From Fluids and for Concentrating Solids (Int. Cl. 7).
First use on or about June 30, 1937.

SN 346,559. Dryad Limited, Leicester, England. Filed Dec. 18, 1969.

DRYAD

For Book-Binding Machinery; Looms; and Parts of All Such Goods (Int. Cl. 7).
First use Dec. 31, 1918; in commerce Dec. 31, 1930.

SN 347,808. Engis Equipment Company, Morton Grove, Ill. Filed Jan. 6, 1970.

MINIMISER

For Spray Unit for the Controlled Application of Lubricating and Abrasive Compounds (Int. Cl. 7).
First use Nov. 19, 1969.

Class 26—Measuring and Scientific Appliances

SN 304,094. Integrated Systems, Incorporated, Norcross, Ga. Filed Aug. 1, 1968.



For Electronic Alarm, Control and Telemetering Systems, Both Remote and Local, for Use in Monitoring (Indications/Readings) and Controlling (Stopping, Starting, or Adjusting) Equipment, Such Systems Being Commonly Known as Supervisory Control Systems and Tone Systems (Tone Receivers/Tone Transmitters) (Int. Cl. 9).
First use September 1967.

SN 305,045. Gross Cash Registers, Limited, London, England. Filed Aug. 13, 1968.

GROSS

For Business Machines—Namely, Cash Registers (Int. Cl. 9).
First use about or before May 1963; in commerce about or before May 1963.

SN 310,505. Tinsley Laboratories, Inc., Berkeley, Calif. Filed Oct. 24, 1968.



For Optical Instruments and Components—Namely, Telescopes; Lenses and Lense Housings; Mirrors and Mirror Cells; Window and Window Frames; Interferometers; Autocollimators; Television Projection Equipment and Optical and Photographic Systems Comprised of Filters, Light Sources, Mirrors and Windows for Recording Wind Tunnel Tests and Other Subjects Not Visible to the Naked Eye (Int. Cl. 9).
First use at least as early as June 1, 1962.

SN 314,074. Houdaille Industries, Inc., Buffalo, N.Y. Filed Dec. 10, 1968.

STRIPPIT C/C

Owner of Reg. Nos. 599,017, 726,467, and others.
For Computer Used as Control-Tape Preparation Units and as Control Units for Machine Tools (Int. Cl. 9).
First use July 14, 1967.

SN 316,429. Graymills Corporation, Chicago, Ill. Filed Jan. 13, 1969.

MIX-GARD

For Machine Which Automatically Meters Etch Into Water Supply, Mixes and Delivers Solution to Water Fountain Circulators on Printing Presses (Int. Cl. 9).
First use Sept. 10, 1968.

SN 317,251. Mock Distributing Company, Inc., Decatur, Ala. Filed Jan. 22, 1969.



Applicant disclaims "Electronics" and "Mfg." apart from the mark as shown.
For Camera-Type Monitoring Apparatus Comprised of Security Photographic Cameras, Security Television Cameras and Monitors, Video Recorders, Closed Circuit Television Systems, and Electronic Switching Therefor (Int. Cl. 9).
First use Jan. 3, 1967.

SN 317,536. Dieterich Standard Corporation, New Buffalo, Mich. Filed Jan. 27, 1969.

ANNUBAR

For Probes for Measuring Fluid Flow (Int. Cl. 9).
First use on or about Sept. 12, 1968.

SN 317,611. Puretec, Inc., Los Angeles, Calif. Filed Jan. 27, 1969.

HALLMARK

For Adding Machines (Int. Cl. 9).
First use Feb. 5, 1968.

SN 321,374. The Louis Allis Company, Milwaukee, Wis. Filed Mar. 11, 1969.

DYNAPAR

For Draw Speed Indicators, Counters, Digital Instruments and Systems, Rotary Pulse Transducers and Pickups, Cut to Length Systems, Position Indicators, Process Controllers, Digital Data Handling Systems, Totalizers, Tachometers, Ratio Meters, Time Interval Meters, Remote Indicators, Ascension Meters, Declination Indicators and Surface Grinder Controllers (Int. Cl. 9).
First use Jan. 21, 1957.

SN 321,438. Trans-Lux Corporation, New York, N.Y. Filed Mar. 12, 1969.

VIDIQUOTE

For Electronic Data Producer and Display—Namely, a Closed Circuit Video System, Used for Continuous Stock Market Quotations (Int. Cl. 9).
First use on or about July 17, 1968.

SN 325,000. Azoplate Corporation, Murray Hill, N.J. Filed Apr. 21, 1969.

ENCO

For Undeveloped Plastic Films for Use in the Graphic Arts (Int. Cl. 9).
First use Apr. 8, 1969.

SN 329,302. Systomation, Inc., Schenectady, N.Y. Filed June 6, 1969.

GUARDOHM

For Electrical Measuring Instruments Usable as a Volt-Ohmmeter, Voltmeter, Ohmmeter, or Ammeter (Int. Cl. 9).
First use Apr. 9, 1969.

SN 330,593. Educational Computer Systems, Inc., Phoenix, Ariz. Filed June 20, 1969.



For Portable Examination Grading Computers for Grading and Scoring Multiple Choice and True-False Examination Papers; Replacement Parts Therefor; Blank Score Sheets and Scoring Masks for Use Therefor (Int. Cl. 9).
First use Oct. 20, 1968.

SN 331,259. Shaffstall Equipment Inc., Indianapolis, Ind. Filed June 27, 1969.

KARA-KOUNT

For Electronic Typed-Line Length Indicators for Copywriters (Int. Cl. 9).
First use Jan. 11, 1969.

SN 337,309. Hy-Cal Engineering, Santa Fe Springs, Calif. Filed Sept. 8, 1969.

SENSABLE

For Heat-Flow Measuring Sensors for Providing an Electrical Signal Representative of Sensed Heat (Int. Cl. 9).
First use on or about Aug. 26, 1968.

SN 337,452. Mercury Instruments, Inc., Cincinnati, Ohio. Filed Sept. 9, 1969.

MERCURY

For Gas Volume Recorders, Temperature Recorders, Gas Pressure Recorders, and Chart Drives for Use in Conjunction With Gas Flowmeters (Int. Cl. 9).
First use Jan. 28, 1966.

SN 337,510. Barber-Colman Company, Rockford, Ill. Filed Sept. 10, 1969.

CAPACILINE

For Conversion Units for Converting an On-Off Response to a Condition, Such as Temperature, to a Timed Proportion Signal (Int. Cl. 9).
First use Aug. 1, 1950.

SN 337,780. Cesco Safety Products, Inc., Chicago, Ill. Filed Sept. 12, 1969.

SCOTTY

For Face Shields and Goggles (Int. Cl. 9).
First use November 1962.

SN 338,198. Universal Graphics Corporation, Burnsville, Minn. Filed Sept. 17, 1969.

MINI-MATE

For Photographic Cameras (Int. Cl. 9).
First use Mar. 19, 1969.

SN 338,413. Litton Business Systems, Inc., New York, N.Y. Filed Sept. 19, 1969.

OFFICE MASTER

For Electric Adding Machines (Int. Cl. 9).
First use Aug. 11, 1969.

SN 338,638. Illinois Tool Works, Inc., Chicago, Ill. Filed Sept. 22, 1969.

ILLITRON

Owner of Reg. No. 518,321.
For Instruments for Measuring, Checking and Testing Gears and Parts Therefor; and Devices for Determining the Sequence of Amino Acids in a Protein (Int. Cl. 9).
First use as early as Feb. 24, 1969.

SN 338,667. Eastman Kodak Company, Rochester, N.Y. Filed Sept. 23, 1969.

FLUROSPOT

For Sensitized Photographic Film (Int. Cl. 1).
First use July 16, 1969.

SN 338,890. Commodity Marketers, Inc., Salt Lake City, Utah. Filed Sept. 25, 1969.

JUST-RITE

For Automatic Pop-Up Roasting Gauges Used in Poultry and Red Meat Roasts (Int. Cl. 9).
First use Jan. 19, 1969.

SN 339,185. Honeywell Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

DUPLEX ELECTR-O-PULSE

Owner of Reg. No. 642,916.
For Electrical Proportional Pulse Controllers (Int. Cl. 9).
First use Aug. 11, 1969.

SN 339,186. J. Warren Hovorka, Anaheim, Calif. Filed Sept. 29, 1969.

AUTO-YARD

For Statistic Indicating and Computing Device of the Slide Rule Type for the Sport of Football (Int. Cl. 9).
First use on or about Sept. 13, 1969.

SN 339,223. Powers Chemco, Inc., d.b.a. Chemco Photoproducts Company, Glen Cove, N.Y. Filed Sept. 29, 1969.

NEWS-LINE

For Unexposed, Presensitized Photolithographic Plates (Int. Cl. 1).
First use Apr. 29, 1969.

SN 339,345. Most Associates, Inc., Marblehead, Mass. Filed Sept. 30, 1969.

STATI-TESTER

For Apparatus for Measuring Electrostatic Properties of Papers (Int. Cl. 9).
First use as early as January 1969.

SN 340,556. Industrial Computer Laboratories, Inc., Salt Lake City, Utah. Filed Oct. 18, 1969.

COMMAND 690

For Digital Computer Systems (Int. Cl. 9).
First use at least as early as February 1969.

SN 341,004. Ambac Industries, Inc., Pittsburgh, Pa. Filed Oct. 17, 1969.

ServiVar

For Portable Electrical Measuring Instruments for Measuring AC Voltage, AC Current, and DC Resistance (Int. Cl. 9).
First use on or about Oct. 9, 1967.

SN 343,195. Veeder Industries Inc., Hartford, Conn. Filed Nov. 10, 1969.

VEEDER-ROOT

Owner of Reg. No. 268,745.
For Counters, Registers, Computers, Calculating Machines, Indicators, Instruments and Display Devices Operated Mechanically, Manually, Electrically, Electromechanically, Photoelectrically, Electronically, Fluidically or Otherwise, and Parts Thereof, Their Attachments to and Their Operation by Any Type of Machine or Device Whose Condition or Successive Operations Are Desired To Be Counted, Recorded, Measured or Displayed (Int. Cl. 9).
First use on or about May 1, 1928.

SN 343,417. Ogino Boeki Co., Ltd., Naka-ku, Yokohama, Japan. Filed Nov. 13, 1969.

MAGNON

Owner of Japanese Reg. No. 657,985, dated Nov. 13, 1964.
For Movie Cameras, Film Editors, Film Splicers, Film Projectors, and Parts Thereof (Int. Cl. 9).

Class 27 — Horological Instruments

SN 333,595. Movado Watch Agency, Inc., New York, N.Y. Filed July 25, 1969.

DATAPHONE

Owner of Reg. No. 875,109.
For Watches (Int. Cl. 14).
First use June 26, 1969.

Class 28 — Jewelry and Precious-Metal Ware

SN 301,223. Gali, Inc., New York, N.Y. Filed June 24, 1968.

Gali

For Jewelry (Int. Cl. 14).
First use May 1968.

SN 311,435. College Seal & Crest Company, Inc., Cambridge, Mass. Filed Nov. 6, 1968.

COLLEGE SEAL
Symbol of Excellence

Owner of Reg. No. 759,647.
For Jewelry and Novelty Items Made Wholly or in Part of, or Plated With Gold or Silver or Alloys of Gold or Silver—Namely, Rings, Fobs, Charms, Pins, Keys, Badges, Guards, Brooches, Lapel Buttons, Metals and Trophies, Lockets, Bracelets, Compacts, Pendants, Earrings, Neck Chains, Watch Bracelets, Jewel and Pill Boxes, Letter Openers, Cufflinks, Tie Clips, Tie Tacks, Key Rings, Chains, Buckles, Spoons Each With or Without College and School Seals and Crests, Fraternal and Civic Emblems, Fraternity and Sorority Emblems, Military Insignias and Devices, Organizational and Commercial Insignia or Greek Letter Insignia (Int. Cl. 14).
First use at least as early as August 1968.

SN 338,898. D'Esposito Bros., New York, N.Y. Filed Sept. 25, 1969.

d'eb

For Precious Jewelry (Int. Cl. 14).
First use Aug. 27, 1969.

SN 339,262. M. Weingrod Company, Milwaukee, Wis. Filed Sept. 29, 1969.

DAHLIA

For Diamonds (Int. Cl. 14).
First use Dec. 15, 1949.

Class 29 — Brooms, Brushes, and Dusters

SN 341,522. Jomila International Corp., Elmsford, N.Y. Filed Oct. 23, 1969.

PORTODENT

For Self-Contained Disposable Toothbrush (Int. Cl. 21).
First use Sept. 10, 1968.

Class 31 — Filters and Refrigerators

SN 318,562. Mobile Refrigeration Corporation, Des Plaines, Ill. Filed Feb. 6, 1969.

MOBILE KING

For Truck Refrigeration Units (Int. Cl. 11).
First use Jan. 7, 1969.

SN 341,471. Butcher Boy Refrigerator Door Co., Harvard, Ill. Filed Oct. 23, 1969.

BUTCHER BOY

For Doors for Cold Storage Coolers, Refrigerators and Freezers Including Hardware for Mounting, Fastening, Releasing, Operating and Sealing Such Doors (Int. Cl. 11).
First use about Jan. 1, 1885.

SN 347,455. Flanders Filters, Inc., Washington, N.C. Filed Dec. 31, 1969.

CHANNEL-WALL

For Air Filters and Housing Therefor (Int. Cl. 11).
First use Mar. 25, 1969.

Class 32 — Furniture and Upholstery

SN 311,078. Toujay Designs, Inc., New York, N.Y. Filed Oct. 31, 1968.

SOUND-X-PANDER

For Cabinets Designed To House Television, Radio, and Sound Reproducing Equipment (Int. Cl. 20).
First use Mar. 20, 1968.

SN 344,103. Faces West, Inc., Santa Monica, Calif. Filed Nov. 20, 1969.

Sprite

For Portable Lighted Make-Up Mirrors (Int. Cl. 20).
First use Nov. 8, 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 301,867. Wik-It Electronics Corporation, Fremont, Calif. Filed July 2, 1968.

WIK-IT

For Solder Removal Wicking Material and/or Solder Removal Kits Comprising Wicking Material, Brush and Cleaner (Int. Cls. 1 and 8).
First use Nov. 6, 1967.

SN 340,187. Precision Parts Corporation, Nashville, Tenn. Filed Oct. 8, 1969.

PRECISION

Owner of Reg. No. 736,431.
For Electric Hot Water and Steam Boilers and Electric Hot Water Boosters for Dish Washing Machines (Int. Cl. 11).
First use May 28, 1958, on electric hot water and steam boilers.

SN 340,750. Air Reduction Company, Incorporated, New York, N.Y. Filed Oct. 15, 1969.

CHEMBRITE

For Welding Wire Electrodes (Int. Cl. 9).
First use Sept. 19, 1969.

SN 341,196. Prefco Products Inc., Buckingham, Pa. Filed Oct. 20, 1969.

AIR LOK

For Louvers (Int. Cl. 11).
First use July 29, 1969; June 18, 1969, as to the words "Air Lok."

SN 341,194. Prefco Products Inc., Buckingham, Pa. Filed Oct. 20, 1969.

DRAFT LOK

For Dampers and Shutters (Int. Cl. 11).
First use Mar. 20, 1969.

SN 341,506. 3D, Inc., Cleveland, Ohio. Filed Oct. 23, 1969.

REDHEAD

For Infrared Space Heaters (Int. Cl. 11).
First use at least as early as Oct. 31, 1968.

SN 348,733. Richard W. Holland, Houston, Tex. Filed Jan. 16, 1970.

PETROFIN

For Finned Tubes for Heat Exchangers, Heat Exchangers, Heat Exchanger Closures, for Use in Refineries, Chemical Processing Plants, Petrochemical Plants, and Chemical and Petroleum Product Handling Facilities (Int. Cl. 11).
First use June 14, 1968.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 291,772. The Reliance Electric and Engineering Company, Euclid, Ohio. Filed Feb. 23, 1968.

FLEXLINK

Owner of Reg. No. 500,147.
For Power Transmission Belting—Namely, Belting for V-Belt Drives (Int. Cl. 7).
First use on or about Aug. 14, 1946.

SN 336,996. The Armstrong Rubber Company, West Haven, Conn. Filed Sept. 4, 1969.

ULTRA GLAS

No registration rights are claimed for the word "Glas" apart from the mark as shown, but applicant waives none of its common law rights therein.
For Pneumatic Tires (Int. Cl. 12).
First use on or about Aug. 19, 1969.

Class 36 — Musical Instruments and Supplies

SN 335,884. The Dick Marx Production Group, Inc., d.b.a. DMA Records, Chicago, Ill. Filed Aug. 21, 1969.

DMA

For Phonograph Records and Pre-Recorded Magnetic Tapes (Int. Cl. 9).
First use Apr. 18, 1969.

SN 338,531. Blue Thumb Records, Inc., Beverly Hills, Calif. Filed Sept. 22, 1969.



Owner of Reg. No. 883,791.
For Phonograph Records and Pre-Recorded Magnetic Tapes (Int. Cl. 9).
First use Feb. 25, 1968.

SN 346,246. Hammond Corporation, Deerfield, Ill. Filed Dec. 15, 1969.

MAVERICK

For Electric Organs (Int. Cl. 15).
First use Nov. 13, 1969.
Subj. to Intf. With SN 347,227.

SN 347,388. Belle Wood Corp., Deerfield, Ill. Filed Dec. 30, 1969.

BELLE WOOD

For Tape Cartridge Players and Parts Therefor (Int. Cl. 9).
First use Dec. 2, 1969.

SN 347,227. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 29, 1969.

MAVERICK

For Guitars (Int. Cl. 15).
First use in or about October 1969.
Subj. to Intf. with SN 346,246.

Class 37 — Paper and Stationery

SN 305,427. Ethyl Corporation, Richmond, Va. Filed Aug. 19, 1968.

MELOLITH

For Coated and Uncoated Printing Papers (Int. Cl. 16).
First use Feb. 27, 1962.

SN 313,453. Swanee Paper Company, Inc., New York, N.Y. assignee of Swanee Paper Corporation, New York, N.Y. Filed Dec. 2, 1968.

BAMBI

For Bathroom Tissues, Facial Tissues, Paper Napkins and Paper Towels (Int. Cl. 16).
First use October 1968.

SN 330,310. Tuckersharpe Pen Company, Inc., Richmond, Va. Filed June 17, 1969.

GOOD GUY

For Writing Instruments—Namely, Ball Point Pens (Int. Cl. 16).
First use May 1, 1969.

SN 333,173. Penn Corporation, Princeton, N.J. Filed July 22, 1969.

ELITE

For Ball-Point Pens (Int. Cl. 16).
First use January 1966.

SN 333,358. The Bates Manufacturing Company, Orange, N.J. Filed July 24, 1969.

PENCILIST

For List Finders (Int. Cl. 16).
First use January 1957.

SN 333,359. The Bates Manufacturing Company, Orange, N.J. Filed July 24, 1969.

Cavalier

For List Finders (Int. Cl. 16).
First use September 1953.

SN 343,820. Borden, Inc., New York, N.Y. Filed Nov. 18, 1969.

Wrap/Up

For Plastic Packaging Film (Int. Cl. 16).
First use on or before July 17, 1969.

SN 344,371. P. H. Glatfelter Co., Spring Grove, Pa. Filed Nov. 24, 1969.

PROVENWORTH

For Writing and Printing Paper (Int. Cl. 16).
First use Jan. 21, 1926.

Class 38 — Prints and Publications

SN 297,197. Maclean-Hunter Limited: Maclean-Hunter Limitée, Toronto, Ontario, Canada. Filed May 2, 1968.

OILWEEK

For Magazine (Int. Cl. 16).
First use February 1955; in commerce Feb. 28, 1955.

SN 309,513. First Financial Marketing Group, Incorporated, Boston, Mass. Filed Oct. 14, 1968.

MASTERCHEK

For Travelers Checks (Int. Cl. 16).
First use Oct. 10, 1968.

SN 325,639. Xerox Corporation, Rochester, N.Y. Filed Apr. 25, 1969.

ISSUES TODAY

For Magazine for High School Students (Int. Cl. 16).
First use Feb. 24, 1969.

SN 326,169. American Broadcasting Companies, Inc., New York, N.Y. Filed May 2, 1969.

abc

Applicant disclaims the representation of the goods (i.e., the roll of film) and the words "Picture Corp." apart from the mark as shown. Owner of Reg. No. 755,703.
For Processed Motion Picture Films (Int. Cl. 9).
First use Feb. 25, 1969.

SN 332,687. Manuel Cabral, Providence, R.I. Filed July 16, 1969.

PROTOCOL

For Literary Digest in Booklet Form (Int. Cl. 16).
First use Jan. 7, 1969.

SN 334,898. Yankee, Inc., Dublin, N.H. Filed Aug. 8, 1969.



For Almanac (Int. Cl. 16).
First use 1853.

SN 334,985. Lester I. Chadwell, d.b.a. Buyer's Guide Publishing and Printing Co., Frankfort, Ky. Filed Aug. 11, 1969.



The name "Colonel Buyer" and the figure do not represent any particular living person.
For Magazine Containing Advertisements for Sale of Goods (Int. Cl. 16).
First use July 31, 1969.

SN 346,176. K.M.R. Publications Inc., New York, N.Y. Filed Dec. 15, 1969.

MY LOVE SECRET CONFESSION

For Confession Magazine (Int. Cl. 16).
First use at least June 1, 1963.

SN 347,859. H. S. Crocker Co., Inc., d.b.a. California Artists, San Bruno, Calif. Filed Jan. 7, 1970.

Christmas Art

Owner of Reg. Nos. 640,362 and 702,943.
For Christmas Cards (Int. Cl. 16).
First use July 30, 1964.

Class 39 — Clothing

SN 286,161. Levi Strauss & Co., San Francisco, Calif. Filed Dec. 4, 1967.

WUNDR-WOOL

For Garments, Particularly Trousers (Int. Cl. 25).
First use Oct. 24, 1967.

SN 301,627. Karpf Industries, Inc., San Antonio, Tex. Filed June 28, 1968.

FIGURE FORM

For Ladies' Lingerie—Namely, Brassieres and Girdles (Int. Cl. 25).
First use June 5, 1968.

SN 302,943. Hugger Corporation, St. Joseph, Mo. Filed July 17, 1968.

HUGGER

Owner of Reg. No. 502,778.
For Men's and Boys' Slacks, Jackets, Dress Shirts, and Sport Shirts; Ladies' and Girls' Sportswear—Namely, Jumpers, Culottes, Skirts, Blouses, Sweaters, and Dickies (Int. Cl. 25).
First use June 3, 1968.

SN 317,087. Nina Footwear Co., Inc., Long Island City, N.Y. Filed Jan. 21, 1969.

THE WORLD OF NINA TWENS

For Women's Shoes, Dresses, and Blouses (Int. Cl. 25).
First use Nov. 15, 1968.

SN 320,726. Leath, McCarthy & Maynard, Inc., Burlington, N.C. Filed Mar. 4, 1969.

TRUTEST

For Ladies' Hosiery (Int. Cl. 25).
First use Jan. 10, 1969.

SN 321,354. I. C. Herman & Company, Inc., New York, N.Y. Filed Jan. 9, 1969.

BLOCH FRERES

The English translation of "Bloch Freres" is "Bloch Brothers."
For Men's and Ladies' Handkerchiefs (Int. Cl. 25).
First use 1923.

SN 322,685. Consolidated Foods Corporation, Chicago, Ill., assignee of Aris Gloves, Incorporated, New York, N.Y. Filed Mar. 25, 1969.

Hands Beautiful by ARIS

For Ladies' and Misses' Gloves (Int. Cl. 25).
First use July 12, 1968.

SN 324,768. Upstairs Closet, Inc., Atlanta, Ga. Filed Apr. 16, 1969.

UPSTAIRS CLOSET

For Ladies' and Girls' Dresses, Pants, and Slacks (Int. Cl. 25).
First use Jan. 13, 1969.

SN 326,040. The Lovable Company, Atlanta, Ga. Filed May 1, 1969.

DOUBLY SOFT

The term "Soft" is disclaimed apart from the mark as shown.
For Women's Foundation Garments (Int. Cl. 25).
First use Apr. 14, 1969.

SN 326,318. Rice Hosiery Corporation, High Point, N.C. Filed May 5, 1969.

HYTIQUE

For Ladies' Hosiery (Int. Cl. 25).
First use Apr. 14, 1969.

SN 328,667. Children's Wear Corporation of America, Miami, Fla. Filed May 29, 1969.

BOY STUFF

Applicant disclaims "Boy" apart from the mark shown, but without prejudice and without forfeiting any of its common law rights.
For Wearing Apparel—Namely, Jackets, Pants, Shirts, Cabana Sets, Swim Trunks, and Shorts (Int. Cl. 25).
First use Mar. 25, 1969.

SN 330,244. Barrow Manufacturing Company, Winder, Ga. Filed June 17, 1969.

M.V.P. LOFERS

Applicant disclaims the use of the word "Lofers" apart from the mark shown, without relinquishing any of its common law use of the mark. Owner of Reg. No. 792,615.
For Men's, Women's, and Children's Slacks, Jeans and Shorts (Int. Cl. 25).
First use May 30, 1969.

SN 330,806. Kops Bros., Inc., New York, N.Y. Filed June 24, 1969.

"STOCK-AID"

For Women's Foundation Garments (Int. Cl. 25).
First use June 18, 1969.

SN 330,882. Melville Shoe Corporation, New York, N.Y. Filed June 25, 1969.

THIN 'N THIN

For Men's Socks (Int. Cl. 25).
First use June 23, 1966.

SN 331,201. Howard Uniforms, Inc., Woodside, N.Y. Filed June 27, 1969.

ALAIN K

For Ladies' Skirts, Slacks, Blouses, Jackets, and Dresses (Int. Cl. 25).
First use June 12, 1969.

SN 332,744. Fred Segal, d.b.a. Fred Segal Men's Store, Los Angeles, Calif. Filed July 16, 1969.

Fred Segal

For Wearing Apparel, Such as Pants, Suits, Jackets, Belts, Shirts, Sweaters, and Scarfs (Int. Cl. 25).
First use June 1961.

SN 332,745. Fred Segal, d.b.a. Fred Segal Men's Store, Los Angeles, Calif. Filed July 16, 1969.

FRED SEGAL

For Wearing Apparel, Such as Pants, Suits, Jackets, Belts, Shirts, Sweaters, and Scarfs (Int. Cl. 25).
First use April 1968.

SN 332,904. Acme Boot Company, Inc., Clarksville, Tenn. Filed July 18, 1969.

Eagle Royal

For Golf Shoes (Int. Cl. 25).
First use July 9, 1969.

SN 332,915. Buxton, Incorporated, Agawam, Mass. Filed July 18, 1969.

WEXFORD HALL

For Men's Belts (Int. Cl. 25).
First use June 30, 1969.

SN 335,179. Royce Hosiery Mills, Inc., New York, N.Y. Filed Aug. 18, 1969.

HI SHADOW RIB

Applicant disclaims the word "Rib" apart from the mark as shown. Owner of Reg. No. 790,512.
For Men's Hosiery (Int. Cl. 25).
First use Sept. 15, 1964.

SN 335,266. Rothmoor Corporation, Chicago, Ill. Filed Aug. 18, 1969.



Owner of Reg. Nos. 222,152, 501,766, and others.
For Women's and Misses' Coats and Suits (Int. Cl. 25).
First use May 20, 1969.

SN 335,434. James Hudson Davis, New Brunswick, N.J. Filed Aug. 5, 1969.

ON MEDIA STOP.

For Clothing—Namely, Men's and Women's Shirts, Pants, Belts, Jackets, Hats, Dresses, Bathing Suits, Suits Scarves, and Vests (Int. Cl. 25).
First use on or about June 1, 1968.

SN 335,935. Bear Brand Hosiery Co., Chicago, Ill. Filed Aug. 22, 1969.

NEW WRINKLE

For Hosiery and Panty Hose (Int. Cl. 25).
First use July 11, 1969.

SN 335,936. Block-Southland Sportswear, Inc., d.b.a. Pablo Shirtmakers, Wilmington, N.C. Filed Aug. 22, 1969.

PABLO

For Outer Shirts (Int. Cl. 25).
First use Aug. 6, 1969.

SN 335,937. Block-Southland Sportswear, Inc., d.b.a. Pablo, Wilmington, N.C. Filed Aug. 22, 1969.

THAT SHIRT

The word "Shirt" is disclaimed.
For Outer Shirts (Int. Cl. 25).
First use Aug. 6, 1969.

SN 336,184. Sears, Roebuck and Co., Chicago, Ill. Filed Aug. 25, 1969.

NEATNIK

For Girls' Panties (Int. Cl. 25).
First use on or about Oct. 24, 1968.

SN 336,185. Sears, Roebuck and Co., Chicago, Ill. Filed Aug. 25, 1969.

NEATNIK

For Boys' Jeans (Int. Cl. 25).
First use on or about Oct. 31, 1968.

SN 336,751. Marilyn Steinberg, d.b.a. The Maternity Mart, Philadelphia, Pa. Filed Sept. 2, 1969.

THE Maternity MART

The words "Quand Vous Vous Habillez Pour Deux" are French, which translated means "when you dress for two."
For Dresses, Suits, Jackets, Shirts, Slacks, Shorts, Sweaters, Blouses, Bathing Suits, Evening Wear, Lingerie, Brassieres, Girdles, Slips, Panties, and Panti-Hose (Int. Cl. 25).
First use at least as early as Dec. 3, 1946.

SN 336,917. Caressa, Inc., Miami, Fla. Filed Sept. 3, 1969.

COMING EVENTS

For Shoes (Int. Cl. 25).
First use Aug. 26, 1969.

SN 337,640. Coterie of London, Ltd., New York, N.Y. Filed Sept. 11, 1969.

SW1

For Ladies' Knit Suits and Dresses (Int. Cl. 25).
First use Mar. 21, 1969.

SN 337,728. Susan Thomas Incorporated, New York, N.Y. Filed Sept. 11, 1969.

NOT MORE THAN A YEAR AHEAD

For Ladies', Misses and Girls' Blouses, Skirts, Jackets, Dresses, Pants, Sweaters, Suits, Coats, Raincoats, Shorts, and Vests (Int. Cl. 25).
First use June 15, 1969.

SN 337,729. Susan Thomas Incorporated, New York, N.Y. Filed Sept. 11, 1969.

WHEN YOU LOOK GOOD WE LOOK GOOD

For Ladies', Misses' and Girls' Blouses, Skirts, Jackets, Dresses, Pants, Sweaters, Suits, Coats, Raincoats, Shorts, and Vests (Int. Cl. 25).
First use June 15, 1969.

SN 338,452. V. F. Corporation, Wyomissing, Reading, Pa. Filed Sept. 19, 1969.

BODYKIN

For Foundation Garments—Namely, a One-Piece Brief (Body Shaper), Brassieres, and Girdles (Int. Cl. 25).
First use Aug. 27, 1969.

SN 338,545. Lish Bros. Incorporated, New York, N.Y. Filed Sept. 22, 1969.

"HOODFLING"

For Ladies' Hats (Int. Cl. 25).
First use Sept. 5, 1969.

SN 339,218. Smiths Clothiers of California, Oakland, Calif. Filed Sept. 29, 1969.

BIRDS NEST

For Women's and Girls' Apparel—Namely, Blouses, Shirts, and Skirts (Int. Cl. 25).
First use Aug. 19, 1969.

SN 339,420. Chadbourn Inc., Charlotte, N.C. Filed Oct. 1, 1969.

Multi-Knit

Owner of Reg. Nos. 301,446 and 815,515.
For Ladies' Hosiery and Men's Underwear (Int. Cl. 25).
First use July 1, 1965.

SN 340,413. Somersworth Manufacturing Co., Inc., Somersworth, N.H. Filed Oct. 10, 1969.

PORTSIDERS

For Shoes (Int. Cl. 25).
First use Sept. 5, 1969.

SN 347,564. Bob Wolf Associates, Inc., Los Angeles, Calif. Filed Jan. 2, 1970.

QUICK CAT

For Rubber-Soled Shoes (Int. Cl. 25).
First use Sept. 18, 1969.

SN 347,810. Gilbert Freeman Fabrics Company, Boston, Mass. Filed Jan. 6, 1970.

Moonskin

For Lining for Boots and Shoes Made of Synthetic Materials and Vaporized Metal (Int. Cl. 25).
First use Oct. 1, 1969.

Class 40—Fancy Goods, Furnishings, and Notions

SN 334,842. General Wig Manufacturers, Inc., Miami, Fla. Filed Aug. 8, 1969.

RUDOLPH

For Synthetic Stretch Wigs (Int. Cl. 26).
First use Apr. 8, 1969.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 322,494. Stevcoknit Textile Co., New York, N.Y. Filed Mar. 21, 1969.

QUARANTÉ

For Textile Fabrics for Making Ladies' and Children's Dresses and Sportswear—Namely, Blouses, Tops, Slacks, Shirts, Shorts, Jump-Suits, and the Like (Int. Cl. 24).
First use Mar. 10, 1969.

SN 322,607. Dan River Mills, Incorporated, Danville, Va. Filed Mar. 24, 1969.

HOBBY NOBBY

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof (Int. Cl. 24).
First use Mar. 11, 1969.

SN 325,037. Hannah Textiles Inc., Palisades Park, N.J. Filed Apr. 21, 1969.

HANNAH

Owner of Reg. No. 764,000.
For Textile Fabrics With Embroidery and/or Printing Thereon, Bath, Bed, and Table Linens (Int. Cl. 24).
First use Jan. 28, 1955.

SN 327,204. GAF Corporation, New York, N.Y. Filed May 14, 1969.

GAF

Owner of Reg. Nos. 509,124, 837,005, and others.
For Felt Wall Coverings and Felt in the Piece for Various Uses (Int. Cl. 24).
First use August 1968.

SN 328,206. Strachman Associates, Inc., New York, N.Y. Filed May 23, 1969.

STRACCA

For Pile Fabrics of Cotton and Rayon (Int. Cl. 24).
First use Nov. 29, 1968.

SN 333,903. Crown Textile Mfg. Corp., New York, N.Y. Filed July 30, 1969.

ARMO-PRESS

Owner of Reg. No. 441,752.
For Interlining and Interfacing Fabrics (Int. Cl. 24).
First use June 26, 1969.

SN 334,689. A. Leon Capel & Sons, Incorporated, Troy, N.C. Filed Aug. 7, 1969.

CAROUSEL

For Rugs (Int. Cl. 27).
First use June 27, 1969.

SN 335,988. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. Filed Aug. 22, 1969.

BELL FRESH

Owner of Reg. Nos. 352,559, 806,977, and others.
For Woven and Knitted Textile Fabrics Made of Synthetic Fibers (Int. Cl. 24).
First use Jan. 18, 1965; in commerce at least as early as October 1967.

SN 342,700. Ernst W. Dorn Co., Inc., Los Angeles, Calif. Filed Nov. 5, 1969.

RUBYESTER

For Fabric Screen for Use in Screen Printing Processes (Int. Cl. 24).
First use Feb. 4, 1969.

Class 45—Soft Drinks and Carbonated Waters

SN 253,915. Sinalco Aktiengesellschaft, Detmold, Germany. Filed Sept. 6, 1966.

Sinalco Kola

The word "Kola" is disclaimed apart from other features of the mark shown. Owner of German Reg. No. 791,239, dated July 17, 1964; and U.S. Reg. Nos. 599,747, 615,885, and 667,550.
For Cola Flavored Lemonades and Concentrates for Making the Same (Int. Cl. 32).

SN 323,968. Sunrise Home Juices, Inc., Far Rockaway, N.Y. Filed Apr. 8, 1969.

ORANGE DELITE

The term "Orange" is claimed only in connection with the mark as shown.
For Bottled Orange Juice Beverage Containing Water (Int. Cl. 32).
First use Dec. 1, 1951.

SN 332,825. Home Town Foods, Inc., Jacksonville, Fla. Filed July 17, 1969.

SIESTA

For Dietetic, Fruit-Flavored Drink Containing Water (Int. Cl. 5).
First use May 16, 1969.

SN 333,685. The Cotton Club Bottling Company, Cleveland, Ohio. Filed July 28, 1969.

CHERIKEE RED

For Carbonated Beverages Sold as Soft Drinks, and Syrups, and Bottler's Essences Therefor (Int. Cl. 32).
First use June 24, 1969.

Class 46—Foods and Ingredients of Foods

SN 268,635. Vogeler, Inc., Philadelphia, Pa. Filed Apr. 7, 1967.

CHEESE WIPT

For Food Dressing of a Cheese Nature (Int. Cl. 29).
First use Aug. 25, 1966.

SN 284,434. Abattoirs de Bellevue, Societe Anonyme, d.b.a. Abattoirs de Bellevue, Malansac (Morbihan), France. Filed Nov. 9, 1967.

PERE DODU

The name "Pere Dodu" is fanciful and does not represent any particular living individual. The French word "Pere" means "father." Owner of French Reg. No. 704,958, dated Nov. 19, 1965.

For Fresh, Canned and Frozen Prepared Meat and Poultry Products, and Preserves (Int. Cl. 29).

SN 299,545. Carnation Company, Los Angeles, Calif. Filed June 3, 1968.

HEARTY MEAL

The word "Meal" is disclaimed separate and apart from the mark as a whole, but the applicant waives none of its common law rights in the mark or any feature thereof.

For Dog Food (Int. Cl. 31).

First use Oct. 12, 1960.

SN 303,163. Clarence R. Helgesen, d.b.a. Helge's Hickory Q, Omaha, Nebr. Filed July 19, 1968.

Helge's HICKORY Q

The drawing is lined for the colors yellow and red, but no claim is made as to the colors so named.

For Barbecued Seasoning Sauces (Int. Cl. 30).

First use Jan. 1, 1955.

SN 303,997. Jerrico, Inc., Lexington, Ky. Filed July 31, 1968.

LOTTS

For Sandwiches, Salads, Special Sauces for Meats and Sandwiches and Food Beverages—Namely, Milk Shakes and Cider (Int. Cls. 29, 30, 31, and 33).

First use May 20, 1968.

SN 304,874. Francis B. Vohryzek, d.b.a. Vohryzek and Company, San Francisco, Calif. Filed Aug. 12, 1968.

SUN QUEEN

Owner of Reg. No. 233,209.

For Dried Fruits (Int. Cl. 29).

First use Mar. 17, 1927.

SN 305,845. McCormick & Company, Incorporated, Baltimore, Md. Filed Aug. 23, 1968.

BAKON CRUMBLES

No claim is made to the word "Bakon" apart from the other features of the mark shown.

For Vegetable Protein Which Simulates the Taste and Texture of Smoked Bacon (Int. Cl. 29).

First use Aug. 12, 1968.

SN 306,413. Wacker-Elliott-Wacker Company, McCook, Nebr. Filed Aug. 30, 1968.

RITEMIX

For Rabbit Feeds, Dog and Cat Foods, Hog, Livestock, and Poultry Feeds (Int. Cl. 31).

First use Jan. 1, 1964.

SN 306,829. Weldon Farm Products, Inc., New York, N.Y., assignee of Weldon Foods, Inc., New York, N.Y. Filed Sept. 6, 1968.



Owner of Reg. Nos. 568,453, 607,096, and 740,281.

For Instant Non-Fat Dry Milk; Non-Instant Non-Fat Dry Milk; Non-Fat Dry Milk Flavored With Chocolate; Non-Fat Dry Milk Flavored With Natural Fruit; Non-Fat Dry Milk Flavored With Artificial Food Flavors; Non-Fat Dry Milk Flavored With Vegetable Flavors (Int. Cls. 29 and 30).

First use 1949, on instant non-fat dry milk and non-instant non-fat dry milk.

SN 321,260. Nutrexpa, S.A., Barcelona, Spain. Filed Mar. 10, 1969.

Cola-Cao

Owner of Spanish Reg. No. 433,712, dated Feb. 27, 1964.

For Sugar, Chocolates, Cocoa, Tea, Coffee, Coffee Substitutes, Vanilla, Candy, Cake, Pastries, Preparations for Making Custards, Preparations for Making Cakes, Ice Cream, Chewing Gum, Biscuits, Food Flavoring Syrups, and Orgeat (Int. Cl. 30).

SN 323,102. Hans Poppenburg, Borgholshausen, Westphalia, Germany. Filed Mar. 28, 1969.

POPPEN BURGER

The word "Burger" is disclaimed apart from the mark as shown.

For Sausages in Cans (Int. Cl. 29).

First use March 1964; in commerce Nov. 22, 1966.

SN 328,647. Ruth T. Baker, West Hollywood, Fla. Filed May 29, 1969.

SCHOOL HOUSE COOKIES

Applicant disclaims any rights, in and to the word "Cookies" apart from its use in connection with the mark.

For Cookies (Int. Cl. 30).

First use Aug. 19, 1965.

SN 330,008. Quality Chekd Dairy Products Association, Hinsdale, Ill. Filed June 13, 1969.

QUALITY CHEKD

Owner of Reg. Nos. 582,992, 836,037, and others.

For Dairy Products—Namely, Ice Cream; Fluid Milk and Cream; Flavored and Unflavored Cream and Cheese Dips; Buttermilk; Half and Half; Chocolate Milk; Chocolate Food Drink; Fluid Skim Milk; Fluid 2% Modified Milk; Yoghurt; Non-Alcoholic Eggnog; Cottage Cheese; Butter; Process Cheese; Natural Cheese; Ice Milk; and Ice Cream Novelties—Namely, Ice Cream Sandwich and Ice Cream and Water Ice on a Stick; Margarine Blended With Butter; Margarine; Fresh Eggs; Fruit Juices and Non-Alcoholic Fruit Punch; and Fruit Flavored Food Drinks; Bacon; Cheese-Base Spreads; Boiled Dressing Sandwich Spread; Salad Dressing; Vegetable Fat Frozen Desserts; Sherbet; and Water Ice; Coffee Whitener, Whipped Topping, and Imitation Milk Products All Made From Vegetable Fat (Int. Cls. 29, 30, and 32).

First use Dec. 13, 1944, on ice cream and fluid milk.

SN 332,420. Mrs. Kinser's Home Style Foods, Inc., Atlanta, Ga. Filed July 14, 1969.

MRS KINSER'S

Owner of Reg. No. 838,008.

For Refrigerated Prepared Food Mixes—Namely, Hawaiian Salads, Marshmallow Fruit Delite, Pimento Spread, Rice Pudding, Roquefort Dressing, Hot Tamales, Chicken Broth, Baked Beans, Cole Slaw and Health Salad (Int. Cls. 29, 30, and 31).

First use 1958.

SN 335,302. Owens Country Sausage, Inc., Richardson, Tex. Filed Aug. 14, 1969.

OWENSBURGER

For Sausage Patties (Int. Cl. 29).

First use at least as early as July 1969.

SN 335,465. The Pillsbury Company, Minneapolis, Minn. Filed Aug. 15, 1969.

FUNNY FACE

Owner of Reg. No. 831,917.

For Candy (Int. Cl. 30).

First use July 31, 1969.

SN 335,528. American Sugar Company, New York, N.Y. Filed Aug. 18, 1969.

"500"

For Sugar (Int. Cl. 30).

First use June 13, 1969.

SN 335,836. American Flavor Corp., St. Louis, Mo. Filed Aug. 21, 1969.

EAT-M-UPS

For Flavored Popcorn Balls (Int. Cl. 30).

First use July 14, 1969.

SN 335,953. Delta Food Processing Corporation, Moorhead, Miss. Filed Aug. 22, 1969.

IMPERIAL HARVEST

For Canned Vegetables (Int. Cl. 29).

First use Aug. 12, 1969.

SN 335,968. Food Technology, Inc., Chicago, Ill. Filed Aug. 22, 1969.



For Dehydrated Honey and Dehydrated Molasses Used in Food Products, Especially in Bread, Cake, and Bakery Products (Int. Cl. 30).

First use on or about Aug. 5, 1969.

SN 336,215. National Tea Co., Chicago, Ill. Filed Aug. 25, 1969.

ELMWOOD BRAND

The word "Brand" is disclaimed apart from the mark as shown. Owner of Reg. No. 779,997.

For Fresh and Smoked Meats Including Sectioned and Preformed Hams and the Like (Int. Cl. 29).

First use Sept. 18, 1968.

SN 336,270. Johanna Farms, Inc., Flemington, N.J. Filed Aug. 13, 1969.



Applicant disclaims "Vita" and "Rich" apart from the mark as shown.

For Low Fat Milk (Int. Cl. 29).

First use Oct. 5, 1965.

SN 336,473. Philip W. Schettone, d.b.a. Little Pepi's, Norristown, Pa. Filed Aug. 27, 1969.

LITTLE PEPI'S

For Cookies Baked in Italian Style (Int. Cl. 30).

First use May 1964.

SN 336,594. Philadelphia Chewing Gum Corporation, Havertown, Pa. Filed Aug. 28, 1969.

GUBBLE BUM

For Chewing Gum (Int. Cl. 30).
First use Aug. 18, 1969.

SN 336,974. The Cheese Joint, Inc., Sodus, N.Y. Filed Sept. 4, 1969.

HELUVA

Owner of Reg. No. 375,586.
For Horseradish, Seafood Cocktail Sauce (Tomato Based), Mustard Sauce, Ham Salad, Sour Cream French Onion Dip, and Sour Cream Bleu (Blue) Cheese Dip (Int. Cls. 29 and 30).
First use Mar. 15, 1968, on horseradish.

SN 337,132. Lykes-Pasco Packing Company, Dade City, Fla. Filed Sept. 5, 1969.

FLORIDAGOLD

Owner of Reg. No. 345,625.
For Canned Grapefruit Juice, Orange Juice, Tangerine Juice, Blended Orange and Grapefruit Juice for Food Purposes; Orange and Grapefruit Sections, and Grapefruit Sections; Concentrated Orange Juice, Concentrated Grapefruit Juice, Concentrated Blended Orange and Grapefruit Juice and Concentrated Tangerine Juice (Int. Cls. 29 and 32).
First use 1925.

SN 338,469. Castle & Cooke, Inc., d.b.a. Dole Company, Honolulu, Hawaii. Filed Sept. 22, 1969.

Dole-Star

Owner of Reg. Nos. 508,689, 849,917, and others.
For Sherbet Base (Int. Cl. 30).
First use Aug. 13, 1969.

SN 338,470. Castle & Cooke, Inc., d.b.a. Dole Company, Honolulu, Hawaii. Filed Sept. 22, 1969.

ESTER-GUARD

For Sherbet Base (Int. Cl. 30).
First use Aug. 13, 1969.

SN 346,429. American Home Products Corporation, New York, N.Y. Filed Dec. 17, 1969.

MINT COOLERS

Applicant disclaims the word "Mint" apart from the mark as shown.
For Candy (Int. Cl. 30).
First use Mar. 1, 1962.

Class 48—Malt Beverages and Liquors

SN 330,875. Anheuser-Busch, Incorporated, St. Louis, Mo. Filed June 25, 1969.



Applicant disclaims the words "Lager Beer," "Genuine," "The World Renowned," and "Brewed by Our Original Process From the Choicest Hops, Rice and Best Barley Malt Brewed and Bottled By" and "Inc." apart from the mark as shown. Owner of Reg. Nos. 13,064, 621,423, and others.
For Beer (Int. Cl. 32).
First use 1950; January 1876, in a different form.

Class 50—Merchandise Not Otherwise Classified

SN 326,353. Joan D. Clark, Winnetka, Ill. Filed May 5, 1969.

HEAVENS ABOVE!

For Ornaments for Hanging on Christmas Trees or in Windows (Int. Cl. 28).
First use July 15, 1968.

SN 332,561. William B. Senecey, Pittsburgh, Pa. Filed June 17, 1969.

SMOKEEZ

For Flavored Non-Burning Article Resembling a Cigarette in Appearance and Through Which Air Can Be Drawn Into the Mouth (Int. Cl. 20).
First use on or about Mar. 2, 1964.

SN 337,893. Craftex Products Co., Brooklyn, N.Y. Filed Sept. 15, 1969.

CRAFTEX

For Assembly Systems and Kits for Fabrication of Pictorial Compositions and Art Forms Which Include Adhesively Backed Printed Object Sheets, Background Units, and Accessories for Mounting and Hanging Such Compositions and Art Forms (Int. Cl. 16).
First use Aug. 27, 1969.

SN 338,209. Meljay Industries, Inc., Santa Monica, Calif. Filed Sept. 18, 1969.

LYKA

For Cigarette Substitute—Namely, a Plastic Cigarette-Shaped Device Containing Artificial Flavoring (Int. Cl. 20).
First use on or before Aug. 8, 1969.

Class 51—Cosmetics and Toilet Preparations

SN 321,513. Lan-O-Sheen, Inc., St. Paul, Minn. Filed Mar. 12, 1969.

Fondle

For Bath Additive To Soften the Water (Int. Cl. 3).
First use Jan. 21, 1969.

SN 329,734. Koscot Interplanetary, Inc., Orlando, Fla. Filed June 11, 1969.

KOSMICATED KREAM

No Claim is made to the word "Kream" apart from the mark as shown.
For Face Cream (Int. Cl. 3).
First use at least as early as October 1968.

SN 331,221. Merle Norman Cosmetics, Inc., Los Angeles, Calif. Filed June 27, 1969.

BARE BROW

Applicant disclaims the word "Brow" separate and apart from the mark as shown.
For Brow Lightener (Int. Cl. 3).
First use June 2, 1969.

SN 331,338. Clairol Incorporated, New York, N.Y. Filed June 30, 1969.

TWIN PROMISE

For Hair Tinting, Dyeing and Coloring Preparations and Hair Conditioning Setting Lotion (Int. Cl. 3).
First use Apr. 29, 1969.

SN 332,188. Laboratoires Goupil S.A., Cachan, France. Filed July 8, 1969.

BFFP

Owner of French Reg. No. 752,069, dated Nov. 12, 1968.
For Dentifrices, and in Particular Toothpaste (Int. Cl. 3).

SN 335,180. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Aug. 13, 1969.

PLAYTHINGS

For Translucent Face Powder, Makeup Base, Lipstick, and Brush-On Powdered Eye Shadow (Int. Cl. 3).
First use May 24, 1968.

SN 340,875. Cosmetex Industries, Inc., Minneapolis, Minn. Filed Oct. 10, 1969.

ALL GIRL

For Hair Spray (Int. Cl. 3).
First use Aug. 19, 1969.

SN 341,358. Beauty Dynamics, Inc., Lafayette, N.J. Filed Oct. 22, 1969.

BEAUTY DYNAMICS

For Cosmetics—Namely, Moisturizing Creams (Int. Cl. 3).
First use Sept. 15, 1969.

SN 341,804. Faberge, Incorporated, New York, N.Y. Filed Oct. 27, 1969.

NITTY-GRITTY

Owner of Reg. No. 883,506.
For Pumice Lotion (Int. Cl. 3).
First use Sept. 19, 1969.

SN 341,825. Lustray Laboratories, Inc., Brooklyn, N.Y. Filed Oct. 27, 1969.

FLEURETTE

For Hair Preparations—Namely, Cold Wave Lotion, Neutralizer, and Hair Lightener (Int. Cl. 3).
First use January 1960, on neutralizer and cold wave lotion.

SN 344,632. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

DURASOFT

For Hand Lotion (Int. Cl. 3).
First use Oct. 1, 1969.

SN 345,566. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 8, 1969.

PER-OD-EX

For Ointment Deodorant Used for Checking Perspiration and Eliminating Body Odors (Int. Cl. 5).
First use Apr. 20, 1929.

Class 52—Detergents and Soaps

SN 305,592. Yardley of London, Inc., New York, N.Y. Filed Aug. 20, 1968.

CRUSHED CARNATION

No claim is made to the word "Carnation" apart from its use in the mark as shown.
For Toilet Soap (Int. Cl. 3).
First use January 1954.

SN 317,689. Inner Cities Chemical Products Inc., Jamaica, N.Y. Filed Jan. 28, 1969.

SOUL MATE

For Hand Dishwashing Detergent (Int. Cl. 3).
First use Jan. 10, 1969.

SN 334,877. Standard T Chemical Company, Inc., Chicago, Ill. Filed Aug. 8, 1969.

STAN-STRIP

For Floor Coating Stripper Concentrate (Int. Cl. 3).
First use Apr. 3, 1969.

SN 342,591. The Kroger Co., Cincinnati, Ohio. Filed Nov. 4, 1969.

PRIDE

Owner of Reg. Nos. 774,265 and 877,661.
For Shampoo (Int. Cl. 3).
First use at least as early as Nov. 1, 1968.

SN 347,807. Camp Laboratories, Inc., Brooklyn, N.Y. Filed Jan. 6, 1970.

DISPOZ-AWAY

For Enzyme Garbage Disposal Cleaner (Int. Cl. 3).
First use Dec. 18, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 291,836. Carter's of California, Inc., Berkeley, Calif. Filed Feb. 26, 1968.

CARTER'S RENTAL

The mark is lined for red and applicant claims this color as part of the mark.
For Rental and Leasing Services—Namely, the Rental and Leasing of Industrial, Agricultural, and Household Equipment (Int. Cl. 42).
First use Apr. 1, 1957.

SN 303,322. Leasing Corporation of America, East Braintree, Mass. Filed July 22, 1968.

LEASING CORPORATION OF AMERICA

Applicant disclaims the wording "Leasing Corporation" and "America" apart from the mark as shown.
For Leasing of Industrial Equipment (Int. Cl. 42).
First use May 10, 1968.

SN 303,340. John F. Pounds, d.b.a. The Char-House, Enid, Okla. Filed July 22, 1968.

The CHAR-HOUSE

For Restaurant Services (Int. Cl. 42).
First use June 28, 1967.

SN 306,209. American Optical Corporation, Southbridge, Mass. Filed Aug. 29, 1968.

RED CARPET

For Ophthalmic Diagnostic and Prescriptive Services (Int. Cl. 42).
First use Oct. 24, 1965.

SN 322,649. United States Leasing Corporation, San Francisco, Calif. Filed Mar. 24, 1969.

BALLOONER

For Leasing of Industrial Equipment, Machinery, and Fixtures (Int. Cl. 42).
First use Jan. 14, 1969.

SN 328,179. Holly Grills, Inc., Grand Rapids, Mich. Filed May 23, 1969.

Holly's

For Restaurant Services (Int. Cl. 42).
First use on or about Jan. 1, 1939.

SN 328,180. Holly Grills, Inc., Grand Rapids, Mich. Filed May 23, 1969.

Holly's

For Restaurant Services (Int. Cl. 42).
First use on or about Jan. 1, 1947.

Class 101 — Advertising and Business

SN 286,036. The Reynolds and Reynolds Company, Dayton, Ohio. Filed Dec. 1, 1967.

lease electronic accounting system

No registration rights are claimed for the words "Lease," "Electronic," "Accounting," and "System" apart from the mark shown, but applicant waives none of its common law rights in the mark or any feature thereof. Owner of Reg. No. 866,973.
For Accounting Serivices for Consumer Goods, Rental Agencies (Int. Cl. 35).
First use on or before May 5, 1967.

SN 301,239. Multi-Ad Services, Inc., Peoria, Ill. Filed June 24, 1968.

'Kwikee'

For Advertising Services—Namely, Compiling, Editing and Servicing Proof Books to the Order and Specifications of Participating Product, Food and Beverage Manufacturers (Int. Cl. 35).
First use 1960.

SN 340,451. Oneida Ltd., Oneida, N.Y. Filed Dec. 5, 1969.

Oneida
TABLE TOP FASHION SHOP

Applicant disclaims each of the words "Table," "Top," "Fashion," and "Shop" when used separately and apart from the mark as shown. Owner of Reg. Nos. 133,012, 851,740, and others.
For Providing Tableware Merchandising Programs for Others, Consisting of Planning Layout, Inventories and Fixtures, and Providing Promotional Programs and Advice (Int. Cl. 35).
First use October 1962.

Class 102 — Insurance and Financial

SN 320,721. Imperial Mortgage Corp., Griffin, Ga. Filed Mar. 4, 1969.

FAST FLOW

For Consumer Loan Residential Financing Services (Int. Cl. 36).
First use December 1968.

SN 324,289. Harris Trust and Savings Bank, Chicago, Ill. Filed Apr. 11, 1969.

GOLDEN LION

For Banking Services—Namely, Savings Account Services (Int. Cl. 36).
First use July 1, 1968.

SN 332,208. Van Dusen Aircraft Supplies, Incorporated, Minneapolis, Minn. Filed July 10, 1969.

FULL STOCK

For Credit Services (Int. Cl. 36).
First use on or about Jan. 1, 1967.

Class 103 — Construction and Repair

SN 302,584. Brake-O International, Inc., Dallas, Tex. Filed July 12, 1968.

BRAKE-O

For Relining, Adjusting and Repairing Automobile Brakes (Int. Cl. 37).
First use June 30, 1962.

SN 325,452. Anning-Johnson Company, Melrose Park, Ill. Filed Apr. 24, 1969.

ENGINEERS A/J CO. CONTRACTORS

The lining shown on the drawing is a feature of the mark and does not indicate color. Applicant disclaims rights to the words "Engineers" and "Contractors" apart from the mark as shown, but applicant waives none of its common law rights in the mark shown or any feature thereof.
For Installation of Wood Fiber, Concrete and Gypsum Roof Decks; Acoustical Ceilings; Integrated Lighting and Ventilating Systems; and Moveable Partitions (Int. Cl. 37).
First use during August 1958.

Class 105—Transportation and Storage

SN 304,235. United Air Lines, Inc., Chicago, Ill. Filed Aug. 2, 1968.



Applicant disclaims the word "Commuter" and the representation of an airplane apart from the mark as shown.
For Air Transportation Services (Int. Cl. 39).
First use Apr. 8, 1968.

SN 317,318. Chandos Industries, Inc., Chicago, Ill. Filed Jan. 23, 1969.

PANIC BUTTON

For Messenger Services (Int. Cl. 39).
First use Oct. 14, 1968.

SN 322,627. Stillwagon Enterprises, Inc., Houston, Tex. Filed Mar. 24, 1969.



For Jet Aircraft Charter Services (Int. Cl. 39).
First use July 5, 1968.

Class 106—Material Treatment

SN 306,005. Water Treatment Corporation, City of Industry, Calif. Filed Aug. 26, 1968.

THE SOFT TOUCH

For Water Conditioning and Treating Services, Specifically of the Kind Utilizing Tank Type Water Softeners Using Ion Exchange Resins, Cartridge Filters, Manual and Automatic Pressure and Gravity Filters, Manual and Automatic Tank Type Deionization Systems, Chlorinators, Chemical Feeders, Ultra Violet Purifiers, and Reverse Osmosis Equipment (Int. Cl. 40).
First use June 15, 1967.

Class 107—Education and Entertainment

SN 317,881. Spa International, Inc., Houston, Tex. Filed Jan. 29, 1969.



For Instructional Services in Body Care and Body Health, Including Physical Fitness, Weight Reduction and Control, and Therapeutic Treatment (Int. Cl. 41).
First use about October 1961.
Subj. to Intf. with SN 335,873.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 320,731. Mortgage Bankers Association of America, Washington, D.C. Filed Mar. 4, 1969.



The words "Member," "Mortgage Bankers Association of America" and "Organized 1914" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 642,727 and 646,666.
For Indicating Membership in the Association.
First use Dec. 18, 1968.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

890,305. DURALON. Owens-Illinois, Inc. SN 261,751. Pub. 12–5–67. Filed 12–30–66.

890,306. DORLYL. Dorlyl, Societe a Responsabilite Limitee. MULTIPLE CLASS (Classes 1 and 2). SN 281,742. Pub. 2–17–70. Filed 10–4–67.

890,307. THE GROWING WORLD OF VELSICOL. Velsicol Chemical Corporation. SN 295,267. Pub. 2–17–70. Filed 4–9–68.

890,308. HI-SERVICE. Midcontinent Seed Company. SN 297,078. Pub. 2–17–70. Filed 5–1–68.

890,309. PLAS 300. Plastics for Maintenance Corp. SN 310,693. Pub. 2–17–70. Filed 10–28–68.

890,310. CATS PREFERRED. Volcanic Materials, Inc. SN 311,981. Pub. 2–17–70. Filed 10–16–68.

890,311. PVC-CON. Dart Industries Inc., by change of name from Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 320,079. Pub. 2–17–70. Filed 2–25–69.

890,312. ELFIN. Geo. J. Ball, Inc., d.b.a. Pan-American Seed Company. SN 321,894. Pub. 2–17–70. Filed 3–17–69.

890,313. E-A-R. Norton Research Corporation. SN 322,184. Pub. 2–17–70. Filed 3–19–69.

890,314. CB MICRO-BLACK. Goodrich-Gulf Chemicals, Inc. SN 323,558. Pub. 2–17–70. Filed 4–3–69.

890,315. DROP DESIGN. Pharmacia AB. SN 329,660. Pub. 2–17–70. Filed 6–11–69.

890,316. 3M. Minnesota Mining and Manufacturing Company. SN 331,833. Pub. 2–17–70. Filed 7–7–69.

890,317. GUDE'S GUDE BROTHERS CO. AND DESIGN. Gude Bros. Co. SN 332,290. Pub. 2–17–70. Filed 7–11–69.

890,318. GAFLO. GAF Corporation. SN 336,370. Pub. 2–17–70. Filed 8–27–69.

890,319. GAFLOW. GAF Corporation. SN 336,371. Pub. 2–17–70. Filed 8–27–69.

Class 2—Receptacles

890,306. (See Class 1 for this trademark.)

Class 4—Abrasives and Polishing Materials

890,320. MACRYLIC LEMON LAST AND DESIGN. Macrylic Aerosol, Inc. SN 330,522. Pub. 2–17–70. Filed 6–19–69.

Class 5—Adhesives

890,321. ADCHEM AND DESIGN. Adchem Corp. SN 271,107. Pub. 4–8–69. Filed 5–10–67.

Class 6—Chemicals and Chemical Compositions

890,322. PERFORM. Paramount Chemical Corporation. SN 266,780. Pub. 10–15–68. Filed 3–15–67.

890,323. DRY CHLORESCO. Stauffer Chemical Company, assignee of Cowles Chemical Company. SN 276,646. Pub. 2–17–70. Filed 7–24–67.

890,324. FASTPACK. Calbiochem. SN 314,656. Pub. 2–17–70. Filed 12–9–68.

890,325. ISO-FORM. American Hospital Supply Corporation. SN 323,170. Pub. 2–17–70. Filed 3–28–69.

890,326. DALOFRAM. Geigy Chemical Corporation. SN 323,554. Pub. 2–17–70. Filed 4–3–69.

890,327. GUM/GFE. Western Litho Plate & Supply Co. SN 323,977. Pub. 2–17–70. Filed 4–8–69.

890,328. DROP DESIGN. Pharmacia AB. SN 329,661. Pub. 2–17–70. Filed 6–11–69.

890,329. 3M. Minnesota Mining and Manufacturing Company. SN 330,237. Pub. 2–17–70. Filed 6–17–69.

890,330. INDOX. Minnesota Mining and Manufacturing Company. SN 330,238. Pub. 2–17–70. Filed 6–17–69.

890,331. ZEREX. E. I. du Pont de Nemours and Company. SN 332,066. Pub. 2–17–70. Filed 7–9–69.

890,332. A PERSONAL NOTE. Avon Products, Inc. SN 332,681. Pub. 2–17–70. Filed 7–16–69.

890,333. ALBALOY. M & T Chemicals Inc. SN 334,853. Pub. 2–17–70. Filed 8–8–69.

Class 7—Cordage

890,334. PFR. Pacific Fibre and Rope Co., Inc. SN 329,747. Pub. 2–17–70. Filed 6–11–69.

Class 12—Construction Materials

890,335. UFP AND DESIGN. Transco Inc. SN 311,080. Pub. 2–17–70. Filed 10–31–68.

890,336. EURYCON-X. Associated Allied Industries, Inc. SN 315,875. Pub. 2–17–70. Filed 1–6–69.

890,337. SUPER-POLY. Preformed Metal Products Co., Inc. SN 318,809. Pub. 2–17–70. Filed 2–10–69.

890,338. ARTITEX. Art Metal-Knoll Corporation. SN 322,254. Pub. 2–17–70. Filed 3–20–69.

890,339. BLEND TRIM. E. L. Bruce Co. (Incorporated), d.b.a. E. L. Bruce Co. SN 328,759. Pub. 2–17–70. Filed 6–2–69.

890,340. TRAFALGAR SQUARE. D. A. White Inc. SN 329,784. Pub. 2–17–70. Filed 6–11–69.

890,341. ECONOPLATE. Wooster Products Inc. SN 329,785. Pub. 2–17–70. Filed 6–11–69.

890,342. ECONOTRED. Wooster Products Inc. SN 329,786. Pub. 2–17–70. Filed 6–11–69.

890,343. POXIGRIP. Wooster Products Inc. SN 329,787. Pub. 2–17–70. Filed 6–11–69.

890,344. PORTA-PANE. Porta Aluminum, Inc. SN 333,503. Pub. 2–17–70. Filed 7–25–69.

890,345. SUNPORT. Sunco Manufacturing Company, Inc. SN 337,592. Pub. 2–17–70. Filed 9–10–69.

890,346. ECONO FLEX. Plastiglide Manufacturing Corporation. SN 337,864. Pub. 2–17–70. Filed 9–15–69.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

890,347. DUKANE. Duquesne Mine Supply Company. MULTIPLE CLASS (Classes 13, 14, and 23). SN 284,177. Pub. 2–17–70. Filed 11–6–67.

Class 14—Metals and Metal Castings and Forgings

890,347. (See Class 13 for this trademark.)

890,348. NITREX. Chemalloy Company, Inc. SN 283,224. Pub. 5–6–69. Filed 10–24–67.

890,349. MILFORD. The Henry G. Thompson Company. MULTIPLE CLASS (Classes 14 and 23). SN 291,917. Pub. 2–17–70. Filed 2–26–68.

890,350. M AND DESIGN. Meadowbrook Inventions, Inc. SN 316,223. Pub. 2–17–70. Filed 1–9–69.

Class 17—Tobacco Products

890,351. GOLDEN DANISH. Lane Limited. SN 326,107. Pub. 2–17–70. Filed 5–1–69.

890,352. TIPPI. Bayuk Cigars Incorporated. SN 335,190. Pub. 2–17–70. Filed 8–13–69.

Class 18—Medicines and Pharmaceutical Preparations

890,353. DOPAR. The Norwich Pharmacal Company (Delaware corporation), assignee of The Norwich Pharmacal Company (New York corporation). SN 316,120. Pub. 2–17–70. Filed 1–8–69.

890,354. OGEN. Abbott Laboratories. SN 324,150. Pub. 2–17–70. Filed 4–10–69.

890,355. POLYPROPEPTANS. Dalare Associates, Inc. SN 325,177. Pub. 2–17–70. Filed 4–22–69.

890,356. BSS. Alcon Laboratories, Inc. SN 326,329. Pub. 2–17–70. Filed 5–5–69.

890,357. CELOSPOR. Ciba Limited. SN 326,349. Pub. 2–17–70. Filed 5–5–69.

890,358. CIBALGINE. Ciba Limited. SN 326,350. Pub. 2–17–70. Filed 5–5–69.

890,359. CO-TYLENOL. McNeil Laboratories, Incorporated. SN 326,411. Pub. 2–17–70. Filed 5–5–69.

890,360. TYLENOL. McNeil Laboratories, Incorporated. SN 326,412. Pub. 2–17–70. Filed 5–5–69.

890,361. HEADWAY. Hoffmann-La Roche Inc. SN 326,878. Pub. 2–17–70. Filed 5–9–69.

890,362. PROTENATE. Baxter Laboratories, Inc. SN 326,978. Pub. 2–17–70. Filed 5–12–69.

890,363. SINAGESIC. Smith Kline & French Laboratories. SN 335,927. Pub. 2–17–70. Filed 8–22–69.

890,364. STRONGID. Chas. Pfizer & Co., Inc. SN 336,071. Pub. 2–17–70. Filed 8–25–69.

Class 19—Vehicles

890,365. BODYGUARD. Biscayne Manufacturing Corporation. SN 271,752. Pub. 3–19–68. Filed 5–18–67.

890,366. BAMBINO. DS Distributing Corporation. SN 301,999. Pub. 7–22–69. Filed 7–5–68.

890,367. AEROLAM. BTR Industries Limited. SN 309,306. Pub. 2–17–70. Filed 10–9–68.

890,368. KITTYMARAN ALWAYS ON TOP AND DESIGN. Henry P. Ehlers. SN 313,277. Pub. 2–17–70. Filed 11–29–68.

890,369. JEFFREY. Jeffrey Galion Inc. SN 314,078. Pub. 2–17–70. Filed 12–10–68.

890,370. H HYSTER AND DESIGN. Hyster Company. MULTIPLE CLASS (Classes 19 and 23). SN 317,564. Pub. 2–17–70. Filed 1–27–69.

890,371. HERCULES. Hercules Manufacturing Company. SN 321,493. Pub. 2–17–70. Filed 3–12–69.

890,372. TOTE A BOGG'N. C & Z Investment Co., Inc. SN 326,716. Pub. 2–17–70. Filed 5–8–69.

890,373. MANHATTAN. New Yorker Homes Corp. SN 332,511. Pub. 2–17–70. Filed 7–14–69.

890,374. W-W AND DESIGN. H. G. Watkins, d.b.a. W-W Trailer Manufacturers, and W-W Trailers Mfg. SN 334,263. Pub. 2–17–70. Filed 8–1–69.

890,375. MANOR HOME. Kit Manufacturing Company. SN 335,587. Pub. 2–17–70. Filed 8–18–69.

Class 21—Electrical Apparatus, Machines, and Supplies

890,376. AI. Atelier International, Ltd. MULTIPLE CLASS (Classes 21 and 32). SN 277,956. Pub. 2–17–70. Filed 8–10–67.

890,377. POLARITE. Aquadynamics, Inc. SN 290,572. Pub. 12–31–70. Filed 2–8–68.

890,378. PINTO. J. C. Penney Company, Inc., by change of name from J. C. Penney Company. SN 295,951. Pub. 2–17–70. Filed 4–18–68.

890,379. PDQ. Information Instruments Incorporated. SN 298,449. Pub. 5–6–69. Filed 5–17–68.

890,380. SONIC AND DESIGN. Southern Stores, Inc. MULTIPLE CLASS (Classes 21, 35, and 103). SN 306,096. Pub. 7–29–69. Filed 8–28–68.

890,381. JEFFREY. Jeffrey Galion Inc. SN 314,079. Pub. 2–17–70. Filed 12–10–68.

890,382. COPPR-FLEX. Decibel Products, Inc. SN 320,046. Pub. 2–17–70. Filed 2–25–69.

890,383. SELECTRODIAL. Selectron Alarm Systems, Inc. SN 320,650. Pub. 2–17–70. Filed 3–3–69.

890,384. FSP. Whirlpool Corporation. MULTIPLE CLASS (Classes 21 and 36). SN 325,428. Pub. 2–17–70. Filed 4–24–69.

890,385. CONTRADE. Continental Trading Corporation. SN 325,011. Pub. 2–17–70. Filed 4–21–69.

890,386. WELD-I-CATOR. Digimetrics, Inc. SN 328,930. Pub. 2–17–70. Filed 6–3–69.

890,387. ARMOR LINE. The Louis Allis Company. SN 329,991. Pub. 2–17–70. Filed 6–13–69.

890,388. SILENCER. Ford Motor Company. SN 330,493. Pub. 2–17–70. Filed 6–19–60.

890,389. ULTIMA. Fieldcrest Mills, Inc. SN 331,885. Pub. 2–17–70. Filed 7–7–69.

890,390. WADSWORTH AND DESIGN. The Wadsworth Electric Manufacturing Company. SN 333,781. Pub. 2–17–70. Filed 7–28–69.

Class 22—Games, Toys, and Sporting Goods

890,391. KEYWEE. Uneeda Doll Co., Inc. SN 275,184. Pub. 2–17–70. Filed 6–30–67.

890,392. CAMP ANYWHERE IN CREATION. Robert L. Blanchard. SN 301,033. Pub. 2–17–70. Filed 6–21–68.

890,393. MISCELLANEOUS DESIGN. Argus Press, Inc. MULTIPLE CLASS (Classes 22 and 38). SN 303,638. Pub. 2–17–70. Filed 7–26–68.

890,394. BY BANNISTER. Constance Bannister. MULTIPLE CLASS (Classes 22 and 38). SN 307,009. Pub. 2–17–70. Filed 9–10–68.

890,395. PALMER AND DESIGN. Eugene Balner, d.b.a. Palmer Custom Cues Co. SN 307,296. Pub. 2–17–70. Filed 9–13–68.

890,396. ANSER. Karsten Solheim. SN 308,147. Pub. 2–17–70. Filed 9–24–68.

890,397. CUSHIN. Karsten Solheim. SN 308,148. Pub. 2–17–70. Filed 9–24–68.

890,398. Z. Karsten Solheim. SN 308,149. Pub. 2–17–70. Filed 9–24–68.

890,399. ECHO. Karsten Solheim. SN 308,150. Pub. 2–17–70. Filed 9–24–68.

890,400. KUSHIN. Karsten Solheim. SN 308,151. Pub. 2–17–70. Filed 9–24–68.

890,401. BIG STICK. Adirondack Industries, Inc. SN 318,377. Pub. 2–17–70. Filed 2–5–69.

890,402. WATER-GATER. Jack K. Smithwick. SN 318,988. Pub. 2–17–70. Filed 2–12–69.

890,403. JOGLINE. The Life Line Company. SN 319,624. Pub. 2–17–70. Filed 2–19–69.

890,404. HASBRO AND DESIGN. Hasbro Industries, Inc. SN 322,589. Pub. 2–17–70. Filed 3–24–69.

890,405. MACH 1. Paco Products, Inc. SN 323,354. Pub. 2–17–70. Filed 4–1–69.

890,406. MATT ANDREWS. Zayre Corp. SN 325,676. Pub. 2–17–70. Filed 4–28–69.

890,407. PICTURE POMS. Emile Bernat & Sons Co. SN 327,442. Pub. 2–17–70. Filed 5–15–69.

890,408. GROTESQUE FIGURE DESIGN. Transogram Company, Inc. SN 327,701. Pub. 2–17–70. Filed 5–19–69.

890,409. KITTY COED. Fun World, Inc. SN 328,694. Pub. 2–17–70. Filed 5–29–69.

890,410. KWIKEE. Kwikee Kwiver Co., Inc. SN 328,707. Pub. 2–17–70. Filed 5–29–69.

890,411. MATHAID Scott, Foresman and Company (Delaware corporation), assignee of Scott, Foresman and Company (Illinois corporation). SN 330,453. Pub. 2–17–70. Filed 6–19–69.

890,412. SPIRIT. Mattel, Inc. SN 338,480. Pub. 2–17–70. Filed 9–22–69.

890,413. MEAN STREAK. Mattel, Inc. SN 338,481. Pub. 2–17–70. Filed 9–22–69.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

890,347. (See Class 13 for this trademark.)

890,349. (See Class 14 for this trademark.)

890,370. (See Class 19 for this trademark.)

890,414. TORK-PAK. MacGregor-Comarain. SN 251,551. Pub. 10–15–68. Filed 8–2–66.

890,415. SA (DESIGN). Standard Alliance Industries, Inc. SN 259,346. Pub. 10–29–68. Filed 11–23–66.

890,416. RUPCO. Rubber Products Company. MULTIPLE CLASS (Classes 23 and 35). SN 272,408. Pub. 2–17–70. Filed 5–25–67.

890,417. PIGGYBACK. Brown Oil Tools, Inc., assignee of Udell Garrett, Inc. SN 299,890. Pub. 2–17–70. Filed 6–6–68.

890,418. SANI-CLAWS. John N. Ewald, Jr. SN 300,921. Pub. 2–17–70. Filed 6–20–68.

890,419. BRUCT. Welty-Way Products Incorporated. SN 303,723. Pub. 2–17–70. Filed 7–26–68.

890,420. SHOIL. Welty-Way Products Incorporated. SN 303,724. Pub. 2–17–70. Filed 7–26–68.

890,421. SLEAR. Welty-Way Products Incorporated. SN 303,725. Pub. 2–17–70. Filed 7–26–68.

890,422. THEODORE AND DESIGN. The Dore Development Co., Inc. SN 311,671. Pub. 2–17–70. Filed 11–8–68.

890,423. THEODORE AND DESIGN. The Dore Development Co., Inc. SN 311,672. Pub. 2–17–70. Filed 11–8–68.

890,424. PUMPMASTER. Robert J. Beckett, d.b.a. Pumpmaster. SN 313,257. Pub. 2–17–70. Filed 11–29–68.

890,425. ERAS-O-MATIC. Robert B. Hobbs, d.b.a. Typewriter Erasure Company. MULTIPLE CLASS (Classes 23 and 37). SN 314,370. Pub. 2–17–70. Filed 12–12–68.

890,426. HIDE-A-BEVEL. American Optical Corporation. SN 318,021. Pub. 2–17–70. Filed 1–31–69.

890,427. RANE. AVM Corporation. SN 318,142. Pub. 2–17–70. Filed 2–3–69.

890,428. PRINCETON. Washington Forge, Incorporated. SN 327,435. Pub. 2–17–70. Filed 5–15–69.

890,429. GOLDEN GEAR. The Goodyear Tire & Rubber Company. SN 331,193. Pub. 2–17–70. Filed 6–27–69.

890,430. PRESSURE MASTER AND DESIGN. Westinghouse Air Brake Company. SN 333,469. Pub. 2–10–70. Filed 7–24–69.

890,431. SILVER KNIGHT. Perma-Sharp Manufacturing Corp. SN 334,528. Pub. 2–17–70. Filed 8–6–69.

890,432. BOSTOMATIC. Boston Digital Corporation. SN 335,399. Pub. 2–17–70. Filed 8–15–69.

890,433. DUFF-NORTON. Duff-Norton Company, Inc. SN 335,722. Pub. 2–17–70. Filed 8–20–69.

890,434. TITAN I. American Type Founders Co., Inc. SN 336,219. Pub. 2–17–70. Filed 8–21–69.

890,435. ENDERES. Enderes Tool Co., Inc. SN 337,754. Pub. 2–17–70. Filed 9–12–69.

890,436. ENDERES AND DESIGN. Enderes Tool Co., Inc. SN 337,755. Pub. 2–17–70. Filed 9–12–69.

Class 24—Laundry Appliances and Machines

890,437. INN-HOUSE. McGraw-Edison Company. SN 319,621. Pub. 2–17–70. Filed 2–19–69.

Class 26—Measuring and Scientific Appliances

890,438. GALVO/RITER. Texas Instruments Incorporated, assignee of Tensitron, Inc. SN 254,071. Pub. 8–8–67. Filed 9–8–66.

890,439. CD LTD AND DESIGN. Central Dynamics Ltd. SN 276,218. Pub. 1–28–69. Filed 7–18–67.

890,440. SPACE-GENERAL. Aerojet-General Corporation. MULTIPLE CLASS (Classes 26 and 100). SN 276,492. Pub. 2–17–70. Filed 7–21–67.

890,441. LIGHTHOUSE. Paul Koch G.m.b.H., Papierverarbeitungswerk, Leuchtturm Albenverlag. SN 282,229. Pub. 3–25–69. Filed 10–11–67.

890,442. OMNIGRAPHIC. Bausch & Lomb Incorporated. MULTIPLE CLASS (Classes 26 and 37). SN 283,422. Pub. 2–17–70. Filed 10–26–67.

890,443. COROMETER. Hoyer-Stanyer Industries, Inc. SN 290,612. Pub. 2–25–69. Filed 2–8–68.

890,444. SIGMATROL. Mira-Pak, Inc. SN 292,898. Pub. 7–29–69. Filed 3–4–68.

890,445. SUPERMATIC. Eastman Kodak Company. SN 301,922. Pub. 2–17–70. Filed 7–3–68.

890,446. SPEEDCOMPUTER. Ilex Optical Co., Inc. SN 307,482. Pub. 2–17–70. Filed 9–16–68.

890,447. ROWS OF DISCS SYMBOL. Ultra Carbon Corporation. SN 309,414. Pub. 2–17–70. Filed 10–11–68.

890,448. NOVA. Data General Corporation. SN 313,471. Pub. 4–8–69. Filed 12–3–68.

890,449. SPACE-TEMP. Kimco Laboratories, Inc. SN 313,785. Pub. 2–17–70. Filed 12–6–68.

890,450. CARY-MESELTRON. Les Fabriques d'Assortiments Reunies. SN 314,976. Pub. 2–17–70. Filed 12–20–68.

890,451. MULTICOUNT. K. J. Law Engineers, Inc. SN 319,324. Pub. 2–17–70. Filed 2–17–68.

890,452. LIVING LENS. Leonard G. Wolfson, d.b.a. Living Lens Research. SN 320,669. Pub. 2–17–70. Filed 3–3–69.

890,453. EASTECH. Eastech, Inc. SN 323,190. Pub. 2-17-70. Filed 4-1-69.

890,454. SABRE. Eugene Dietzgen Co. SN 324,051. Pub. 2-17-70. Filed 4-9-69.

890,455. BELMONT. Melco Merchandising Corporation. SN 330,842. Pub. 2-17-70. Filed 6-24-69.

890,456. SELECTION. Beckman Instruments, Inc. SN 331,309. Pub. 2-17-70. Filed 6-30-69.

890,457. SMEER-EEZ. Wil-Sher Associates, Inc. SN 331,662. Pub. 2-17-70. Filed 7-2-69.

890,458. ASPHERCON. The Plastic Contact Lens Company. SN 332,252. Pub. 2-17-70. Filed 7-10-69.

890,459. MCRT. S. Himmelstein and Company. SN 337,613. Pub. 2-17-70. Filed 9-11-69.

890,460. SENATOR MINI CALC AND DESIGN. Caltype Corporation. SN 338,295. Pub. 2-17-70. Filed 9-19-69.

Class 27 — Horological Instruments

890,461. URGOS. Firma Urgos Uhrenfabrik Schwenningen Haller, Jauch & Pabst. SN 317,833. Pub. 2-17-70. Filed 1-29-69.

Class 28 — Jewelry and Precious-Metal Ware

890,462. GOLD MASTER. Gold-Master Corp. SN 233,490. Pub. 9-20-66. Filed 11-29-65.

890,463. G.M.C. CREATIONS. Gold-Master Corp. SN 233,491. Pub. 9-20-66. Filed 11-29-65.

890,464. ROGER WILLIAMS. Brite Industries Inc. SN 315,044. Pub. 2-17-70. Filed 12-23-68.

890,465. THERMOCHEM. Alfred M. Hudson, d.b.a. Thermochem. SN 327,627. Pub. 2-17-70. Filed 5-19-69.

890,466. GOTHAMATIC. Gotham Wedding Ring Co., Inc. SN 328,979. Pub. 2-17-70. Filed 6-3-69.

890,467. MEMORY TIME. Lucille V. McKinnon. SN 332,843. Pub. 2-17-70. Filed 7-17-69.

890,468. TOWLE. Towle Manufacturing Company. SN 338,739. Pub. 2-17-70. Filed 9-24-69.

Class 29 — Brooms, Brushes, and Dusters

890,469. EZ BRUSH. EZ Paintr Corporation. SN 315,895. Pub. 2-17-70. Filed 1-6-69.

Class 31 — Filters and Refrigerators

890,470. HYDROMISER. Hydro-Miser Corporation. SN 297,293. Pub. 2-17-70. Filed 5-3-68.

890,471. COPELAND. Copeland Refrigeration Corporation. SN 310,623. Pub. 2-17-70. Filed 1-15-69.

890,472. WATER GEM. Waterco Industries, Inc. SN 323,925. Pub. 2-17-70. Filed 4-8-69.

890,473. DROP DESIGN. Pharmacia AB. SN 329,662. Pub. 2-17-70. Filed 6-11-69.

Class 32 — Furniture and Upholstery

890,376. (See Class 21 for this trademark.)

890,474. PAMPER-QUILT. Sealy, Incorporated. SN 313,610. Pub. 2-17-70. Filed 12-4-68.

Class 33 — Glassware

890,475. TRALEE. Waterford Glass Limited. SN 328,491. Pub. 2-17-70. Filed 5-27-69.

890,476. ROSSLARE. Waterford Glass Limited. SN 328,469. Pub. 2-17-70. Filed 5-27-69.

890,477. KATHLEEN. Waterford Glass Limited. SN 328,482. Pub. 2-17-70. Filed 5-27-69.

890,478. CASHEL. Waterford Glass Limited. SN 328,483. Pub. 2-17-70. Filed 5-27-69.

890,479. ALANA. Waterford Glass Limited. SN 328,484. Pub. 2-17-70. Filed 5-27-69.

890,480. LISMORE. Waterford Glass Limited. SN 328,485. Pub. 2-17-70. Filed 5-27-69.

890,481. COLLEEN. Waterford Glass Limited. SN 328,487. Pub. 2-17-70. Filed 5-27-69.

889,482. BOYNE. Waterford Glass Limited. SN 328,488. Pub. 2-17-70. Filed 5-27-69.

890,483. TRAMORE. Waterford Glass Limited. SN 328,489. Pub. 2-17-70. Filed 5-27-69.

890,484. ASHLING. Waterford Glass Limited. SN 328,490. Pub. 2-17-70. Filed 5-27-69.

Class 34 — Heating, Lighting, and Ventilating Apparatus

890,485. PROLECTRIC. Midland-Ross Corporation. SN 317,858. Pub. 2-17-70. Filed 1-29-69.

890,486. INTA-ROTO. Inta-Roto, Incorporated, assignee of The Inta-Roto Machine Company, Inc. SN 321,226. Pub. 2-17-70. Filed 3-10-69.

890,487. FERROMATIC. MIF Industries, Inc. SN 332,024. Pub. 2-17-70. Filed 7-8-69.

890,488. GILBERT. Gilbert Steambath Co., Inc. SN 338,714. Pub. 2-17-70. Filed 9-24-69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

890,380. (See Class 21 for this trademark.)

890,416. (See Class 23 for this trademark.)

890,489. DANDUX AND DESIGN. C. R. Daniels, Inc. SN 321,472. Pub. 2-17-70. Filed 3-12-69.

890,490. 60 AND DESIGN. The Firestone Tire & Rubber Company. SN 333,915. Pub. 2-17-70. Filed 7-30-69.

890,491. RIB DUPLEX. The Firestone Tire & Rubber Company. SN 334,067. Pub. 2-17-70. Filed 7-31-69.

890,492. CIRCULAR DESIGN. North American Rockwell Corporation. SN 334,361. Pub. 2-17-70. Filed 8-4-69.

890,493. LOKLUBE. Johns-Manville Corporation. SN 334,477. Pub. 2-17-70. Filed 8-5-69.

890,494. SHELLRIDE. Shell Oil Company. SN 334,870. Pub. 2-17-70. Filed 8-8-69.

890,495. SHELLMILER. Shell Oil Company. SN 334,872. Pub. 2-17-70. Filed 8-8-69.

Class 36 — Musical Instruments and Supplies

890,384. (See Class 21 for this trademark.)

890,496. VIATAPE. Viatron Computer Systems Corporation. SN 314,278. Pub. 2-17-70. Filed 12-11-68.

890,497. KWIK-STIK. Jose Anthony Sacre, d.b.a. Tony's Musical Instrument Company. SN 326,689. Pub. 2-17-70. Filed 5-7-69.

890,498. BIBLETONE. Cherokee Album Corporation. SN 331,335. Pub. 2-17-70. Filed 6-30-69.

890,499. AUDIO EYE. Bell & Howell Company. SN 332,684. Pub. 2-17-70. Filed 7-16-69.

890,500. THE MATCHMAKER. William N. Hockenberry. SN 337,308. Pub. 2-17-70. Filed 9-8-69.

890,501. AMAZON. The Shelby Singleton Corporation. SN 337,363. Pub. 2-17-70. Filed 9-8-69.

890,502. PRO-WOOD. Fred D. Hinger. SN 338,783. Pub. 2-17-70. Filed 9-24-69.

890,503. PRO-STANDARD. Fred D. Hinger. SN 338,784. Pub. 2-17-70. Filed 9-24-69.

890,504. PRO-CUSTOM. Fred D. Hinger. SN 338,785. Pub. 2-17-70. Filed 9-24-69.

Class 37 — Paper and Stationery

890,425. (See Class 23 for this trademark.)

890,442. (See Class 26 for this trademark.)

890,505. 88. Marsh Stencil Machine Company. SN 313,010. Pub. 2-17-70. Filed 11-25-68.

890,506. LAW-STIK. The Lawton-York Corporation. SN 317,068. Pub. 2-17-70. Filed 1-21-69.

890,507. PERMETAL. Acme Backing Corporation. SN 320,116. Pub. 2-17-70. Filed 2-26-69.

890,508. STATE CHECK. Courier-Journal Lithographing Co. SN 320,941. Pub. 2-17-70. Filed 3-6-69.

890,509. FANTASY. The Crystal Tissue Company. SN 328,828. Pub. 2-17-70. Filed 6-2-69.

890,510. PROGARD. Consolidated Papers, Inc. SN 329,063. Pub. 2-17-70. Filed 6-4-69.

890,511. INSTA-MAGIC. W. R. Grace & Co. SN 329,238. Pub. 2-17-70. Filed 6-5-69.

Class 38 — Prints and Publications

890,393. (See Class 22 for this trademark.)

890,394. (See Class 22 for this trademark.)

890,512. COLORMATIC. The Photo-Matic Corporation. SN 286,174. Pub. 11-5-68. Filed 12-4-67.

890,513. ROMANTIC CONFESSIONS. Magazine Management Co., Inc., assignee of Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group. SN 308,516. Pub. 2-17-70. Filed 9-30-68.

890,514. SECRET STORY. Magazine Management Co., Inc., assignee of Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group. SN 308,519. Pub. 2-17-70. Filed 9-30-68.

890,515. DREAMLAND POTENTIAL. Ronald L. Downing, d.b.a. Dreammakers Unlimited. SN 308,879. Pub. 2-17-70. Filed 10-4-68.

890,516. SKI INDUSTRY ADVOCATE. Ski Industries America. SN 312,505. Pub. 2-17-70. Filed 11-18-68.

890,517. BLACK DOLLAR MAGAZINE AND DESIGN. Edward Murphy. SN 321,565. Pub. 2-17-70. Filed 4-7-69.

890,518. TG (DESIGN). Worcester Telegram & Gazette, Inc. SN 324,106. Pub. 2-17-70. Filed 4-9-69.

890,519. LITTLE PROFESSOR BOOK CENTER. Little Professor Book Centers of America, Inc. SN 324,727. Pub. 2-17-70. Filed 4-16-69.

890,520. MISCELLANEOUS DESIGN. Little Professor Book Centers of America, Inc. SN 325,054. Pub. 2-17-70. Filed 4-21-69.

890,521. THE NATIONAL TATTLER. Publishers' Promotion Agency, Inc. SN 335,257. Pub. 2-17-70. Filed 8-13-69.

890,522. READON. Nelson & Associates, Inc. SN 335,365. Pub. 2-17-70. Filed 8-14-69.

890,523. FROM THE HOPPER AND DESIGN. Delia Associates. SN 335,435. Pub. 2-17-70. Filed 8-15-69.

890,524. FOUR TRIANGULAR FORMS (DESIGN). Addison-Wesley Publishing Company, Inc. SN 335,831. Pub. 2-17-70. Filed 8-21-69.

890,525. THE BENZENE RING. Mallinckrodt Chemical Works. SN 336,584. Pub. 2-17-70. Filed 8-28-69.

Class 39 — Clothing

890,526. MISS AMERICA. Miss America Brassiere Company, Inc. SN 250,390. Pub. 3-21-67. Filed 7-15-66.

890,527. YOUNG GUY. Cooper's, Incorporated. SN 270,901. Pub. 2-17-70. Filed 5-8-67.

890,528. DINO PONTI. Elton Meltzer & Co., Inc. SN 286,837. Pub. 9-30-69. Filed 12-13-67.

890,529. CAPUCINE. Bally Schuhfabriken AG. SN 301,029. Pub. 5-20-69. Filed 6-21-68.

890,530. MANDARIN MILLS. Mandarin Mills, Inc. SN 309,598. Pub. 2-17-70. Filed 10-14-68.

890,531. JPS. Puritan Fashions Corporation. SN 313,886. Pub. 12-30-69. Filed 12-6-68.

890,532. MARC VAUGHAN. Marc Vaughan. SN 314,896. Pub. 2-17-70. Filed 12-19-68.

890,533. HELLY-HANSEN AND DESIGN. Helly J. Hansen A/S. SN 317,559. Pub. 2-17-70. Filed 1-27-69.

890,534. LOCKE. The Julian & Kokenge Company. SN 319,912. Pub. 2-17-70. Filed 2-24-69.

890,535. BARATTA SCOTLAND AND DESIGN. Società Commercio Tessuti Lanerie Drapperie "Scotland" S.p.A. SN 323,066. Pub. 12-16-69. Filed 3-28-69.

890,536. "FOREVER YOURS." Forever Yours, Inc. SN 328,838. Pub. 2-17-70. Filed 6-2-69.

890,537. THE MC GEE. Eagle Shirtmakers, Inc. SN 332,203. Pub. 2-17-70. Filed 7-10-69.

890,538. FUN 'N GAMES. Ingenue of California, Inc. SN 332,779. Pub. 2-17-70. Filed 7-17-69.

890,539. A PRISM'S SHADOW. John L. Whittenberger, d.b.a. Prism. SN 334,530. Pub. 2-17-70. Filed 8-6-69.

890,540. LADY BREVONI. Nicholas Brecher, d.b.a. Brevoni Creations. SN 334,547. Pub. 2-17-70. Filed 8-6-69.

890,541. LAURA T. Agel Fashion Imports, Inc. SN 336,641. Pub. 2-17-70. Filed 8-29-69.

Class 40 — Fancy Goods, Furnishings, and Notions

890,542. HG BRAND. Edward M. Otani, d.b.a. Oriental Trading Company. SN 317,602. Pub. 2-17-70. Filed 1-27-69.

890,543. HOLLY WIG AND DESIGN. Miller-Rogers, Inc. SN 324,926. Pub. 2-17-70. Filed 4-18-69.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

890,544. INSALUME AND DESIGN. John Boyle and Company, Incorporated. SN 286,412. Pub. 2-17-70. Filed 12-7-67.

890,545. MMI ETC. AND DESIGN. Mercury Mills, Inc. SN 293,553. Pub. 2-17-70. Filed 3-18-68.

890,546. MISCELLANEOUS DESIGN. Wendell Fabrics Corporation. SN 307,602. Pub. 2-17-70. Filed 9-17-68.

890,547. ANNE DE SOLENE. Etablissements de Julienrupt. SN 308,365. Pub. 2-17-70. Filed 9-27-68.

890,548. MISCELLANEOUS DESIGN. Jefferson Surplus Sales Co. SN 322,595. Pub. 2-17-70. Filed 3-24-69.

890,549. FABRIMATES. Stevcoknit Textile Co. SN 324,613. Pub. 2-17-70. Filed 4-15-69.

890,550. VITALITY. Burlington Industries, Inc. SN 327,767. Pub. 2-17-70. Filed 5-20-69.

Class 43 — Thread and Yarn

890,551. "PANDA." Aspinall Brothers (Huddersfield) Limited. SN 316,074. Pub. 2-17-70. Filed 1-8-69.

Class 44 — Dental, Medical, and Surgical Appliances

890,552. OXY-SELFRESCUER. Drägerwerk, Heinr. & Bernh. Drager. SN 247,490. Pub. 5-23-67. Filed 6-7-66.

890,553. TERUMO. Kabushiki Kaisha Jintan Terumo, d.b.a. Jintan Terumo Co., Ltd. SN 322,168. Pub. 2-17-70. Filed 3-19-69.

890,554. CARDIALERT. Harco Electronics Ltd. SN 322,587. Pub. 2-17-70. Filed 3-24-69.

890,555. E-S AND DESIGN. Research Dental Manufacturing Corporation. SN 324,496. Pub. 2-17-70. Filed 4-14-69.

890,556. EQUI-SPANSION. Research Dental Manufacturing Corporation. SN 324,497. Pub. 2-17-70. Filed 4-14-69.

890,557. STER-L-MIX. Merck & Co., Inc. SN 329,254. Pub. 2-17-70. Filed 6-5-69.

890,558. ORDONT AND DESIGN. Ordont Orthodontic Laboratories, Inc. SN 329,584. Pub. 2-17-70. Filed 6-10-69.

890,559. LTA. Abbott Laboratories. SN 329,673. Pub. 2-17-70. Filed 6-11-69.

890,560. PLATINORE. Allen Dental Medical Development Corp. SN 329,949. Pub. 2-17-70. Filed 6-13-69.

890,561. CERVI-GARDE. William H. Horn & Brother, Incorporated. SN 330,138. Pub. 2-17-70. Filed 6-16-69.

890,562. DELTA. Delta Laboratories, Inc., of Florida. SN 330,371. Pub. 2-17-70. Filed 6-18-69.

890,563. DISPOS - A - PAK. Richard - Allan Co., Inc. SN 338,492. Pub. 2-17-70. Filed 9-22-69.

890,564. DISPOS-A-TURES. Richard-Allan Co., Inc. SN 338,493. Pub. 2-17-70. Filed 9-22-69.

Class 45 — Soft Drinks and Carbonated Waters

890,565. ARBY'S. Arby's, Inc. MULTIPLE CLASS (Classes 45 and 46). SN 268,358. Pub. 11-14-67. Filed 4-5-67.

890,566. CARBOPAKT AND DESIGN. H. Fox & Co., Inc. SN 285,733. Pub. 2-17-70. Filed 11-28-67.

890,567. PUR-O-STILLED. Black Mountain Spring Water, Inc. SN 313,676. Pub. 2-17-70. Filed 12-5-68.

890,568. H & S. Hinckley & Schmitt. SN 329,355. Pub. 2-17-70. Filed 6-6-69.

890,569. YOU'VE GOT A LOT TO LIVE. PepsiCo, Inc. SN 334,527. Pub. 2-17-70. Filed 8-6-69.

Class 46 — Foods and Ingredients of Foods

890,565. (See Class 45 for this trademark.)

890,570. POT-O-GOLD AND DESIGN. Valley Products, Inc. SN 229,152. Pub. 1-3-67. Filed 10-1-65.

890,571. KRAZY PEOPLE POSTERS. Topps Chewing Gum, Incorporated. SN 304,518. Pub. 2-17-70. Filed 8-6-68.

890,572. SKINNY SHAKES. Irsin Restaurant Corporation, d.b.a. Peter Pan. SN 306,151. Pub. 8-12-69. Filed 8-28-68.

890,573. "DONA MARIA." Productos Marpe, S.A. SN 313,605. Pub. 2-17-70. Filed 12-4-68.

890,574. HONEST BILL'S, ETC. AND DESIGN. Leonard Wholesale Meats, Inc. SN 321,561. Pub. 2-17-70. Filed 4-4-69.

890,575. ROLLER KING. The Great Western Foods Company. SN 323,952. Pub. 2-17-70. Filed 4-8-69.

890,576. FRENCH MARKET. American Coffee Co., Inc. SN 328,257. Pub. 2-17-70. Filed 5-26-69.

890,577. MUSCHELMATE. Duffy-Mott Company, Inc. SN 328,281. Pub. 2-17-70. Filed 5-26-69.

890,578. CHICK-A-BERRY. Duffy-Mott Company, Inc. SN 328,282. Pub. 2-17-70. Filed 5-26-69.

890,579. TURK-A-BERRY. Duffy-Mott Company, Inc. SN 328,283. Pub. 2-17-70. Filed 5-26-69.

890,580. 21 FLAGS AND DESIGN. 21 Flags, Inc. SN 328,518. Pub. 2-17-70. Filed 5-28-69.

890,581. NABISCO AND DESIGN. National Biscuit Company. SN 329,880. Pub. 2-17-70. Filed 6-12-69.

890,582. VELUCO. Veluco Conservenfabrieken N.V. SN 330,678. Pub. 2-17-70. Filed 6-23-69.

890,583. LANKY. Mamoru Hosaki, d.b.a. M. Hosaki. SN 335,824. Pub. 2-17-70. Filed 8-21-69.

890,584. BIG AL AND DESIGN. Albert C. Hansen, d.b.a. Hansen Farms. SN 336,372. Pub. 2-17-70. Filed 8-27-69.

890,585. BOSS. Albert C. Hansen, d.b.a. Hansen Farms. SN 336,373. Pub. 2-17-70. Filed 8-27-69.

890,586. ZEST. Wards Cove Packing Company, Inc. SN 336,382. Pub. 2-17-70. Filed 8-27-69.

890,587. KEN-L RATION PEP AND DESIGN. The Quaker Oats Company. SN 337,141. Pub. 2-17-70. Filed 9-5-69.

Class 49 — Distilled Alcoholic Liquors

890,588. TRIGO. Licoreria Trigo, Inc. SN 289,312. Pub. 12-17-68. Filed 1-22-68.

Class 50 — Merchandise Not Otherwise Classified

890,589. INSTANT OCEAN. Aquarium Systems, Inc. SN 311,457. Pub. 2-17-70. Filed 11-6-68.

890,590. NAME-FRAME. Suzan Bertemes. SN 317,198. Pub. 2-17-70. Filed 1-22-69.

890,591. SUZY B. Suzan Bertemes. SN 317,199. Pub. 2-17-70. Filed 1-22-69.

890,592. ROYAL DIAMOND. Lee-Rowan Company, d.b.a. Royal Diamond. SN 317,792. Pub. 2-17-70. Filed 1-29-69.

890,593. INFLAT-A-FORMS. Inflat-A-Industries, Inc. SN 320,722. Pub. 2-17-70. Filed 3-4-69.

890,594. INSTA-CLASS. Weight Watchers International, Inc. SN 329,417. Pub. 2-17-70. Filed 6-9-69.

890,595. GREM. Glass Reinforced Engineered Materials, Inc. SN 330,130. Pub. 2-17-70. Filed 6-16-69.

Class 51 — Cosmetics and Toilet Preparations

890,596. FLEURS DE ROCAILLE. Caron Corporation. SN 270,228. Pub. 2-17-70. Filed 4-28-67.

890,597. NARCISSE NOIR. Caron Corporation. SN 270,229. Pub. 2-17-70. Filed 4-28-67.

890,598. PRINCESS ANN AND DESIGN. Clay Industries, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 311,285. Pub. 2-17-70. Filed 11-4-68.

890,599. EAU NEUVE DE LUBIN. Parfumerie Lubin. SN 317,365. Pub. 2-17-70. Filed 1-23-69.

890,600. EAU GRECQUE. Lanvin-Charles of the Ritz, Inc. SN 321,578. Pub. 2-17-70. Filed 4-9-69.

890,601. ALO-SHADE AND DESIGN. Aloe Cream Laboratories, Inc. SN 325,677. Pub. 2-17-70. Filed 4-28-69.

890,602. TUVACHE. British-American Tobacco Company Limited. MULTIPLE CLASS (Classes 51 and 52). SN 328,134. Pub. 2-17-70. Filed 5-23-69.

890,603. MARAMBO. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 329,560. Pub. 2-17-70. Filed 6-10-69.

890,604. SIMBARA. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 329,562. Pub. 2-17-70. Filed 6-10-69.

890,605. THAT'S MY GIRL. Stanley Home Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 330,984. Pub. 2-17-70. Filed 6-26-69.

890,606. GREEN PENNANT (DESIGN). The Procter & Gamble Company. SN 332,783. Pub. 2-17-70. Filed 7-17-69.

890,607. MR. STYLE. La Maur, Inc. SN 332,957. Pub. 2-17-70. Filed 7-18-69.

890,608. CAROUSEL. Northern States Laboratories, Inc. SN 333,424. Pub. 2-17-70. Filed 7-24-69.

890,609. GLEEM II. The Procter & Gamble Company. SN 333,800. Pub. 2-17-70. Filed 7-29-69.

890,610. MATTY'S BAR. The J. B. Williams Company, Inc. SN 333,960. Pub. 2-17-70. Filed 7-30-69.

890,611. ENGLISH ACCENT. Yardley of London, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,990. Pub. 2-17-70. Filed 7-31-69.

890,612. LOVE COUNTRY. Yardley of London, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,992. Pub. 2-17-70. Filed 7-31-69.

890,613. AT LAST. Colgate-Palmolive Company. SN 335,915. Pub. 2-17-70. Filed 8-22-69.

890,614. HYPER-DENT. Colgate-Palmolive Company. SN 335,917. Pub. 2-17-70. Filed 8-22-69.

890,615. JERGENS 101. The Andrew Jergens Company. SN 336,892. Pub. 2-17-70. Filed 9-3-69.

Class 52 — Detergents and Soaps

890,598. (See Class 51 for this trademark.)

890,602. (See Class 51 for this trademark.)

890,603. (See Class 51 for this trademark.)

890,604. (See Class 51 for this trademark.)

890,605. (See Class 51 for this trademark.)

890,611. (See Class 51 for this trademark.)

890,612. (See Class 51 for this trademark.)

890,616. SILKEN HAIR. Helene Curtis Industries, Inc. SN 296,650. Pub. 2-17-70. Filed 4-26-68.

890,617. C ETC. AND DESIGN. Caribbean Products Co., Ltd. SN 307,786. Pub. 2-17-70. Filed 9-12-68.

890,618. K MART AND DESIGN. S. S. Kresge Company. SN 308,703. Pub. 2-17-70. Filed 10-2-68.

890,619. TRAK. Freeman Industries, Inc. SN 308,884. Pub. 6-3-69. Filed 10-4-68.

890,620. IZAL. Newton, Chambers & Company Limited. SN 314,248. Pub. 2-17-70. Filed 12-11-68.

890,621. CASTILAR. Armour-Dial, Inc. SN 321,024. Pub. 2-17-70. Filed 3-7-69.

890,622. COOL-DO. Armour-Dial, Inc. SN 321,026. Pub. 2-17-70. Filed 3-7-69.

890,623. LEMONDROPS. Armour-Dial, Inc. SN 321,027. Pub. 2-17-70. Filed 3-7-69.

890,624. STEEPLEJAC AND ARROW DESIGN. Alpana Aluminum Products, Inc. SN 321,883. Pub. 2-17-70. Filed 3-17-69.

890,625. PIERCE. The Procter & Gamble Company. SN 323,651. Pub. 2-17-70. Filed 4-4-69.

890,626. PL-100. Precision Laboratories, Inc. SN 325,992. Pub. 2-17-70. Filed 4-30-69.

890,627. WIG-MAGIC AND DESIGN. Wig Magic, Inc. SN 326,932. Pub. 2-17-70. Filed 5-9-69.

890,628. KERASEB. Allergan Pharmaceuticals. SN 330,081. Pub. 2-17-70. Filed 6-16-69.

890,629. ALA KAZAM! Shulton, Inc. SN 332,424. Pub. 2-17-70. Filed 7-14-69.

890,630. SEEK. Lever Brothers Company. SN 336,648. Pub. 2-17-70. Filed 8-29-69.

Service Marks

Class 100 — Miscellaneous

890,440. (See Class 26 for this trademark.)

890,631. ARBY'S. Arby's, Inc. SN 268,365. Pub. 10-17-67. Filed 4-5-67.

890,632. 1ST COLONY AND DESIGN. First Colony Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 286,116. Pub. 2-17-70. Filed 12-4-67.

890,633. LEASEQUIP AND DESIGN. Leasequip Corporation. SN 289,514. Pub. 2-17-70. Filed 1-24-68.

890,634. IMAGE OF RUNNING DOG. The Greyhound Corporation. SN 312,191. Pub. 2-17-70. Filed 11-14-68.

890,635. CRITICS' CHOICE. ABC Consolidated Corporation. SN 319,419. Pub. 2-17-70. Filed 2-18-69.

890,636. MISCELLANEOUS DESIGN. Dory, Ltd., Inc. SN 322,847. Pub. 2-17-70. Filed 3-26-69.

890,637. MISCELLANEOUS DESIGN. Viaphone, Inc. SN 325,798. Pub. 2-17-70. Filed 4-28-69.

890,638. LEADERSHIP BY DESIGN. Harris-Intertype Corporation. MULTIPLE CLASS (Classes 100 and 107). SN 326,232. Pub. 2-17-70. Filed 5-2-69.

890,639. SUNFLOWER AND DESIGN. The Lewis Grocer Company. SN 327,503. Pub. 2-17-70. Filed 5-16-69.

890,640. SUMMIT COMPUTER CORPORATION. Summit Computer Corporation. SN 328,513. Pub. 2-17-70. Filed 5-28-69.

890,641. BIG REBEL. Big Rebel Drive-Ins, Inc. SN 330,247. Pub. 2-17-70. Filed 6-17-69.

890,642. LUCHOW'S. Longchamps, Inc. SN 331,831. Pub. 2-17-70. Filed 7-7-69.

890,643. JAN-U-WINE. Oriental Foods, Incorporated. SN 334,281. Pub. 2-17-70. Filed 8-4-69.

Class 101 — Advertising and Business

890,644. OFFICE EXTRAS. Consultants & Designers, Inc. SN 263,896. Pub. 2-17-70. Filed 2-3-67.

890,645. TRADE DOLLAR. Lawson Brothers. SN 285,560. Pub. 2-17-70. Filed 11-24-67.

890,646. LARGE FAMILY LIVING. Large Family Living, Inc. SN 287,562. Pub. 2-17-70. Filed 12-26-67.

890,647. SPECTRADOT. Rigby Printing Company. SN 290,651. Pub. 2-17-70. Filed 2-8-68.

890,648. SPECTRALAB. Rigby Printing Company. SN 290,652. Pub. 2-17-70. Filed 2-8-68.

890,649. MISCELLANEOUS DESIGN. Alpha Gallery, Inc. SN 291,476. Pub. 2-17-70. Filed 2-20-68.

890,650. MULTIPLES. Multiples, Inc. SN 293,635. Pub. 2-17-70. Filed 3-19-68.

890,651. AVA. Petty Geophysical Engineering Company. SN 296,192. Pub. 2-17-70. Filed 4-22-68.

890,652. SPC AND DESIGN. Speer Personnel Consultants. SN 303,355. Pub. 2–17–70. Filed 7–22–68.

890,653. FREEDOM STAMPS AND DESIGN. Daniel Mosley Organization, Incorporated. SN 303,561. Pub. 2–17–70. Filed 7–25–68.

890,654. THE FIVE CHEFS AND DESIGN. Western States Char-Steak House, Inc. SN 306,534. Pub. 2–17–70. Filed 9–3–68.

890,655. SIZZLEBORD. Sizzlebord Restaurants, Inc. SN 307,678. Pub. 2–17–70. Filed 9–18–68.

890,656. INTEL AND DESIGN. Imperial House Motels, Inc. SN 310,103. Pub. 2–17–70. Filed 10–21–68.

890,657. PURITY SUPREME. Purity Supreme, Inc., by change of name from Save-Mor Supermarkets, Inc. SN 311,930. Pub. 2–17–70. Filed 11–12–68.

890,658. ZIP. Zenith Integrated-Data Processing, Inc. SN 312,336. Pub. 2–17–70. Filed 11–15–68.

890,659. FACS AND DESIGN. Facs Limited. SN 312,667. Pub. 2–17–70. Filed 11–20–68.

890,660. BIRD ADVERTISING AND DESIGN. Centri-Spray Corporation. SN 313,903. Pub. 2–17–70. Filed 12–9–68.

890,661. COMPUT-A-CREDIT. Comput-A-Credit, Inc. SN 315,334. Pub. 2–17–70. Filed 12–30–68.

890,662. BEAR POINTS. John E. Mitchell Company. SN 317,249. Pub. 2–17–70. Filed 1–22–69.

890,663. BEAR TREASURES. John E. Mitchell Company. SN 317,250. Pub. 2–17–70. Filed 1–22–69.

890,664. CYBERLEX SYSTEMS. Automated Professional Management Services Limited, d.b.a. Cyberlex Systems. SN 320,234. Pub. 2–17–70. Filed 2–27–69.

890,665. HALL'S SALVAGE OUTLET STORES AND DESIGN. Hall Brothers, Inc. SN 320,264. Pub. 2–17–70. Filed 2–27–69.

890,666. RED ROOSTER AND DESIGN. Rooster Enterprises, Inc., assignee of Aamco Automatic Transmissions, Inc., d.b.a. Rooster Enterprises, Inc. SN 323,908. Pub. 2–17–70. Filed 4–7–69.

890,667. THE AD PRESS LTD. ETC. AND DESIGN. The Ad Press Ltd. SN 324,151. Pub. 2–17–70. Filed 4–10–69.

890,668. BOMBE CHEST AND DESIGN. Jewish Social Service Agency, Inc. SN 327,387. Pub. 2–17–70. Filed 5–15–69.

890,669. 21 FLAGS AND DESIGN. 21 Flags, Inc. SN 327,839. Pub. 2–17–70. Filed 5–21–69.

890,670. LORDS. House of Lords Beef Franchises, Inc. SN 328,506. Pub. 2–17–70. Filed 5–28–69.

890,671. GSM. George S. McLaughlin Assoc. Inc. SN 328,509. Pub. 2–17–70. Filed 5–28–69.

890,672. CRANKS AND DESIGN. Katz Drug Company. SN 330,057. Pub. 2–17–70. Filed 6–16–69.

Class 102 — Insurance and Financial

890,673. TRIAD DESIGN. CNA Financial Corporation. SN 304,279. Pub. 2–17–70. Filed 8–5–68.

890,674. NEIL GREEN AND DESIGN. Neil L. Green. SN 304,603. Pub. 2–17–70. Filed 8–7–68.

890,675. INVESTECH. The Boston Company, Inc. SN 307,418. Pub. 2–17–70. Filed 9–16–68.

890,676. MAN AND LAMPOST (DESIGN). Third Federal Savings and Loan Association of Philadelphia. SN 323,389. Pub. 2–17–70. Filed 4–1–69.

890,677. INTER-OCEAN. Inter-Ocean Insurance Company. SN 323,817. Pub. 2–17–70. Filed 4–7–69.

890,678. MISCELLANEOUS DESIGN. Inter-Ocean Insurance Company. SN 323,818. Pub. 2–17–70. Filed 4–7–69.

890,679. LION DESIGN. Home Savings and Loan Association. SN 332,414. Pub. 2–17–70. Filed 7–14–69.

890,680. OMAHA WOODMEN. Woodmen of the World Life Insurance Society and/or Omaha Woodmen Life Insurance Society. SN 334,415. Pub. 2–17–70. Filed 8–4–69.

Class 103 — Construction and Repair

890,380. (See Class 21 for this trademark.)

890,632. (See Class 100 for this trademark.)

890,681. MR D'S. Interstate Manufacturing, Inc. SN 250,973. Pub. 2–17–70. Filed 7–25–66.

890,682. MISCELLANEOUS DESIGN. Marketing Consultants, Inc. SN 283,137. Pub. 2–17–70. Filed 10–23–67.

890,683. FOUNTAIN OF LIFE. Master Pools, Inc. SN 296,438. Pub. 2–17–70. Filed 4–24–68.

890,684. LIEN AND DESIGN. Lien Chemical Company. SN 309,975. Pub. 2–17–70. Filed 10–18–68.

890,685. CCS AND DESIGN. Kenneth C. Newton, d.b.a. Clear Cut Services. MULTIPLE CLASS (Classes 103 and 106). SN 311,324. Pub. 2–17–70. Filed 11–5–68.

890,686. CROSS DESIGN. Brulé C.E. & E., Inc., d.b.a. Brulé Pollution Control Systems, Inc. SN 323,185. Pub. 2–17–70. Filed 4–1–69.

890,687. MISCELLANEOUS DESIGN. Winston A. Burnett Construction Company of New York, Inc. SN 325,458. Pub. 2–17–70. Filed 4–24–69.

890,688. TEMCO AND DESIGN. Temco Service Industries, Inc. SN 334,443. Pub. 2–17–70. Filed 8–5–69.

Class 105 — Transportation and Storage

890,689. S. MALATESTA & SONS ETC. AND DESIGN. S. Malatesta & Sons. SN 309,081. Pub. 2–17–70. Filed 10–14–68.

890,690. COMSTOL. Comstol Air Transit, Inc. SN 320,128. Pub. 2–17–70. Filed 2–26–69.

890,691. MISCELLANEOUS DESIGN. Comstol Air Transit, Inc. SN 321,577. Pub. 2–17–70. Filed 4–9–69.

890,692. CELEBRITY HOST GOLF HOLIDAYS. Celebrity Host Golf Holidays, Inc. SN 324,039. Pub. 2–17–70. Filed 4–9–69.

890,693. CELEBRITY HOST GOLF HOLIDAYS AND DESIGN. Celebrity Host Golf Holidays, Inc. SN 324,040. Pub. 2–17–70. Filed 4–9–69.

890,694. T AND DESIGN. Tourstars Inc. SN 331,484. Pub. 2–17–70. Filed 7–1–69.

Class 106 — Material Treatment

890,685. (See Class 103 for this trademark.)

890,695. INSALUME AND DESIGN. John Boyle and Company, Incorporated. SN 286,413. Pub. 2–17–70. Filed 12–7–67.

890,696. NATIONAL COLOR LABORATORIES. National Color Laboratories, Inc. SN 308,224. Pub. 2–17–70. Filed 9–25–68.

Class 107 — Education and Entertainment

890,638. (See Class 100 for this trademark.)

Certification Mark

Class A — Goods

890,697. DANISH BLUE CHEESE AND DESIGN. Producentforeningen af Danish Blue Cheese og Mycella. SN 336,347. Pub. 2–17–70. Filed 8–26–69.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 28 — Jewelry and Precious-Metal Ware

890,698. Nat Kelner Prestige Jewelry Corp., New York, N.Y. SN 330,144. Filed P.R. 6–16–69; Am. S.R. 2–3–70.

MADEIRA

For Pearl Necklaces (Int. Cl. 14).
First use May 8, 1968.

890,699. Jewelsmiths International, Inc., New York, N.Y., by change of name from Marcus Purchasing Co., Inc. SN 330,162. Filed P.R. 6–16–69; Am. S.R. 1–26–70.

3 CARAT LOOK

For Finger Rings, Earrings and Pendants and Mountings Therefor (Int. Cl. 14).
First use Nov. 25, 1964 on finger ring mountings.

Class 32 — Furniture and Upholstery

890,700. The Goshen Manufacturing Co., Inc., Goshen, Ind. SN 304,088. Filed P.R. 8–1–68; Am. S.R. 12–29–69.



For Combination Picnic Table and Bench Assembly Primarily for Outdoor Use (Int. Cl. 20).
First use July 1, 1968.

Class 37 — Paper and Stationery

890,701. Day-Timers, Inc., Allentown, Pa. SN 283,510. Filed P.R. 10–27–67; Am. S.R. 6–9–69.

DESIGN-A-FORM

For Business Forms (Int. Cl. 16).
First use Oct. 15, 1966.

Class 38 — Prints and Publications

890,702. G. & M. Publishing Co., Cleveland, Ohio. SN 315,752. Filed P.R. 1–3–69; Am. S.R. 12–10–69.



For Magazine Published Periodically (Int. Cl. 16).
First use during July 1968.

890,703. The Economy Company, Oklahoma City, Okla. SN 318,877. Filed P.R. 12–18–68; Am. S.R. 2–2–70.

SOUNDS AND STORIES

For Pre-Recorded Magnetic Tape With Accompanying Storybook Sold as a Unit Thereof (Int. Cl. 9).
First use Sept. 20, 1968.

890,704. Pan American World Airways, Inc., New York, N.Y. SN 320,076. Filed P.R. 2–25–69; Am. S.R. 2–20–70.

WORLDWIDE MARKETING HORIZONS

For Trade Magazine (Int. Cl. 16).
First use Dec. 17, 1968.

890,705. Thomas Vincent Kreitzer, Wheeling, W. Va. SN 323,323. Filed P.R. 4–1–69; Am. S.R. 2–10–70.

PHAR-MED-IDENT

For Medical Identification Card (Int. Cl. 16).
First use Oct. 16, 1968.

890,706. Plastering Industries Inc., Seattle, Wash. SN 327,092. Filed P.R. 5–12–69; Am. S.R. 2–12–70.

Walls & Ceilings

For Business Magazine (Int. Cl. 16).
First use Jan. 18, 1969.

Class 39 — Clothing

890,707. Boutique Sportswear Ltd., New York, N.Y. SN 319,429. Filed P.R. 2–18–69; Am. S.R. 2–9–70.

BOUTIQUE SPORTSWEAR LTD.

For Men's and Women's Shirts (Int. Cl. 25).
First use Jan. 17, 1969.

Class 44—Dental, Medical, and Surgical Appliances

890,708. Spenco, Incorporated, Salt Lake City, Utah. SN 291,199. Filed P.R. 2–15–68; Am. S.R. 2–9–70.

SPENCO SKIN-GUARD

For Pads for Protecting Skin (Int. Cl. 10).
First use Dec. 1, 1967.

890,709. Spenco, Incorporated, Salt Lake City, Utah. SN 291,200. Filed P.R. 2–15–68; Am. S.R. 2–9–70.

SKIN-GUARD

For Pads for Protecting Skin (Int. Cl. 10).
First use Dec. 1, 1967.

Class 50—Merchandise Not Otherwise Classified

890,710. The Okonite Company, Passaic, N.J., assignee of General Felt Industries, Inc., Chicago, Ill. SN 307,533. Filed P.R. 9–17–68; Am. S.R. 1–30–70.

Carpette

For Plastic Carpet Runners (Int. Cl. 27).
First use on or about Sept. 5, 1968.

TRADEMARK REGISTRATIONS RENEWED

34,328. AJAX. Cl. 7 (Int. Cl. 22). 3–20–1900.
34,329. HERCULES. Cl. 7 (Int. Cls. 22 and 23). 3–20–1900.
34,379. PABST BLUE RIBBON ETC. AND DESIGN. Cl. 48 (Int. Cl. 32). 3–27–1900.
76,020. MERCEDES. Cl. 28 (Int. Cl. 8). 12–7–09.
77,597. WM. A. ROGERS A.1. WITH R IN HORSESHOE. Cl. 28 (Int. Cl. 8). 4–19–10.
77,598. ROGERS 1881 QUADRUPLE NEW YORK WITH 2 R'S IN WREATH DESIGN. Cl. 28 (Int. Cl. 8). 4–19–10.
78,070. TANOLIN. Cl. 6 (Int. Cl. 1). 5–31–10.
78,071. EMULSOL. Cl. 6 (Int. Cl. 4). 5–31–10.
78,694. KROMOID. Cl. 6 (Int. Cl. 4). 7–5–10.
78,992. SHELL. Cl. 46 (Int. Cl. 29). 7–26–10.
265,684. PARALUBE. Cl. 15 (Int. Cl. 4). 1–7–30.
267,130. DEB-TEEN. Cl. 39 (Int. Cl. 25). 2–11–30.
267,215. ANHEUSER-BUSCH ETC. AND DESIGN. Cl. 18 (Int. Cl. 5). 2–18–30.
267,368. CARRIER. Cl. 34 (Int. Cl. 11). 2–18–30.
267,598. AQUALUX. Cl. 21 (Int. Cl. 9). 2–25–30.
269,253. ORIENTAL. Cl. 12 (Int. Cl. 19). 4–1–30.
270,065. BYRON ETC. AND DESIGN. Cl. 39 (Int. Cl. 25). 4–22–30.
270,344. TRUBYTE. Cl. 44 (Int. Cl. 10). 5–6–30.
270,850. NEUTROLENE. Cl. 6 (Int. Cl. 4). 5–13–30.
270,851. ALKOLENE. Cl. 6 (Int. Cl. 4). 5–13–30.
272,118. PRISCILLA. Cl. 23 (Int. Cl. 8). 7–1–30.
272,477. AMOLIN AND DESIGN. Cl. 51 (Int. Cl. 5). 7–8–30.
272,870. "P & L" RED DISC. Cls. 12, 16, and 52 (Int. Cl. 2). 7–15–30.
443,767. PAYLOADER. Cl. 23 (Int. Cl. 7). 2–21–50.
512,056. EVERHOT. Cl. 21 (Int. Cl. 11). 7–12–49.
513,490. COOPER AND DESIGN. Cl. 6 (Int. Cl. 5). 8–9–49.
514,010. HUBER AND DESIGN. Cl. 23 (Int. Cl. 7). 8–23–49.
514,966. WEEDICIDE. Cl. 6 (Int. Cl. 5). 9–6–49.
515,362. DARLENE. Cl. 39 (Int. Cl. 25). 9–20–49.
518,090. PASHM. Cl. 39 (Int. Cl. 25). 11–29–49.
519,278. CERALAN. Cl. 6. 12–27–49.
519,319. ALADDIN. Cl. 4 (Int. Cl. 8). 12–27–49.
519,486. PRINCE ALBERT. Cl. 39 (Int. Cl. 25). 1–3–50.
519,552. TRU-TONE. Cl. 26 (Int. Cl. 16). 1–10–50.
520,390. STANDARD S AND DESIGN. Cl. 17 (Int. Cl. 34). 1–31–50.
520,734. USF AND DESIGN. Cl. 12 (Int. Cl. 6). 2–7–50.
520,881. INECTO. Cl. 51 (Int. Cl. 3). 2–7–50.
520,887. GRIPLINK. Cl. 35 (Int. Cl. 7). 2–7–50.
521,044. LIN-O-PLAST. Cl. 5 (Int. Cl. 4). 2–14–50.
521,055. CHERNIER. Cl. 42 (Int. Cl. 24). 2–14–50.
521,056. PLADOROY. Cl. 42 (Int. Cl. 24). 2–14–50.
521,098. SYMINGTON. Cl. 19 (Int. Cl. 12). 2–21–50.
521,169. MELFLEX. Cl. 50 (Int. Cl. 27). 2–21–50.
521,205. KATTU. Cl. 19 (Int. Cl. 12). 2–21–50.
521,219. HI-LO-MATIC. Cl. 23 (Int. Cl. 7). 2–21–50.
521,239. FOOT FLAIRS AND DESIGN. Cl. 39 (Int. Cl. 25). 2–21–50.
521,269. BEDCO. Cl. 23 (Int. Cls. 7 and 8). 2–21–50.
521,315. GYRODYNE. Cl. 19 (Int. Cl. 12). 2–21–50.
521,361. DANISH CREAMERY AND DESIGN. Cl. 46 (Int. Cl. 29). 2–21–50.
521,328. BESTBILT AND DESIGN. Cl. 39 (Int. Cl. 25). 2–21–50.
521,525. JARDINES DE ES PANA AND DESIGN. Cl. 51 (Int. Cl. 3). 2–28–50.
521,605. WHIRLPOOL. Cl. 24 (Int. Cl. 70). 2–28–50.
521,650. SILVER LEAF AND DESIGN. Cl. 6 (Int. Cl. 1). 2–28–50.
521,685. (CARVEL HALL CARVEL.) Cl. 23 (Int. Cl. 8). 2–28–50.
521,772. HOFFMAN. Cl. 21 (Int. Cl. 9). 3–7–50.
521,808. PLYFOLD. Cl. 37 (Int. Cl. 16). 3–7–50.
521,842. BANNOCKBURN. Cl. 37 (Int. Cl. 16). 3–7–50.
522,005. ARABIAN NIGHTS. Cl. 17 (Int. Cl. 34). 3–7–50.
522,149. WHY GROW OLD? Cl. 38 (Int. Cl. 16). 3–14–50.
522,335. GREENBACK. Cl. 37 (Int. Cl. 16). 3–14–50.
522,347. L AND DESIGN. Cl. 23 (Int. Cl. 7). 3–14–50.
522,533. QUIK-SLAK. Cl. 12 (Int. Cl. 19). 3–21–50.
522,677. NUWELD. Cl. 44 (Int. Cl. 5). 3–21–50.
522,753. TAKEHOLD. Cl. 16 (Int. Cl. 2). 3–21–50.
522,920. SHAFFER AND DESIGN. Cl. 23 (Int. Cls. 7 and 8). 3–28–50.
523,315. SUPERIOR. Cl. 46 (Int. Cl. 30). 4–4–50.
523,457. TECK. Cl. 23 (Int. Cl. 12). 4–4–50.
523,494. UTICA. Cl. 23 (Int. Cl. 8). 4–4–50.
523,495. UTICA AND DESIGN. Cl. 23 (Int. Cl. 8). 4–4–50.
523,502. YAM-MA-FLA. Cl. 46 (Int. Cl. 29). 4–4–50.
523,554. FARLEY. Cl. 46 (Int. Cl. 31). 4–4–50.
523,572. KAISER. Cl. 12 (Int. Cl. 6). 4–4–50.
523,653. MARVEL-SCHEBLER. Cl. 23 (Int. Cl. 12). 4–11–50.
523,700. PARSONS. Cl. 23 (Int. Cl. 7). 4–11–50.
523,726. SMOOTHIES. Cl. 23 (Int. Cl. 8). 4–11–50.
523,830. GRADUATED SEAL AND DESIGN. Cl. 13 (Int. Cl. 6). 4–11–50.
524,060. KING KORN. Cl. 46 (Int. Cl. 29). 4–18–50.
524,236. DYNAVAR. Cl. 14 (Int. Cl. 6). 4–18–50.
524,412. BRONCO. Cl. 2 (Int. Cl. 16). 4–25–50.
524,486. ENGINATOR. Cl. 21 (Int. Cl. 12). 4–25–50.
524,613. CLEARPRINT. Cl. 37 (Int. Cl. 16). 5–2–50.
524,988. MISS HARRIET. Cl. 39 (Int. Cl. 25). 5–9–50.
525,120. MEMBRETTES. Cl. 18 (Int. Cl. 5). 5–9–50.
525,232. DEOD-O-MATIC. Cl. 6 (Int. Cl. 5). 5–16–50.
525,317. AMAMI AND DESIGN. Cl. 51 (Int. Cl. 3). 5–16–50.
525,397. TOP BILLING. Cl. 46 (Int. Cl. 31). 5–23–50.
525,529. IMPERVO. Cl. 5 (Int. Cl. 16). 5–23–50.
525,560. MAC DONALD'S FARM GAME. Cl. 22 (Int. Cl. 28). 5–23–50.
525,591. NORDBERG. Cl. 23 (Int. Cl. 7). 5–30–50.
525,613. KALASION. Cl. 38 (Int. Cl. 16). 5–30–50.
525,634. MULTIFLEX. Cl. 23 (Int. Cl. 8). 5–30–50.
525,658. MOULI. Cl. 23 (Int. Cl. 8). 5–30–50.

525,768. MISCELLANEOUS DESIGN. Cl. 23 (Int. Cl. 7). 5–30–50.
525,848. VISTEN. Cl. 37 (Int. Cl. 17). 6–6–50.
525,861. SHELTON. Cl. 28 (Int. Cl. 8). 6–6–50.
525,998. SILK-O-LITE AND DESIGN. Cl. 21 (Int. Cl. 11). 6–6–50.
526,054. COORS. Cl. 26 (Int. Cls. 8 and 21). 6–6–50.
526,110. GLENDURA SOIL PROOF WALLCOVERING BY IMPERIAL. Cl. 37 (Int. Cl. 27). 6–6–50.
526,111. GLENCRAFT. Cl. 37 (Int. Cl. 27). 6–6–50.
526,392. STERLING. Cl. 48 (Int. Cl. 32). 6–13–50.
526,640. DAZZLE. Cl. 52 (Int. Cl. 3). 6–20–50.
526,689. BARDON. Cl. 13 (Int. Cl. 6). 6–20–50.
526,795. LORAKON. Cl. 18 (Int. Cl. 5). 6–27–50.
526,850. FLOREX. Cl. 33 (Int. Cl. 21). 6–27–50.
526,851. PEBBLEX. Cl. 33 (Int. Cl. 21). 6–27–50.
526,871. NEENAH. Cl. 37 (Int. Cl. 16). 6–27–50.
526,935. NORWICH AND DESIGN. Cl. 18 (Int. Cl. 5). 6–27–50.
526,936. SEAL DESIGN. Cl. 18 (Int. Cl. 5). 6–27–50.
526,944. FIGURE OF DIVING GIRL. Cl. 39 (Int. Cl. 25). 6–27–50.
526,945. JANTZEN AND DESIGN. Cl. 39 (Int. Cl. 25). 6–27–50.
526,958. DOVALS AND DESIGN. Cl. 37 (Int. Cl. 16). 6–27–50.
527,074. POINTCUT. Cl. 23 (Int. Cl. 8). 7–4–50.
527,088. VERI-FAT. Cl. 12 (Int. Cl. 19). 7–4–50.
527,120. CROSSE AND BLACKWELL AND DESIGN. Cl. 46 (Int. Cl. 29). 7–4–50.
527,195. RYERSON. Cl. 14 (Int. Cl. 6). 7–4–50.
527,208. DUNHILL. Cl. 8 (Int. Cl. 34). 7–4–50.
527,292. SHAMROCK. Cl. 32 (Int. Cl. 19). 7–4–50.
527,718. MOTH-O-MATIC. Cl. 6 (Int. Cl. 5). 7–18–50.
527,772. ESTERON. Cl. 6 (Int. Cl. 5). 7–18–50.
527,837. KREO-BENZ. Cl. 18 (Int. Cl. 5). 7–18–50.
527,864. CORRUFORM. Cl. 12 (Int. Cl. 6). 7–18–50.
527,986. KANSAS BEST. Cl. 46 (Int. Cl. 30). 7–25–50.
527,995. FULLER. Cl. 23 (Int. Cl. 12). 7–25–50.
528,004. THE TREASURE CHEST. Cl. 32 (Int. Cl. 20). 7–25–50.
528,044. REDIPT. Cl. 23 (Int. Cl. 7). 7–25–50.
528,050. FRITZBRO AROME. Cl. 46 (Int. Cl. 30). 7–25–50.
528,068. THE STRIDE RITE SHOE. Cl. 39 (Int. Cl. 25). 7–25–50.
528,431. CHAMPION. Cl. 6 (Int. Cl. 1). 8–1–50.
528,436. MISTIMAZE. Cl. 21 (Int. Cl. 7). 8–1–50.
528,493. STANTON HALL. Cl. 28 (Int. Cl. 8). 8–1–50.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

28,605. ALLEN'S FOOT-EASE AND DESIGN. Cl. 18. 7–14–1896.
30,551. FOOT-EASE. Cl. 51. 9–14–1897.
606,002. TRANSWALL. Cl. 12. 5–17–55.
855,973. DIGIFLO. Cl. 26. 9–3–68.

Section 8

766,191. BEKINOX. Cl. 13. 3–10–64.
766,319. INTERNATIONAL. Cl. 23. 3–10–64.

The following registrations issued Mar. 17, 1964

766,522. THYLEX. Cl. 1.
766,531. NATUR-SEAL. Cl. 1.
766,536. LIFECEL. Cls. 2 and 22.
766,538. SUPER WALL. Cl. 2.
766,539. TOPCO. Cl. 2.
766,543. DURACUP. Cl. 2.
766,547. 'H. Cl. 3.
766,548. FLIP-FLAPPER. Cl. 3.
766,550. ALTEST. Cl. 4.
766,561. OXYGLO. Cl. 6.
766,562. CARDOX. Cl. 6.
766,566. STEROBANE. Cl. 6.
766,574. BARBARA LANE. Cl. 6.
766,575. SMITE. Cl. 6.
766,577. ALTEST. Cl. 6.
766,578. DOVE. Cl. 7.
766,586. CONGOLITE. Cl. 12.
766,588. ROL-A-WALK. Cl. 12.
766,589. EB AND DESIGN. Cl. 12.
766,593. WATER WATCHERS. Cl. 13.
766,597. PENN CAST. Cl. 14.
766,608. L AND DESIGN. Cl. 18.
766,610. ASUPENTAN. Cl. 18.
766,611. PIONEER AND DESIGN. Cl. 18.
766,612. DUVALEPT. Cl. 18.
766,613. T-FOAM. Cl. 18.
766,615. ASPIR-AND. Cl. 18.
766,618. SUPPONERYL. Cl. 18.
766,619. PROCYPRIN. Cl. 18.
766,625. MAYFLOWER. Cl. 20.
766,627. DYNACEL. Cl. 21.
766,631. TUNER-VERTER. Cl. 21.
766,632. ADL AND DESIGN. Cl. 21.
766,633. SUNRAY AND DESIGN. Cl. 21.
766,635. GEOMETRIC DESIGN. Cl. 21.
766,640. MAJORETTE AND DESIGN. Cl. 21.
766,641. FIRE CROWN. Cl. 21.
766,644. RECORDORAMA. Cl. 21.
766,645. JETOMIC. Cl. 21.
766,649. ALASKO. Cl. 22.
766,651. PIPER LOLLI-PUPPET. Cl. 22.
766,652. SPOCKS INC. ETC. AND DESIGN. Cl. 22.
766,658. DALON. Cl. 22.
766,662. APPLE NOCK-ER. Cl. 22.
766,663. NUTTY KNOTTER. Cl. 22.
766,664. LIL' BEECHY. Cl. 22.
766,672. REDI-FIL. Cl. 23.
766,681. ADL AND DESIGN. Cl. 26.
766,686. SAFE-T-LARM. Cl. 26.
766,693. A46. Cl. 28.
766,697. BBC AND DESIGN. Cl. 28.
766,698. DATE-MATES. Cl. 28.
766,699. SM. Cl. 28.
766,700. WINFIELD. Cl. 30.
766,701. PURESOFT. Cl. 31.
766,703. SEAT-A-BABE. Cl. 32.
766,707. COLORPLATE. Cl. 32.
766,711. HEEM-AIR. Cl. 34.
766,718. MUSEUM MASTERPIECES. Cl. 37.
766,719. BAND-IT. Cl. 37.
766,726. LUMINART. Cl. 37.
766,728. INTERCHANGE. Cl. 38.
766,735. JN & P AND DESIGN. Cl. 38.
766,737. CASHMIRS THE SOFT-STEP SHOE. Cl. 39.
776,738. SHAPE-UP. Cl. 39.
766,739. FED-THRIFT. Cl. 39.
766,740. CUSTOMIZED OVALS. Cl. 39.
766,741. JEAN DESSES. Cl. 39.
766,744. FUMI ORIGINAL. Cl. 39.
766,749. PUTT-ABOUTS AND DESIGN. Cl. 39.
766,752. SPORT IMPORTS AND DESIGN. Cl. 39.
766,754. MISS JACKIE AND DESIGN. Cl. 39.
766,758. MARTY K AND DESIGN. Cl. 39.
766,759. CLARISSA. Cl. 39.
766,762. RAG IN A BAG. Cl. 39.
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766,768. 'H. Cl. 39.
766,771. SLIP 'N SLEEP. Cl. 39.
766,773. TRU-SLIM. Cl. 39.
766,780. VELUDUR. Cl. 42.
766,782. CADDO. Cl. 42.
766,784. CYNTHIA. Cl. 42.
766,785. LACE SPAN. Cl. 42.
766,788. DECOOL. Cl. 42.
766,792. PRESS-MATE. Cl. 42.
766,794. BON BON. Cl. 43.
766,803. SCOOT-ABOUT. Cl. 44.
766,805. BROWETTES. Cl. 44.
766,807. TRU-BLU. Cl. 44.
766,808. SAVOR. Cl. 45.
766,810. TASTY MATES. Cl. 46.
766,811. BOB FORD'S. Cl. 46.

766,814. ALFRED GLUCK'S KREUTER BREAD AND DESIGN. Cl. 46.
766,817. LOCO. Cl. 46.
766,820. AMERICANA AND DESIGN. Cl. 46.
766,822. EL VIGILANTE AND DESIGN. Cl. 46.
766,825. PIONEER AND DESIGN. Cl. 46.
766,826. GO STEADY WITH KOESTER'S FLAVOR RINGS AND DESIGN. Cl. 46.
766,827. KOESTER'S RING A'ROUND AND DESIGN. Cl. 46.
766,831. SPICE-A-MATIC. Cl. 46.
766,835. V AND DESIGN. Cl. 46.
766,836. JU-LIM AND DESIGN. Cl. 46.
766,838. BUTTER-BEE. Cl. 46.
766,839. RICE-D-LITE. Cl. 46.
766,841. HULAPINE. Cl. 46.
766,845. VITRAFERM UGF. Cl. 46.
766,855. PHOTORITE. Cl. 50.
766,856. CELESTE. Cl. 50.
766,866. DOGWOOD. Cl. 51.
766,876. ALUMINUM MAGIC. Cl. 52.
766,879. TWIN MAGIC. Cl. 52.
766,881. ELF. Cl. 52.
766,882. ALTEST. Cl. 52.
766,886. CON QUIP AND DESIGN. Cl. 101.
766,888. EQUALITY SAVINGS & LOAN 1884 AND DESIGN. Cl. 102.
766,890. DIAL-A-CAR AND DESIGN. Cl. 105.
766,892. F-S AND DESIGN. Cl. 106.
766,896. MARYLAND STONE. Cl. 12.
766,899. PANSORB. Cl. 18.
766,900. BRAKE RESTORATION. Cl. 19.
766,904. GROGAGE. Cl. 26.
766,910. SWINGSHELF. Cl. 32.
766,912. AIR DRAPE AND DESIGN. Cl. 34.
766,913. MORALES. Cl. 36.
766,914. AUTOSTEREO. Cl. 36.
766,916. NOEL AND DESIGN. Cl. 37.
766,919. LEG COMFORT. Cl. 39.
766,921. A STEP FORWARD. Cl. 39.
766,925. HEALTH-TAN SUN LAMP. Cl. 44.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 18 — Medicines and Pharmaceutical Preparations

76,372. Jan. 11, 1910. Martin C. Olson, Chicago, Ill. Pub. by Thos. Christy & Co. Limited, Aldershot, Hampshire, England.

„ZEPTO"

For Antiseptic Tartar-Remover, in the Form of a Pencil (Int. Cl. 5).

Class 46 — Foods and Ingredients of Foods

34,322. Mar. 13, 1900. Abram Lyle & Sons, Limited, London, England. Pub. by Tate & Lyle, Limited, London, England.



For Syrup and Sugar (Int. Cl. 30).

Class 49 — Distilled Alcoholic Liquors

75,549. Oct. 19, 1909. Giuseppe Alberti, Benevento, Italy. Pub. by S.p.A. Strega Alberti Benevento, Benevento, Italy.



For Cordial (Int. Cl. 33).

443,762. Feb. 21, 1950. Licoreria Roses, Inc., Arecibo, Puerto Rico. Pub. by Puerto Rico Distillers, Inc., Arecibo, Puerto Rico.

Mardi Gras

For Rum (Int. Cl. 33).

INDEX OF REGISTRANTS

MAY 5, 1970

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

ABC Consolidated Corp., Toledo, Ohio. 890,635, pub. 2–17–70. Cl. 100.
A-T-O Inc.: *See*— Rugg, T. T., Co., The.
AVM Corp., Jamestown, N.Y. 890,427, pub. 2–17–70. Cl. 23.
Aamco Automatic Transmissions, Inc.: *See*— Rooster Enterprises, Inc.
Abbott Laboratories, North Chicago, Ill. 890,354, pub. 2–17–70. Cl. 18.
Abbott Laboratories, North Chicago, Ill. 890,559, pub. 2–17–70. Cl. 44.
Acme Backing Corp., New York, N.Y. 890,507, pub. 2–17–70. Cl. 37.
Ad Press Ltd., The, New York, N.Y. 890,667, pub. 2–17–70. Cl. 101.
Adchem Corp., Westbury, N.Y. 890,321, pub. 4–8–69. Cl. 5.
Addison-Wesley Publishing Co., Inc., Reading, Mass. 890,524, pub. 2–17–70. Cl. 38.
Adirondack Industries, Inc., Dolgeville, N.Y. 890,401, pub. 2–17–70. Cl. 22.
Advanced Development Laboratories, Inc., Nashua, N.H. 766,632, canc. Cl. 21.
Advanced Development Laboraatories, Inc., Nashua, N.H. 766,681, canc. Cl. 26.
Aerojet-General Corp., El Monte, Calif. 890,440, pub. 2–17–70. Multiple Class (Classes 26 and 100).
Agel Fashion Imports, Inc., New York, N.Y. 890,541, pub. 2–17–70. Cl. 39.
Air-Maze Corp., Cleveland, Ohio, to North American Rockwell Corp., Pittsburgh, Pa. 528,436, ren. 5–5–70. Cl. 21.
Alcon Laboratories, Inc., Fort Worth, Tex. 890,356, pub. 2–17–70. Cl. 18.
Allen Dental Medical Development Corp., New York, N.Y. 890,560, pub. 2–17–70. Cl. 44.
Allen Electric & Equipment Co.: *See*— United Steel Fabricators, Inc.
Allergan Pharmaceuticals, Santa Ana, Calif. 890,628, pub. 2–17–70. Cl. 52.
Allied Stores Corp., New York, N.Y. 766,550, canc. Cl. 4.
Allied Stores Corp., New York, N.Y. 766,577, canc. Cl. 6.
Allied Stores Corp., New York, N.Y. 766,882, canc. Cl. 52.
Allis, Louis, Co., The, Milwaukee, Wis. 890,387, pub. 2–17–70. Cl. 21.
Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. 890,601, pub. 2–17–70. Cl. 51.
Alpana Aluminum Products, Inc., Minneapolis, Minn. 890,624, pub. 2–17–70. Cl. 52.
Alpha Gallery, Inc., Boston, Mass. 890,649, pub. 2–17–70. Cl. 101.
Alpha Microwave, Inc., Newton Upper Falls, Mass. 766,635, canc. Cl. 21.
American Coffee Co., Inc., New Orleans, La. 890,576, pub. 2–17–70. Cl. 46.
American Graphics Corp.: *See*— American Typesetting Corp.
American Home Products Corp.: *See*— Wyeth Inc.
American Hospital Supply Corp., Evanston, Ill. 890,325, canc. Cl. 6.
American Optical Corp., Southbridge, Mass. 890,426, pub. 2–17–70. Cl. 23.
American Saint Gobain Corp.: *See*— Blue Ridge Glass Corp.
American Type Founders Co., Inc., Nashville, Tenn. 890,434, pub. 2–17–70. Cl. 23.
American Typesetting Corp., to American Graphics Corp., Chicago, Ill. 519,552, ren. 5–5–70. Cl. 26.
Anchor Concrete Products, Inc., Buffalo, N.Y. 766,896, canc. Cl. 12.
Anchor Jewelry Mfg. Corp., New York, N.Y. 766,698, canc. Cl. 28.
Anderson, Clarita R., d.b.a. Browette Co., San Francisco, Calif. 766,805, canc. Cl. 44.
Angora Corp. of America, New York, N.Y. 766,794, canc. Cl. 43.
Anheuser-Busch, Inc., St. Louis, Mo. 267,215, ren. 5–5–70. Cl. 18.
Aquadynamics, Inc., North Hollywood, Calif. 890,377, pub. 12–31–68. Cl. 21.
Aquarium Systems, Inc., Wickliffe, Ohio. 890,589, pub. 2–17–70. Cl. 50.
Arby's, Inc., Youngstown, Ohio. 890,565, pub. 11–14–67. Multiple Class (Classes 45 and 46).
Arby's Inc., Youngstown, Ohio. 890,681, pub. 10–17–67. Cl. 100.
Archer-Daniels-Midland Co., d.b.a. The Werner G. Smith Co., to Ashland Oil & Refining Co., Ashland, Ky. 521,044, ren. 5–5–70. Cl. 5.
Argus Press, Inc., Chicago, Ill. 890,393, pub. 2–17–70. Multiple Class (Classes 22 and 38).
Aristocrat Leather Products, Inc., New York, N.Y. 766,718, canc. Cl. 37.
Armour Pharmaceutical Co., Chicago, Ill. 766,608, canc. Cl. 18.
Armour-Dial, Inc., Chicago, Ill. 890,621–3, pub. 2–17–70. Cl. 52.
Art Metal-Knoll Corp., Jamestown, N.Y. 890,388, pub. 2–17–70. Cl. 12.
Ash Grove Cement Co.: *See*— Ash Grove Lime & Portland Cement Co.
Ash Grove Lime & Portland Cement Co., to Ash Grove Cement Co., Kansas City, Mo. 527,088, ren. 5–5–70. Cl. 12.
Ashland Oil & Refining Co.: *See*— Archer-Daniels-Midland Co.
Aspinall Brothers (Huddersfield) Ltd., Skipton, England. 890,551, pub. 2–17–70. Cl. 43.
Associated Allied Industries, Inc., Milwaukee, Wis. 890,336, pub. 2–17–70. Cl. 12.
Ateller International, Ltd., New York, N.Y. 890,376, pub. 2–17–70. Multiple Class (Classes 21 and 32).
Automated Professional Management Services Ltd., d.b.a. Cyberlex Systems, Don Mills, Ontario, Canada. 890,664, pub. 2–17–70. Cl. 101.
Autostereo Music, Inc., Beverly Hills, Calif. 766,914, canc. Cl. 36.
Avco Corp.: *See*— Avco Mfg. Corp.
Avco Mfg. Corp., to Avco Corp., Williamsport, Pa. 522,347, ren. 5–5–70. Cl. 23.
Avon Products, Inc., New York, N.Y. 890,332, pub. 2–17–70. Cl. 6.
Avon Products, Inc., New York, N.Y. 890,603–4, pub. 2–17–70. Multiple Class (Classes 51 and 52).
BTR Industries Ltd., London, England. 890,867, pub. 2–17–70. Cl. 19.
Ball, Geo. J., Inc., d.b.a. Pan-American Seed Co., West Chicago, Ill. 890,312, pub. 2–17–70. Cl. 1.
Bally Schuhfabriken AG, Schoenenwerd, Switzerland. 890,529, pub. 5–20–69. Cl. 39.
Balner, Eugene, d.b.a. Palmer Custom Cues Co., Elizabeth, N.J. 890,895, pub. 2–17–70. Cl. 22.
Bangor Punta Operations, Inc.: *See*— Waukesha Motor Co.
Bannister, Constance, Syosset, N.Y. 890,394, pub. 2–17–70. Multiple Class (Classes 22 and 38).
Barrie, Chester, Inc., New York, N.Y., to Chester Barrie Ltd., London, England. 518,090, ren. 5–5–70. Cl. 39.
Barrie, Chester, Ltd.: *See*— Barrie, Chester, Inc.
Bausch & Lomb Inc., Rochester, N.Y. 890,442, pub. 2–17–70. Multiple Class (Classes 26 and 37).
Baxter Laboratories, Inc., Morton Grove, Ill. 890,362, pub. 2–17–70. Cl. 18.
Baybank Drug Co., Inc.: *See*— Baybank Pharmaceuticals, Inc.
Baybank Pharmaceuticals, Inc., New York, to Baybank Drug Co., Inc., Garden City, N.Y. 526,795, ren. 5–5–70. Cl. 18.
Bayuk Cigars Inc., Philadelphia, Pa. 890,352, pub. 2–17–70. Cl. 17.
Beckett, Robert J., d.b.a. Pumpmaster, Orangevale, Calif. 890,424, pub. 2–17–70. Cl. 23.
Beckman Instruments, Inc., Fullerton, Calif. 890,456, pub. 2–17–70. Cl. 26.
Bedford Tool & Forge Co., Bedford, Ohio. 521,269, ren. 5–5–70. Cl. 23.
Beecham Inc.: *See*— Prichard & Constance (AMAMI) Inc.
Bekins Van & Storage Co., Los Angeles, Calif. 766,728, canc. Cl. 38.
Bell & Howell Co., Chicago, Ill. 890,499, pub. 2–17–70. Cl. 36.
Bemis Bro. Bag Co., Minneapolis, Minn. 606,002, canc. Cl. 12.
Bendix Corp., The, Detroit, Mich. 766,900, canc. Cl. 19.
Bernat, Emile, & Sons Co., Uxbridge, Mass. 890,407, pub. 2–17–70. Cl. 22.
Bertemes, Susan, Rocky River, Ohio. 890,590–1, pub. 2–17–70. Cl. 50.
Big Rebel Drive-Ins, Inc., Hickory, N.C. 890,641, pub. 2–17–70. Cl. 100.
Big Stone Canning Co., Ortonville, Minn. 524,060, ren. 5–5–70. Cl. 46.
Bilrus Co., Inc., Los Angeles, Calif. 766,912, canc. Cl. 34.
Bingham-Herbrand Corp., The, Toledo, Ohio, to Utica Tool Co., Inc., Orangeburg, S.C. 525,634, ren. 5–5–70. Cl. 23.
Biscayne Mfg. Corp., Miami, Fla. 890,365, pub. 3–19–68. Cl. 19.
Black Mountain Spring Water, Inc., San Carlos, Calif. 890,567, pub. 2–17–70. Cl. 45.
Blake, Moffitt & Towne, San Francisco, Calif., to Saxon Industries, Inc., New York, N.Y. 524,412, ren. 5–5–70. Cl. 2.
Blanchard, Robert L., New York, N.Y. 890,392, pub. 2–17–70. Cl. 22.
Blue Ridge Glass Corp., to American Saint Gobain Corp., Kingsport, Tenn. 526,850–1, ren. 5–5–70. Cl. 33.
Blum, Bernard, Corp., New York, N.Y. 766,697, canc. Cl. 28.
Boehringer, C. H., Sohn, Ingelheim (Rhine), Germany. 766,610, canc. Cl. 18.
Borg-Warner Corp., to Borg-Warner Corp., Chicago, Ill. 523,653, ren. 5–5–70. Cl. 23.
Boston Co., Inc., The, Boston, Mass. 890,675, pub. 2–17–70. Cl. 102.

Boston Digital Corp., Ashland, Mass. 890,432, pub. 2–17–70. Cl. 23.
Boutique Sportswear Ltd., New York, N.Y. 890,707. Cl. 39.
Bowey's, Inc., Chicago, Ill. 766,817, canc. Cl. 46.
Boyle, John, & Co., Inc., New York, N.Y. 890,544, pub. 2–17–70. Cl. 42.
Boyle, John, & Co., Inc., New York, N.Y. 890,695, pub. 2–17–70. Cl. 106.
Brecher, Nicholas, d.b.a. Brevoni Creations, New York, N.Y. 890,540, pub. 2–17–70. Cl. 39.
Briddell, Chas. D., Inc., Chrisfield, Md., to Towle Mfg. Co., Newburyport, Mass. 521,685, ren. 5–5–70. Cl. 23.
Bristol-Myers Co., New York, N.Y. 766,879, canc. Cl. 52.
Brite Industries Inc., Providence, R.I. 890,464, pub. 2–17–70. Cl. 28.
British-American Tobacco Co. Ltd., London, England. 890,602, pub. 2–17–70. Multiple Class (Classes 51 and 52).
Brown Oil Tools, Inc., from Udell Garrett, Inc., Houston, Tex. 890,417, pub. 2–17–70. Cl. 23.
Browning Mfg. Co., Maysville, Ky., to Emerson Electric Co., St. Louis, Mo. 520,887, ren. 5–5–70. Cl. 35.
Bruce, E. L., Co. (Inc.), Memphis, Tenn. 890,339, pub. 2–17–70. Cl. 12.
Brulé, C. E., & E., Inc., d.b.a. Brulé Pollution Control Systems, Inc., Blue Island, Ill. 890,686, pub. 2–17–70. Cl. 103.
Burgess-Norton Mfg. Co., Geneva, Ill. 525,768, ren. 5–5–70. Cl. 23.
Burlington Industries, Inc., Norristown, Pa. 890,550, pub. 2–17–70. Cl. 42.
Burnett, Winston A., Construction Co. of New York, Inc., New York, N.Y. 890,687, pub. 2–17–70. Cl. 103.
Burton, Mary, and George Buston, d.b.a. The Treasure Chest, Tazewell, Va. 528,004, ren. 5–5–70. Cl. 32.
Byron Hat Corp., to Hat Corp. of America, New York, N.Y. 270,065, ren. 5–5–70. Cl. 39.
C-C Chemicals, Inc., Boston, Mass. 766,586, canc. Cl. 12.
CNA Financial Corp., Chicago, Ill. 890,673, pub. 2–17–70. Cl. 102.
C & Z Investment Co., Inc., Minneapolis, Minn. 890,372, pub. 2–17–70. Cl. 19.
Calbiochem, Los Angeles, Calif., 890,324, pub. 2–17–70. Cl. 6.
Caldwell Packaging Co., Inc., Atlanta, Ga. 766,719, canc. Cl. 37.
Caltype Corp., Los Angeles, Calif. 890,460, pub. 2–17–70. Cl. 26.
Caribbean Products Co., Ltd., Kingston, Jamaica. 890,617, pub. 2–17–70. Cl. 52.
Caron Corp., New York, N.Y. 890,596–7, pub. 2–17–70. Cl. 51.
Carrier Corp.: *See*—
Carrier Engineering Corp.
Carrier Engineering Corp., Newark, N.J., to Carrier Corp., Syracuse, N.Y. 267,368, ren. 5–5–70. Cl. 34.
Caulk, L. D., Co., The, Milford, Del., to Dentsply International Inc., York, Pa. 522,677, ren. 5–5–70. Cl. 44.
Celebrity Host Golf Holidays, Inc., Arlington, Va. 890,692–3, pub. 2–17–70. Cl. 105.
Central Dynamics Ltd., Pointe Claire, Quebec, Canada. 890,439, pub. 1–28–69. Cl. 26.
Central Ohio Products Co.: *See*—
Galvanized Motor Mufflers, Inc.
Centri-Spray Corp., Livonia, Mich. 890,660, pub. 2–17–70. Cl. 101.
Chadbourn Inc.: *See*—
Stein Brothers.
Champion Co., The, Springfield, Ohio. 528,431, ren. 5–5–70. Cl. 6.
Chemalloy Co., Inc., Philadelphia, Pa. 890,348, pub. 5–6–69. Cl. 14.
Chemetron Corp., Chicago, Ill. 766,562, canc. Cl. 6.
Cherokee Album Corp., Fairmount, Ga. 890,498, pub. 2–17–70. Cl. 36.
Chicopee Mills, Inc., New York, N.Y. 766,782, canc. Cl. 42.
Chimie Et Atomistique, Paris, France. 766,618, canc. Cl. 18.
Ciba Ltd., Basel, Switzerland. 890,357–8, pub. 2–17–70. Cl. 18.
Clay Industries, Inc., Fallbrook, Calif. 890,598, pub. 2–17–70. Multiple Class (Classes 51 and 52).
Clearprint Paper Co., San Francisco, to Clearprint Paper Co., Inc., Emeryville, Calif. 524,613, ren. 5–5–70. Cl. 37.
Cleve, Frank Jr., Dallas, Tex. 521,328, ren. 5–5–70. Cl. 39.
Coe, Barry, Los Angeles, Calif. 766,663, canc. Cl. 22.
Colgate-Palmolive Co., New York, N.Y. 766,899, canc. Cl. 18.
Colgate-Palmolive Co., New York, N.Y. 890,613–14, pub. 2–17–70. Cl. 51.
Comput-a-Credit, Inc., New York, N.Y. 890,661, pub. 2–17–70. Cl. 101.
Comstol Air Transit, Inc., Oakland, Calif. 890,690–1, canc. Cl. 109.
Consolidated Flour Mills Co., The, Wichita, Kans., to Seaboard Allied Milling Corp., Kansas City, Mo. 527,986, ren. 5–5–70. Cl. 46.
Consolidated Papers, Inc., Wisconsin Rapids, Wis. 890,510, pub. 2–17–70. Cl. 37.
Consultants & Designers, Inc., New York, N.Y. 890,644, pub. 2–17–70. Cl. 101.
Continental Trading Corp., Hickory, N.C. 890,385, pub. 2–17–70. Cl. 21.
Cooley, Inc., Pawtucket, R.I. 766,788, canc. Cl. 42.
Cooper, McDougall & Robertson Ltd.: *See*—
Cooper, William & Nephews Inc.
Cooper, William & Nephews Inc., Chicago, Ill., to Cooper, McDougall & Robertson Ltd., Herts, England. 513,490, ren. 5–5–70. Cl. 6.
Cooper's, Inc., Kenosha, Wis. 890,527, pub. 2–17–70. Cl. 39.
Coors Porcelain Co., The, Golden, Colo. 526,054, ren. 5–5–70. Cl. 26.
Copeland Refrigeration Corp., Sidney, Ohio. 890,471, pub. 2–17–70. Cl. 31.
Cortland Industries, Inc., Cortland, N.Y. 766,686, canc. Cl. 26.
Courier-Journal Lithographing Co., Louisville, Ky. 890,508, pub. 2–17–70. Cl. 37.
Cowles Chemical Co.: *See*—
Stauffer Chemical Co.
Crompton Co., New York, N.Y. 521,055–6, ren. 5–5–70. Cl. 42.
Crosse & Blackwell Co., The, Baltimore, Md., to The Nestle Co., Inc., White Plains, N.Y. 527,120, ren. 5–5–70. Cl. 46.
Crystal Tissue Co., The, Middletown, Ohio. 890,509, pub. 2–17–70. Cl. 37.
Curtis, Helene, Industries, Inc., Chicago, Ill. 890,616, pub. 2–17–70. Cl. 52.
DS Distributing Corp., Mount Vernon, N.Y. 890,366, pub. 7–22–69. Cl. 19.
Daimler-Benz Aktiengesellschaft: *See*—
Daimler-Motoren-Gesellchaft.
Daimler-Motoren-Gesellschaft, Unterturkheim, Germany, to Daimler-Benz Aktiengesellschaft, Stuttgart, Germany. 76,020, ren. 5–5–70. Cl. 23.
Daiare Associates, Inc.. Philadelphia, Pa. 890,355, pub. 2–17–70. Cl. 18.
Daniels, C. R., Inc., Daniels, Md. 890,489, pub. 2–17–70. Cl. 35.
Danish Creamery Association, Fresno, Calif. 521,361, ren. 5–5–70. Cl. 46.
Dart Industries Inc., from Rexall Drug & Chemical Co., Los Angeles, Calif. 890,311, pub. 2–17–70. Cl. 1.
Data General Corp., Hudson, Mass. 890,448, pub. 4–8–69. Cl. 26.
Day-Timers, Inc., Allentown, Pa. 890,701. Cl. 37.
Decibel Products, Inc., Dallas, Tex. 890,382, pub. 2–17–70. Cl. 21.
Delia Associates, Maplewood, N.J. 890,523, pub. 2–17–70. Cl. 38.
Delta Laboratories, Inc., Des Plaines, Ill. 890,562, pub. 2–17–70. Cl. 44.
Dennis, Martin Co., The, Newark, N.J. to Diamond Shamrock Corp., Cleveland, Ohio. 78,694, ren. 5–5–70. Cl. 6.
Dennis, Martin Co., The, Newark, N.J., to Diamond Shamrock Corp., Cleveland, Ohio. 78,070–1, ren. 5–5–70. Cl. 6.
Dennis, Martin Co., The, Newark, N.J., to Diamond Shamrock Corp., Cleveland, Ohio. 270,850–1, ren. 5–5–70. Cl. 6.
Dentists' Supply Co. of New York, The, New York, N.Y., to Dentsply International Inc., York, Pa. 270,344, ren. 5–5–70. Cl. 44.
Dentsply International Inc.: *See*—
Dentists' Supply Co. of New York, The.
Caulk, L. D., Co., The.
Des Moines Register & Tribune Co.: *See*—
Register & Tribune Co., The.
Dial A Car Rental Systems, Inc., Garden City, N.Y. 766,890, canc. Cl. 105.
Diamond Shamrock Corp.: *See*—
Dennis, Martin Co., The.
Dietzen, Eugene, Co., Chicago, Ill. 890,454, pub. 2–17–70. Cl. 26.
Digimetrics, Inc., Utica, N.Y. 890,386, pub. 2–17–70. Cl. 21.
Dismeier, Howard H., d.b.a. Howard Dismeier Co., Chicago, Ill. 766,698, canc. Cl. 28.
Dore Development Co., Inc., The, Silver Spring, Md. 890,422–3, pub. 2–17–70. Cl. 23.
Dorlyl, Societe a Responsabilite Limitee, Paris, France. 890,306, pub. 2–17–70. Multiple Class (Classes 1 and 2).
Dory, Ltd., Inc., Des Plaines, Ill. 890,636, pub. 2–17–70. Cl. 100.
Dow Chemical Co., The, Midland, Mich. 527,772, ren. 5–5–70. Cl. 6.
Downing, Ronald L., d.b.a. Dreammakers Unlimited, Raytown, Mo. 890,515, pub. 2–17–70. Cl. 38.
Drackett Co., The, Cincinnati, Ohio. 766,881, canc. Cl. 52.
Dragerwerk, Lubeck, Germany. 890,552, pub. 5–23–67. Cl. 44.
Dresser Industries, Inc.: *See*—
Symington-Gould Corp., The.
Duff-Norton Co., Inc., Charlotte, N.C. 890,433, pub. 2–17–70. Cl. 23.
Duffy-Mott Co., Inc., New York, N.Y. 890,577–9, pub. 2–17–70. Cl. 46.
Dunhill, Alfred, Ltd., London, England. 527,208, ren. 5–5–70. Cl. 8.
Du Pont de Nemours, E. I., & Co., Wilmington, Del. 766,575, canc. Cl. 6.
Du Pont de Nemours, E. I., & Co., Wilmington, Del. 890,331, pub. 2–17–70. Cl. 6.
Duquesne Mine Supply Co., Pittsburgh, Pa. 528,044, ren. 5–5–70. Cl. 23.
Duquesne Mine Supply Co., Pittsburgh, Pa. 890,347, pub. 2–17–70. Multiple Class (Classes 13, 14, and 23).
Dwyer, F. W., Mfg. Co., Inc., Michigan City, Ind. 855,973, canc. Cl. 26.
EZ Paintr Corp., Milwaukee, Wis. 890,469, pub. 2–17–70. Cl. 29.
Eagle Shirtmakers, Inc., Quakertown, Pa. 890,537, pub. 2–17–70. Cl. 39.
Eastech, Inc., South Plainfield, N.J. 890,453, pub. 2–17–70. Cl. 26.
Eastman Kodak Co., Rochester, N.Y. 890,445, pub. 2–17–70. Cl. 26.
Eaton Yale & Towne Inc.: *See*—
Fuller Mfg. Co.
Economy Co., The, Oklahoma City, Okla. 890,703. Cl. 38.
Ehlers, Henry P., San Pedro, Calif. 890,368, pub. 2–17–70. Cl. 19.
Eisenstadt Mfg. Co., St. Louis, Mo. 272,118, ren. 5–5–70. Cl. 23.
Electric Steel Foundry, to Esco Corp., Portland, Oreg. 526,689, ren. 5–5–70. Cl. 13.

Electric Storage Battery Co., The, Philadelphia, Pa. 766,627, canc. Cl. 21.
Elliott Bay Mill Co., Seattle, Wash. 766,589, canc. Cl. 12.
El-Tronics, Inc., Warren, Pa. 766,633, canc. Cl. 21.
Emerson Electric Co.: *See*—
Browning Mfg. Co.
Enderes Tool Co., Inc., Albert Lea, Minn. 890,435–6, pub. 2–17–70. Cl. 23.
Equality Savings & Loan Association, St. Louis, Mo. 766,888, canc. Cl. 102.
Esco Corp.: *See*—
Electric Steel Foundry.
Etablissements de Jullenrupt, Jullenrupt, Vosges, France. 890,547, pub. 2–17–70. Cl. 42.
Everpure, Inc., Oak Brook, Ill. 766,701, canc. Cl. 31.
Ewald, John N., Jr., Litchfield, Minn. 890,418, pub. 2–17–70. Cl. 23.
Facs Ltd., Toronto, Ontario, Canada. 890,659, pub. 2–17–70. Cl. 101.
Fairchild Camera & Instrument Corp., Syosset, N.Y. 766,855, canc. Cl. 50.
Farley, William J.: *See*—
Noland, Harry L., and Virgil T. Norris, Trustees of the Estate of Reuben W. Farley.
Federal Steel Corp., Dayton, Ohio. 766,892, canc. Cl. 106.
Federated Department Stores, Inc., Cincinnati, Ohio. 766,739, canc. Cl. 39.
Fieldcrest Mills, Inc., Eden, N.C. 890,389, pub. 2–17–70. Cl. 21.
Firestone Tire & Rubber Co., The, Akron, Ohio. 890,490–1, pub. 2–17–70. Cl. 35.
Firma Urgos Uhrenfabrik Schwenningen Haller, Jauch & Pabst, Schwenningen (Neckar), Germany. 890,461, pub. 2–17–70. Cl. 27.
First Colony Corp., Marietta, Ohio. 890,632, pub. 2–17–70. Multiple Class (Classes 100 and 103).
Flags, Inc., San Francisco, Calif. 890,580, pub. 2–17–70. Cl. 46.
Fort Howard Paper Co., to Fort Howard Paper Co., Green Bay, Wis. 521,808, ren. 5–5–70. Cl. 37.
Ford Motor Co., Dearborn, Mich. 890,388, pub. 2–17–70. Cl. 21.
Ford, Rose M., d.b.a. Canteen Restaurant, Kansas City, Mo. 766,811, canc. Cl. 46.
Forever Yours, Inc., New York, N.Y. 890,536, pub. 2–17–70. Cl. 39.
Formica Corp., Cincinnati, Ohio. 766,625, canc. Cl. 20.
Fox, H., & Co., Inc., Brooklyn, N.Y. 890,566, pub. 2–17–70. Cl. 45.
Foy Paint Co., Inc., The, d.b.a. The R. F. Johnston Paint Co., Cincinnati, Ohio. 522,753, ren. 5–5–70. Cl. 16.
Freeman Industries, Inc, Tuckahoe, N.Y. 890,619, pub. 6–3–69. Cl. 52.
Fritzsche Brothers, Inc., to Fritzsche Dodge & Olcott Inc., New York, N.Y. 528,050, ren. 5–5–70. Cl. 46.
Fritzsche Dodge & Olcott Inc.: *See*—
Fritzsche Brothers, Inc.
Fuller Mfg. Co., Kalamazoo, Mich., to Eaton Yale & Towne Inc., Cleveland, Ohio. 527,995, ren. 5–5–70. Cl. 23.
Fun World, Inc., New York, N.Y. 890,409, pub. 2–17–70. Cl. 22.
GAF Corp., New York, N.Y. 890,318–19, pub. 2–17–70. Cl. 1.
G. & M. Publising Co., Cleveland, Ohio. 890,702. Cl. 38.
Galvanized Motor Mufflers, Inc., Chicago, Ill., to Central Ohio Products Co., Columbus, Ohio. 523,457, ren. 5–5–70. Cl. 23.
Gard, Andy, Corp., Leetsdale, Pa. 766,664, canc. Cl. 22.
Geigy Chemical Corp., Ardsley, N.Y. 890,326, pub. 2–17–70. Cl. 6.
Geller, Andrew, Inc., Brooklyn, N.Y. 766,737, canc. Cl. 39.
General Battery & Ceramic Corp., Reading, Pa. 766,641, canc. Cl. 21.
General Felt Industries, Inc.: *See*—
Okonite Co., The.
General Petroleum Corp., of California, Los Angeles, Calif. to Mobile Oil Corp., New York, N.Y. 265,684, ren. 5–5–70. Cl. 15.
Gilbert Steambath Co., Inc., St. Louis, Mo. 890,488, pub. 2–17–70. Cl. 34.
Glass Reinforced Engineered, Hayward, Calif. 890,595, pub. 2–17–70. Cl. 50.
Gluck, Alfred, d.b.a. Alfred Gluck's Kreuter Bread and/or Gluck's Kreuter Bread, Philadelphia, Pa. 766,814, canc. Cl. 46.
Gold-Master Corp., New York, N.Y. 890,462–3, pub. 9–20–66. Cl. 28.
Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio. 890,314, pub. 2–17–70. Cl. 1.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 890,429, pub. 2–17–70. Cl. 23.
Goshen Mfg. Co., Inc., The, Goshen, Ind. 890,700. Cl. 32.
Gotham Wedding Ring Co., Inc., New York, N.Y. pub. 2–17–70. Cl. 28.
Grace, W. R., & Co., New York, N.Y. 890,511, pub. 2–17–70. Cl. 37.
Grady-Travers Co., Inc., The: *See*—
Reid, Alexander F.
Granite City Steel Co., Granite City, Ill. 527,864, ren. 5–5–70. Cl. 12.
Great Western Foods Co., The, Knoxville, Tenn. 890,575, pub. 2–17–70. Cl. 46.
Green, Neil L., Los Angeles, Calif. 890,674, pub. 2–17–70. Cl. 102.
Green Shoe Mfg. Co., The, Boston, Mass. 528,068, ren. 5–5–70. Cl. 39.
Greyhound Corp., The, Chicago, Ill. 890,634, pub. 2–17–70. Cl. 100.
Gude Bros. Co., Washington, D.C. 890,317, pub. 2–17–70. Cl. 1.
Guyco, Inc., Chicago, Ill. 766,726, canc. Cl. 37.
Gyrodyne Co. of America, Inc., Saint James, L.I., N.Y. 521,315, ren. 5–5–70. Cl. 19.
Halby Products Co., Inc., Wilmington, Del. 766,566, canc. Cl. 6.
Hales & Hunter Co., Chicago, Ill. 766,611, canc. Cl. 18.
Hales & Hunter Co., Chicago, Ill. 766,825, canc. Cl. 46.
Hall Brothers, Inc., Snow Shoe, Pa. 890,665, pub. 2–17–70. Cl. 101.
Halsey Drug Co., Inc.: *See*—
Silber, Samuel.
Hamilton, Thomas F., Santa Monica, Calif. 766,700, canc. Cl. 30.
Hamilton Watch Co., Lancaster, Pa. 524,236, ren. 5–5–70. Cl. 14.
Hammermill Paper Co.: *See*—
Strathmore Paper Co.
Hansen, Albert C., d.b.a. Hansen Farms, Salinas, Calif. 890,584–5, pub. 2–17–70. Cl. 46.
Hansen, Helly J., A/S, Moss, Norway. 890,583, pub. 2–17–70. Cl. 39.
Hapman Corp., Kalamazoo, Mich. 766,707, canc. Cl. 32.
Harco Electronics Ltd., Winnipeg, Manitoba, Canada. 890,554, pub. 2–17–70. Cl. 44.
Harriet, Miss, Mfg. Co., Philadelphia, Pa. 524,988, ren. 5–5–70. Cl. 39.
Harris-Intertype Corp., Cleveland, Ohio. 890,638, pub. 2–17–70. Multiple Class (Classes 100 and 107).
Hasbro Industries, Inc., Pawtucket, R.I. 890,404, pub. 2–17–70. Cl. 22.
Hat Corp. of America: *See*—
Byron Hat Corp.
Hayashi, F., Baltimore, Md. 766,744, canc. Cl. 39.
Heggblade-Marguleas Co., San Francisco, Calif. 766,841, canc. Cl. 46.
Hercules Mfg. Co., Henderson, Ky. 890,371, pub. 2–17–70. Cl. 19.
Hickok Mfg. Co., Inc., Rochester, N.Y. 766,547, canc. Cl. 3.
Hickok Mfg., Co., Inc., Rochester, N.Y. 766,768, canc. Cl. 39.
Himmelstein, S., & Co., Elk Grove Village, Ill. 890,459, pub. 2–17–70. Cl. 26.
Hinckley & Schmitt, Chicago, Ill. 890,568, pub. 2–17–70. Cl. 45.
Hinger, Fred D., Fort Lee, N.J. 890,502–4, pub. 2–17–70. Cl. 36.
Hobbs, Robert B., d.b.a. Typewriter Erasure Co., Los Angeles, Calif. 890,425, pub. 2–17–70. Multiple Class (Classes 23 and 37).
Hockenberry, William N., North Versailles, Pa. 890,500, pub. 2–17–70. Cl. 36.
Hoffman Electronics Corp.: *See*—
Hoffman Radio Corp.
Hoffman Radio Corp., Los Angeles, to Hoffman Electronics Corp., El Monte, Calif. 521,772, ren. 5–5–70. Cl. 21.
Hoffmann-La Roche Inc., Nutley, N.J. 890,361, pub. 2–17–70. Cl. 18.
Holmes Canning Co., Inc., Sandersville, Georgia. 523,502, ren. 5–5–70. Cl. 46.
Home Savings & Loan Association, Madison, Wis. 890,679, pub. 2–17–70. Cl. 102.
Horn, William H., & Brother, Philadelphia, Pa. 890,561, pub. 2–17–70. Cl. 44.
Hosaki, Mamoru, d.b.a. M. Hosaki, Oxnard, Calif. 890,583, pub. 2–17–70. Cl. 46.
Hough, Frank G., Co., The, Libertyville, to International Harvester Co., Chicago, Ill. 443,767, ren. 5–5–70. Cl. 23.
House of Lords Beef Franchises, Inc., New York, N.Y. 890,670, pub. 2–17–70. Cl. 101.
Household Products Corp., Denver, Colo. 766,876, canc. Cl. 52.
Hover-Stanyer Industries, Inc., Overland Park, Kans. 890,443, pub. 2–25–69. Cl. 26.
Huber Corp.: *See*—
Huber Mfg. Co.
Huber Mfg. Co., to Huber Corp., Marion, Ohio. 514,010, ren. 5–5–70. Cl. 23.
Hudson, Alfred M., d.b.a. Thermochem, New Canaan, Conn. 890,465, pub. 2–17–70. Cl. 28.
Hughes, Ben, d.b.a. Honey Boy Honey Co., St. Joseph, Mo. 766,838, canc. Cl. 46.
Hunter Bros. Co., Inc., Statesville, N.C. 519,486, ren. 5–5–70. Cl. 39.
Huyck Corp., Rensselaer, N.Y. 766,792, canc. Cl. 42.
Hydro-Miser Corp., Philadelphia, Pa. 890,470, pub. 2–17–70. Cl. 31.
Hyster Co., Portland, Oreg. 890,370, pub. 2–17–70. Multiple Class (Classes 19 and 23).
Ideal Fishing Float Co., Inc., Richmond, Va. 766,536, canc. Multiple Class (Classes 2 and 22).
Ideal Industries, Inc., Sycamore, Ill. 523,726, ren. 5–5–70. Cl. 23.
Ilex Optical Co., Inc., Rochester, N.Y. 890,446, pub. 2–17–70. Cl. 26.
Imperial House Motels, Inc., Dayton, Ohio. 890,656, pub. 2–17–70. Cl. 101.
Imperial Paper & Color Corp., Glens Falls, N.Y., to Imperial Wallpaper Mill, Inc., Cleveland, Ohio. 526,110–11, ren. 5–5–70. Cl. 37.
Imperial Wallpaper Mill, Inc.: *See*—
Imperial Paper & Color Corp.
Inflat-A-Industries, Inc., New York, N.Y. 890,593, pub. 2–17–70. Cl. 50.
Information Instruments Inc., Ann Arbor, Mich. 890,379, pub. 5–6–69. Cl. 21.

Ingenue of California, Inc., Los Angeles, Calif. 890,538, pub. 2–17–70. Cl. 39.
Inta-Roto, Inc., from The Inta-Roto Machine Co., Inc., Richmond, Va. 890,486, pub. 2–17–70. Cl. 34.
Inta-Roto Machine Co., Inc., The: *See*—
Inta-Roto, Inc.
International Harvester Co.: *See*—
Hourn, Frank G., Co., The.
International Harvester Co., Chicago, Ill. 766,319, canc. Cl. 23.
International Paper Co., New York, N.Y. 766,538, canc. Cl. 2.
Inter-Ocean Insurance Co., Cincinnati, Ohio. 890,677–8, pub. 2–17–70. Cl. 102.
Interstate Mfg., Inc., Odgen, Utah. 890,681, pub. 2–17–70. Cl. 103.
Irsin Restaurant Corp., New York, N.Y. 890,572, pub. 8–12–69. Cl. 46.
JFD Electronics Corp., Brooklyn, N.Y. 766,645, canc. Cl. 21.
Jantzen Inc.: *See*—
Jantzen Knitting Mills Inc.
Jantzen Knitting Mills Inc., to Jantzen Inc., Portland, Oreg. 526,944–5, ren. 5–5–70. Cl. 39.
Jefferson Surplus Sales Co., Chicago, Ill. 890,548, pub. 2–17–70. Cl. 42.
Jeffrey Galion Inc., Columbus, Ohio. 890,369, pub. 2–17–70. Cl. 19.
Jeffrey Galion Inc., Columbus, Ohio. 890,381, pub. 2–17–70. Cl. 21.
Jennings, Everest & Inc., Los Angeles, Calif. 766,803, canc. Cl. 44.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 890,615, pub. 2–17–70. Cl. 51.
Jewelsmiths International, Inc., from Marcus Purchasing Co., Inc., New York, N.Y. 890,699. Cl. 28.
Jewish Social Service Agency, Inc., Washington, D.C. 890,668, pub. 2–17–70. Cl. 101.
Jobber News & Products Publishing Corp., Chicago, Ill. 766,735, canc. Cl. 38.
Johns-Manville Corp., New York, N.Y. 890,493, pub. 2–17–70. Cl. 35.
Johnston Paint Co.: *See*—
Foy Paint Co. Inc., The.
Julian & Kokenge Co., The, Columbus, Ohio. 890,534, pub. 2–17–70. Cl. 39.
Justo Lopez Valcarcel S.A., Vigo, Spain. 766,822, canc. Cl. 46.
KVP Sutherland Paper Co., Kalamazoo, Mich. 766,543, canc. Cl. 2.
Kabushiki Kaisha Jintan Terumo, d.b.a. Jintan Terumo Co., Ltd., Tokyo, Japan. 890,553, pub. 2–17–70. Cl. 44.
Kaiser Co., Inc., to Kaiser Steel Corp., Oakland, Calif. 523,574, ren. 5–5–70. Cl. 12.
Kaiser Steel Corp.: *See*—
Kaiser Co., Inc.
Kattu Project, Inc., New Smyrna Beach, Fla. 521,205, ren. 5–5–70. Cl. 19.
Katz Drug Co., Kansas City, Mo. 890,672, pub. 2–17–70. Cl. 101.
Kelner, Nat, Prestige Jewelry Corp., New York, N.Y. 890,698. Cl. 28.
Kimberly-Clark Corp.: *See*—
Neenah Paper Co.
Kimco Laboratories, Inc., Brooklyn, N.Y. 890,449, pub. 2–17–70. Cl. 26.
Kit Mfg. Co., Long Beach, Calif. 890,375, pub. 2–17–70. Cl. 19.
Kleinert, I. B., Rubber Co., New York, N.Y. 766,738, canc. Cl. 39.
Koch, Paul G.m.b.H., Geesthacht, Germany. 890,441, pub. 3–25–69. Cl. 26.
Koehring Co.: *See*—
Parsons Co., The.
Koester, E. H., Bakery Co., The, Baltimore, Md. 766,826–7, canc. Cl. 46.
Kreiss, Jack, Hosiery, Inc., New York, N.Y. 766,921, canc. Cl. 39.
Kreitzer, Thomas Vincent, Wheeling, W. Va. 890,705. Cl. 38.
Kresge, S. S., Co., Detroit, Mich. 890,618, pub. 2–17–70. Cl. 52.
Kwikee Kwiver Co., Inc., Acme, Mich. 890,410, pub. 2–17–70. Cl. 22.
Lakeside Laboratories, Inc., Milwaukee, Wis. 766,619, canc. Cl. 18.
La Maur, Inc., Minneapolis, Minn. 890,607, pub. 2–17–70. Cl. 51.
Lane Ltd., New York, N.Y. 890,351, pub. 2–17–70. Cl. 17.
Lanvin-Charles of the Ritz, Inc., New York, N.Y. 890,600, pub. 2–17–70. Cl. 51.
Large Family Living, Inc., Fairfield, Conn. 890,646, pub. 2–17–70. Cl. 101.
Law, K. J., Engineers, Inc., Detroit, Mich. 890,451, pub. 2–17–70. Cl. 26.
Lawson Brothers, Eaton, Ohio. 890,645, pub. 2–17–70. Cl. 101.
Lawton-York Corp., The, New York, N.Y. 890,506, pub. 2–17–70. Cl. 37.
Leasequip Corp., Beverly Hills, Calif. 890,633, pub. 2–17–70. Cl. 100.
Lee-Rowan Co., d.b.a. Royal Diamond, St. Louis, Mo. 890,592, pub. 2–17–70. Cl. 50.
Leipzig & Lippe, Inc., New York, N.Y. 766,831, canc. Cl. 46.
Leonard Wholesale Meats, Inc., St. Joseph, Mo. 890,574, pub. 2–17–70. Cl. 46.
Les Fabriques d'Assortiments Reunies, Neuchatel, Switzerland. 890,450, pub. 2–17–70. Cl. 26.
Leslie Salt Co., San Francisco, Calif., 766,845, canc. Cl. 46.
Lever Brothers Co., New York, N.Y. 890,630, pub. 2–17–70. Cl. 52.
Lewis Grocer Co., The, Indianola, Miss. 890,639, pub. 2–17–70. Cl. 100.
Litoreria Trigo, Inc., San Juan, Puerto Rico. 890,588, pub. 12–17–69. Cl. 49.
Lien Chemical Co., Franklin Park, Ill. 890,684, pub. 2–17–70. Cl. 103.
Life Line Co., The, Hollywood, Fla. 890,403, pub. 2–17–70. Cl. 22.
Little Professor Book Centers of America, Inc., Southfield, Mich. 890,519–20, pub. 2–17–70. Cl. 38.
Longchamps, Inc., New York, N.Y. 890,642, pub. 2–17–70. Cl. 100.
MIF Industries, Inc., Branford, Conn. 890,487, pub. 2–17–70. Cl. 34.
M.K.M. Hosiery Mills, Inc., to M.K.M. Hosiery Mills, Inc., Boston, Mass. 515,362, ren. 5–5–70. Cl. 39
M & T Chemicals Inc., New York, N.Y. 890,333, pub. 2–17–70. Cl. 6.
MacGregor-Comarain, Paris, France. 890,414, pub. 10–15–68. Cl. 23.
Macrylic Aerosol, Inc., Jackson Center, Ohio. 890,320, pub. 2–17–70. Cl. 4.
Magazine Management Co., Inc., from Perfect Film & Chemical Corp., d.b.a. Marvel Comics Group, New York, N.Y. 890,513–14, pub. 2–17–70. Cl. 38.
Major Electronics Corp., Brooklyn, N.Y. 766,640, canc. Cl. 21.
Malatesta, S., & Sons, Paterson, N.J. 890,689, pub. 2–17–70. Cl. 105.
Mallinckrodt Chemical Works, St. Louis, Mo. 890,525, pub. 2–17–70. Cl. 38.
Mandarin Mills, Inc., New York, N.Y. 890,530, pub. 2–17–70. Cl. 39.
Manhattan Shirt Co., The, New York, N.Y. 766,763, canc. Cl. 39.
Marblehead Lime Co., Chicago, Ill. 522,533, ren. 5–5–70. Cl. 12.
Marcus Purchasing Co., Inc.: *See*—
Jewelsmiths International, Inc.
Marcus, Sol, Buffalo, N.Y. 766,699, canc. Cl. 28.
Marketing Consultants, Inc., Jackson, Miss. 890,682, pub. 2–17–70. Cl. 103.
Marlman, Fred W., Pueblo, Colo. 766,593, canc. Cl. 13.
Marsh Stencil Machine Co., Belleville, Ill. 890,505, pub. 2–17–70. Cl. 37.
Master Pools, Inc., El Monte, Calif. 890,683, pub. 2–17–70. Cl. 103.
Mattel, Inc., Hawthorne, Calif. 890,412–13, pub. 2–17–70. Cl. 22.
Maycord Co., Carol Stream (Wheaton), Ill. 525,613, ren. 5–5–70. Cl. 38.
Mayhew & Roseli, Inc., Albany, N.Y. 766,807, canc. Cl. 44.
McGarvey, Patrick J., Lindenhurst, N.Y. 766,904, canc. Cl. 26.
McGraw-Edison Co.: *See*—
Swartzbaugh Mfg. Co., The.
McGraw-Edison Co., Elgin, Ill. 890,437, pub. 2–17–70. Cl. 24.
McKinnon, Lucille V., San Diego, Calif., 890,467, pub. 2–17–70. Cl. 28.
McLaughlin, George S., Assoc. Inc., Summit, N.J. 890,671, pub. 2–17–70. Cl. 101.
McNeil Laboratories, Inc., Fort Washington, Pa. 890,359–60, pub. 2–17–70. Cl. 18.
Meadowbrook Inventions, Inc., Bernardsville, N.J. 890,350, pub. 2–17–70. Cl. 14.
Melco Merchandising Corp., New York, N.Y. 890,455, pub. 2–17–70. Cl. 26.
Meiflex Products Co., Inc., Akron, Ohio. 521,169, ren. 5–5–70. Cl. 50.
Meltzer, Elton & Co., Inc., New York, N.Y. 890,528 pub. 9–30–69. Cl. 39.
Mercantile Sales Co., St. Louis, Mo. 766,658, canc. Cl. 22.
Merck & Co., Inc., Rahway, N.J. 890,557, pub. 2–17–70. Cl. 44.
Mercury Mills, Inc., Dalton, Ga. 890,545, pub. 2–17–70. Cl. 42.
Midcontinent Seed Co., Columbia, Mo. 890,308, pub. 2–17–70. Cl. 1.
Midland-Ross Corp., Toledo, Ohio. 890,485, pub. 2–17–70. Cl. 34.
Miller-Rogers, Inc., Hallandale, Fla. 890,543, pub. 2–17–70. Cl. 40.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 890,316, pub. 2–17–70. Cl. 1.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 890,329–30, pub. 2–17–70. Cl. 6.
Mira-Pak, Inc., Houston, Tex. 890,444, pub. 7–29–69. Cl. 26.
Miss America Brassiere Co., Inc., Chicago, Ill. 890,526, pub. 3–21–67. Cl. 39.
Mitchell, John E., Co., Dallas, Tex, 890,662–3, pub. 2–17–70. Cl. 101.
Mobile Oil Corp.: *See*—
General Petroleum Corp. of California.
Montclair Marketers, Inc., Montclair, N.J. 766,588, canc. Cl. 12.
Morales, Juan, New York, N.Y. 766,913, canc. Cl. 36.
Mosley, Daniel, Organization, Inc., New York, N.Y. 890,653, pub. 2–17–70. Cl. 101.
Mouli Mfg. Corp.: *See*—
Varkala, Joseph C.
Multiples, Inc., New York, N.Y. 890,650, pub. 2–17–70. Cl. 101.
Murphy, Edward, Washington, D.C. 890,517, pub. 2–17–70. Cl. 38.
Murphy, G. C., Co., McKeesport, Pa. 527,292, ren. 5–5–70. Cl. 32.

Mutual Paper Co. Inc., The, Brooklyn, N.Y. 522,335, ren. 5–5–70. Cl. 37.
Mutual Shoe Co., Marlboro, Mass., to The United States Shoe Corp., Cincinnati, Ohio, 521,289, ren. 5–5–70. Cl. 39.
N.V. Philips-Duphar, Amsterdam, Netherlands. 766,012, canc. Cl. 18.
National Biscuit Co., New York, N.Y. 890,581, pub. 2–17–70. Cl. 46.
National Color Laboratories, Inc., Roselle, N.J. 890,690, pub. 2–17–70. Cl. 106.
National Starch & Chemical Corp.: *See*—
National Starch Products Inc.
National Starch Products Inc., to National Starch & Chemical Corp., New York, N.Y. 525,529, ren. 5–5–70. Cl. 5.
Natur-Seal Products Co., Russell, Kans. 766,531, canc. Cl. 1.
Neenah Paper Co., to Kimberly-Clark Corp., Neenah, Wis. 526,871, ren. 5–5–70. Cl. 37.
Nelson & Associates, Inc., Evanston, Ill. 890,522, pub. 2–17–70. Cl. 38.
Nestle Co., Inc., The: *See*—
Corsse & Blackwell Co., The.
Neuville, Inc., New York, N.Y. 766,754, canc. Cl. 39.
New England Carbide Tool Co., Inc., Peabody, Mass. 519,319, ren. 5–5–70. Cl. 4.
New Yorker Homes Corp., Elkhart, Ind. 890,373, pub. 2–17–70. Cl. 19.
Newton, Chambers & Co. Ltd., Thorncliffe, England. 890,620, pub. 2–17–70. Cl. 52.
Newton, Kenneth C., d.b.a. Clear Cut Services, San Diego, Calif. 890,685, pub. 2–17–70. Multiple Class (Classes 103 and 106).
Nineteen-Hundred Corp., St. Joseph, to Whirlpool Corp., Benton Harbor, Mich. 521,605, ren. 5–5–70. Cl. 24.
Nolan, Harry L., and Virgil T. Norris, trustees of the estate of Reuben W. Farley, deceased, Salinas, to William J. Farley, d.b.a. Farley Fruit Co., Firebaugh, Calif. 523,554, ren. 5–5–70. Cl. 46.
Nordberg Mfg. Co., Milwaukee, Wis. 525,591, ren. 5–5–70. Cl. 28.
North American Rockwell Corp.: *See*—
Air-Maze Corp.
North American Rockwell Corp., Pittsburgh, Pa. 890,492, pub. 2–17–70. Cl. 35.
Northern States Laboratories, Inc., Luverne, Minn. 890,608, pub. 2–17–70. Cl. 51.
Norton Research Corp., Cambridge, Mass. 890,313, pub. 2–17–70. Cl. 1.
Norwich Pharmacal Co., The, to The Norwich Pharmacal Co., Norwich, N.Y. 272,477, ren. 5–5–70. Cl. 51.
Norwich Pharmacal Co., The, to The Norwich Pharmacal Co., Norwich, N.Y. 526,935–6, ren. 5–5–70. Cl. 18.
Norwich Pharmacal Co., The, from The Norwich Pharmacal Co., Norwich, N.Y. 890,353, pub. 2–17–70. Cl. 18.
Okonite Co., The, Passaic, N.J., from General Felt Industries, Inc., Chicago, Ill. 890,710. Cl. 50.
Olmsted, Allen S., Buffalo, N.Y. 28,605, canc. Cl. 18.
Olmsted, Allen S., Buffalo, N.Y. 30,551, canc. Cl. 51.
Oneida Ltd.: *See*—
Rogers, Wm. A., Ltd.
Oneida Ltd., Oneida, N.Y. 525,861, ren. 5–5–70. Cl. 28.
Oneida Ltd., Oneida, N.Y. 523,493, ren. 5–5–70. Cl. 28.
Ordont Orthodontic Laboratories, Inc., St. Louis, Mo. 890,558, pub. 2–17–70. Cl. 44.
Oriental Foods, Inc., City of Commerce, Calif. 890,643, pub. 2–17–70. Cl. 100.
Originals by Claire, Inc., New York, N.Y. 766,548, canc. Cl. 3.
Otani, Edward M., d.b.a. Oriental Trading Co., Reedlay, Calif. 890,542, pub. 2–17–70. Cl. 40.
Owens-Illinois, Inc., Toledo, Ohio. 890,305, pub. 12–5–67. Cl. 1.
Pabst Brewing Co., to Pabst Brewing Co., Milwaukee, Wis. 34,379, ren. 5–5–70. Cl. 48.
Pacific American Fisheries, Chicago, Ill., to Pacific Alaska Fisheries, Inc., Seattle, Wash. 78,992, ren. 5–5–70. Cl. 46.
Pacific Fibre & Rope Co., Inc., Wilmington, Calif. 890,334, pub. 2–17–70. Cl. 7.
Pacific International Rice Mills, Inc., San Francisco, Calif. 766,839, canc. Cl. 46.
Paco Products, Inc., Chicago, Ill. 890,405, pub. 2–17–70. Cl. 22.
Pan American World Airways, Inc., New York, N.Y. 890,704. Cl. 38.
Pantke-Harpke Co., Milwaukee, Wis. 766,740, canc. Cl. 39.
Paramount Chemical Corp., Montebello, Calif. 890,322, pub. 10–15–68. Cl. 6.
Parfumerie Lubin, Paris, France. 890,599, pub. 2–17–70. Cl. 51.
Parsons Co., The, Newton, Iowa, to Koehring Co., Milwaukee, Wis. 523,700, ren. 5–5–70. Cl. 28.
Penney, J. C., Co., Inc., from J. C. Penney Co., New York, N.Y. 890,378, pub. 2–17–70. Cl. 21
Pennsylvania Steel Corp, Detroit, Mich. 766,597, canc. Cl. 14.
Pepsi Co., Inc., New York, N.Y. 890,569, pub. 2–17–70. Cl. 45.
Perfect Film & Chemical Corp.: *See*—
Magazine Management Co., Inc.
Perfumeria Gal, S.A., Madrid, Spain. 521,525, canc. Cl. 51.
Perma-Sharp Mfg. Corp. New York, N.Y. 890,481, pub. 2–17–70. Cl. 23.
Petty Geophysical Engineering Co., San Antonio, Tex. 890,651, pub. 2–17–70. Cl. 101.
Pfizer, Chas., & Co., Inc., New York, N.Y. 890,364, pub. 2–17–70. Cl. 18.
Pharmacia AB, Uppsala, Sweden. 890,315, pub. 2–17–70. Cl. 1.
Pharmacia AB, Uppsala, France. 890,328, pub. 2–17–70. Cl. 6.
Pharmacia AB, Uppsala, Sweden. 890,473, pub. 2–17–70. Cl. 31.
Photo-Matic Corp., The, Chicago, Ill. 890,512, pub. 11–5–68. Cl. 38.
Piper Toys, Inc., Mount Vernon, N.Y. 766,651, canc. Cl. 22.
Plastering Industries Inc., Seattle, Wash. 890,706. Cl. 38.
Plastic Contact Lens Co., The, Chicago, Ill. 890,458, pub. 2–17–70. Cl. 26.
Plastics for Maintenance Corp., Long Island City, N.Y. 890,309, pub. 2–17–70. Cl. 1.
Plastiglide Mfg. Co., Santa Monica, Calif. 890,346, pub. 2–17–70. Cl. 12.
Popper, Leo, New York, N.Y. 766,759, canc. Cl. 39.
Porta Aluminum, Inc., Old Bethpage, N.Y. 890,344, pub. 2–17–70. Cl. 12.
Porter, H. K., Inc., Middlesex, Mass. 527,074, ren. 5–5–70. Cl. 23.
Pratt & Lambert-Inc., Buffalo, N.Y. 272,870, ren. 5–5–70. Multiple Class (Classes 12, 16, and 52).
Precision Laboratories, Inc., Northbrook, Ill. 890,626, pub. 2–17–70. Cl. 52.
Preformed Metal Products Co., Inc., Shreveport, La. 890,337, pub. 2–17–70. Cl. 12.
Prescott, J. L., Co., Passaic, N.J. 526,640, ren. 5–5–70. Cl. 52.
Prichard & Constance (AMAMI) Inc., Bloomfield, to Beecham Inc., Clifton, N.J. 525,317, ren. 5–5–70. Cl. 51.
Procter & Gamble Co., The, Cincinnati, Ohio. 890,606, pub. 2–17–70. Cl. 51.
Procter & Gamble Co., The, Cincinnati, Ohio. 890,609, pub. 2–17–70. Cl. 51.
Procter & Gamble, Co., The, Cincinnati, Ohio. 890,625, pub. 2–17–70. Cl. 52.
Producentforeningen Af Danish Blue Cheese Og Mycella, Odense, Denmark. 890,697, pub. 2–17–70. Cl. A.
Productos Marpe, S.A., San Luis Potosi, Mexico. 890,573, pub. 2–17–70. Cl. 46.
Publishers' Promotion Agency, Inc., Chicago, Ill. 890,521, pub. 2–17–70. Cl. 38.
Pulverizadora de Jugos, S.A., Mexico City, Mexico. 766,836, canc. Cl. 46.
Puritan Fashions Corp., New York, N.Y. 890,531 pub. 12–30–69. Cl. 39.
Purity Supreme, Inc., from Save-Mor Supermarkets, Inc., Billerica, Mass. 890,657, pub. 2–17–70. Cl. 101.
Puro Co., Inc., The, St. Louis, Mo. 525,232, ren. 5–5–70. Cl. 6.
Puro Co., Inc., The, St. Louis, Miss. ren. 5–5–70. Cl. 6.
Quaker Oats Co., The, Chicago, Ill. 890,587, pub. 2–17–70. Cl. 46.
Raynor Mfg. Co., Dixon, Ill. 523,830, ren. 5–5–70. Cl. 18.
Record Automaten Aktiengesellschaft, Vaduz, Liechtenstein. 766,644. Cl. 21.
Register & Tribune Co., The, to Des Moines Register & Tribune Co., Des Moines, Iowa. 522,149, ren. 5–5–70. Cl. 38.
Reid, Alexander F., to The Grady-Travers Co., Inc., New York, N.Y. 34,328–9, ren. 5–5–70. Cl. 7.
Research Dental Mfg. Corp., Chappaqua, N.Y. 890,555–6, pub. 2–17–70. Cl. 44.
Rexall Drug & Chemical Co.: *See*—
Dart Industries Inc.
Richard-Allan Co., Inc., Evanston, Ill. 890,563–4, pub. 2–17–70. Cl. 44.
Rigby Printing Co., Kansas City, Mo. 890,647–8, pub. 2–17–70. Cl. 101.
Robinson-Wagner Co., Inc., Mamaronick, N.Y. 519,278. Cl. 6.
Rocky Mount Dry Goods Co., Inc., Rocky Mount, N.C. 766,758, canc. Cl. 39.
Roger & Gallet S.A., Paris, France. 766,866, canc. Cl. 51.
Rogers, Wm. A., Ltd., New York, to Oneida Ltd., Oneida, N.Y. 77,597–8, ren. 5–5–70. Cl. 28.
Rooster Enterprises, Inc., from Aamco Automatic Transmissions, Inc., d.b.a. Rooster Enterprises, Inc., King of Prussia, Pa. 890,666, pub. 2–17–70. Cl. 101.
Rubber Products Co., Solon, Ohio. 890,416, pub. 2–17–70. Multiple Class (Classes 23 and 35).
Rugg, E. T., Co., The, Newark, to A-T-O Inc., Cleveland, Ohio. 521,219, ren. 5–5–70. Cl. 28.
Ryerson, Joseph T., & Son, Inc., Chicago, Ill. 527,195, ren. 5–5–70. Cl. 14.
S.A.R.L. Societe Nouvelle Jean Desses, Paris, France. 766,741, canc. Cl. 39.
SMC Industries, Inc., Chattanooga, Tenn. 766,886, canc. Cl. 101.
Sacre, Jose A., d.b.a. Tony's Musical Instrument Co., Chicago, Ill. 890,497, pub. 2–17–70. Cl. 36.
Sales Affiliates, Inc., New York, N.Y., to Zotos International, Inc., Darien, Conn. 520,881, ren. 5–5–70. Cl. 51.
Salinas Marketing Cooperative, Salinas, Calif. 525,397, ren. 5–5–70. Cl. 46.
Sanitary Paper Mills, Inc., East Hartford, Conn., to Swanee Paper Co., Inc., New York, N.Y. 526,958, ren. 5–5–70. Cl. 37.
Sav-Mor Supermarkets, Inc.: *See*—
Purity Supreme, Inc.
Saxon Industries, Inc.: *See*—
Blake, Moffitt & Towne.
Scott, Foresman & Co., from Scott, Foresman & Co., Glenview, Ill. 890,411, pub. 2–17–70. Cl. 22.
Seaboard Allied Milling Corp.: *See*—
Consolidated Flour Mills Co., The.
Sealy, Inc., Chicago, Ill. 890,474, pub. 2–17–70. Cl. 32.
Selchow & Righter Co., Bay Shore, N.Y. 525,560, ren. 5–5–70. Cl. 22.
Selectron Alarm Systems, Inc., Philadelphia, Pa. 890,883, pub. 2–17–70. Cl. 21.
Shaffer Tool Works, to Shaffer Tool Works, Beaumont, Tex. 522,920, ren. 5–5–70. Cl. 23.
Shell Oil Co., New York, N.Y. 890,494–5, pub. 2–17–70. Cl. 35.

Shirley Fabrics Corp., New York, N.Y. 766,784, canc. Cl. 42.
Shulton, Inc., Clifton, N.J. 890,629, pub. 2–17–70. Cl. 52.
Silber, Samuel, d.b.a. Samfred Drug Co., Newark, N.J., to Haiser Drug Co., Inc., Brooklyn, N.Y. 527,837, ren. 5–5–70. Cl. 18.
Silk-O-Lite Mfg. Corp., Garfield, N.J. 525,998, ren. 5–5–70. Cl. 21.
Singleton, Shelby Corp., The, Nashville, Tenn. 890,501, pub. 2–17–70. Cl. 36.
Sizzlebord Restaurants, Inc., Needham Heights, Mass. 890,-655, pub. 2–17–70. Cl. 101.
Ski Industries America, New York, N.Y. 890,516, pub. 2–17–70. Cl. 38.
Slip 'N Sleep, Inc., New York, N.Y. 766,771, canc. Cl. 39.
Smith, David H., Inc., Lynn, Mass. 766,749, canc. Cl. 39.
Smith, David H., Inc., Lynn, Mass. 766,762, canc. Cl. 39.
Smith Kline & French Laboratories, Philadelphia, Pa. 890,-363, pub. 2–17–70. Cl. 18.
Smithwick, Jack K., Shreveport, La. 890,402, pub. 2–17–70. Cl. 22.
Societa Commercio Tessuti Lanerie Drapperie "Scotland" S.p.A., Milan, Italy. 890,535, pub. 12–16–69. Cl. 39.
Solheim, Karsten, Phoenix, Ariz. 890,396–400, pub. 2–17–70. Cl. 22.
Southern Soda Works Co., New York, N.Y. 521,650, ren. 5–5–70. Cl. 6.
Southern Stores, Inc., Jacksonville, Fla. 890,380, pub. 7–29–69. Multiple Class (Classes 21, 35, and 103).
Speer Personnel Consultants, Atlanta, Ga. 890,652, pub. 2–17–70. Cl. 101.
Spenco, Inc., Salt Lake City, Utah. 890,708–9. Cl. 44.
Spocks, Inc., Wichita Falls, Tex. 766,652, canc. Cl. 22.
Sport Imports Inc., New York, N.Y. 766,752, canc. Cl. 39.
Standard Alliance Industries, Inc., Chicago, Ill. 890,415, pub. 10–28–68. Cl. 23.
Standard Dayton Corp., Dayton, Ohio. 766,910, canc. Cl. 32.
Stanley Home Products, Inc., Westfield, Mass. 890,605, pub. 2–17–70. Multiple Class (Classes 51 and 52).
Stauffer Chemical Co., New York, N.Y., from Cowles Chemical Co., Cleveland, Ohio. 890,323, pub. 2–17–70. Cl. 6.
Stepan Chemical Co., Maywood, N.J. 766,561, canc. Cl. 6.
Sterling Brewers, Inc., to Sterling Brewers, Inc., Evansville, Ind. 526,392, ren. 5–5–70. Cl. 48.
Sterling Drug Inc., New York, N.Y. 766,615, canc. Cl. 18.
Stern Bros., New York, N.Y., to Chadbourn Inc., Charlotte, N.C. 237,130, ren. 5–5–70. Cl. 39.
Stevcoknit Textile Co., New York, N.Y. 890,549, pub. 2–17–70. Cl. 42.
Strachman Associates, Inc., New York, N.Y. 766,780, canc. Cl. 42.
Strathmore Paper Co., West Springfield, Mass., to Hammermill Paper Co., Erie, Pa. 521,842, ren. 5–5–70. Cl. 37.
Straus, Henry, Co., The, Cincinnati, Ohio. 522,005, ren. 5–5–70. Cl. 17.
Strouse, Adler Co., The, New Haven, Conn. 766,773, canc. Cl. 39.
Summit Computer Corp., Summit, N.J. 890,640, pub. 2–17–70. Cl. 100.
Sunco Mfg. Co., Inc., Muskogee, Okla. 890,345, pub. 2–17–70. Cl. 12.
Swanee Paper Co., Inc.: *See*—
Sanitary Paper Mills, Inc.
Swartzbaugh Mfg. Co., The, Toledo, Ohio, to McGraw-Edison Co., Elgin, Ill. 512,056, ren. 5–5–70. Cl. 21.
Symington-Gould Corp., The, Rochester, N.Y., to Dresser Industries, Inc., Dallas, Tex. 521,098, ren. 5–5–70. Cl. 19.
Tasty Baking Co., Philadelphia, Pa. 766,810, canc. Cl. 46.
Telesystem Services Corp., Glenside, Pa. 766,631, canc. Cl. 21.
Temco Service Industries, Inc., New York, N.Y. 890,688, pub. 2–17–70. Cl. 103.
Terlin Sales Co., Inc., d.b.a. Terlin Sales Co., Stockton, Calif. 766,805, canc. Cl. 45.
Texas Instruments Inc., Dallas, Tex., from Tensitron, Inc., Harvard, Mass. 890,438, pub. 8–8–67. Cl. 26.
Thiokol Chemical Corp., Bristol, Pa. 766,522, canc. Cl. 1.
Third Federal Savings & Loan Association of Philadelphia, Philadelphia, Pa. 890,676, pub. 2–17–70. Cl. 102.
Thompson, Fuller Seth, d.b.a. Alasko Bait, Hope, Alaska. 766,-649, canc. Cl. 22.
Thompson, Henry G., Co., The, New Haven, Conn. 890,349, pub. 2–17–70. Multiple Class (Classes 14 and 23).
Thompson Horticultural Chemicals Corp., Los Angeles, to Wm. T. Thompson Co., Wilmington, Calif. 514,966, ren. 5–5–70. Cl. 6.
Thompson, Wm. T., Co.: *See*—
Thompson Horticultural Chemicals Corp.
Tisch Hotels, Inc., Atlantic City, N.J. 766,820, canc. Cl. 46.
Topco Associates, Inc., Skokie, Ill. canc. Cl. 2.
Topco Associates, Inc., Skokie, Ill. 766,916, canc. Cl. 37.
Topps Chewing Gum, Inc., Brooklyn, N.Y. 890,571, pub. 2–17–70. Cl. 46.
Tourstars Inc., New York, N.Y. 890,694, pub. 2–17–70. Cl. 105.
Towle Mfg. Co.: *See*—
Briddell, Chas. D., Inc.
Towle Mfg. Co., Newburyport, Mass. 890,468, pub. 2–17–70. Cl. 28.
Transco Inc., Chicago, Ill. 890,335, pub. 2–17–70. Cl. 12.
Transogram Co., Inc., New York, N.Y. 890,408, pub. 2–17–70. Cl. 22.
Trefileries Leon Bekaert, Brussels, Belgium. 766,191, canc. Cl. 13.
Tremax Industries, Inc., Chicago, Ill. 766,703, canc. Cl. 32.
21 Flags, Inc., San Francisco, Calif. 890,669, pub. 2–17–70. Cl. 103.
Udell Garrett, Inc.: *See*—
Brown Oil Tools, Inc.
Ultra Carbon Corp., Bay City, Mich. 890,447, pub. 2–17–70. Cl. 26.
Uneeda Doll Co., Inc., Brooklyn, N.Y. 890,391, pub. 2–17–70. Cl. 22.
United Carbide Corp.: *See*—
Visking Corp., The.
United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 269,253, ren. 5–5–70. Cl. 12.
United States Shoe Corp., The: *See*—
Mutual Shoe Co.
United States Tobacco Co., New York, N.Y. 520,390, ren. 5–5–70. Cl. 17.
United Steel Fabricators, Inc., Wooster, Ohio, to Allen Electric & Equipment Co., Melville, L.I., N.Y. 520,734, ren. 5–5–70. Cl. 12.
United Whelan Corp., Brooklyn, N.Y. 766,574, canc. Cl. 6.
Utica Drop Forge & Tool Corp., Utica, N.Y. to Utica Tool Co., Inc., Orangeburg, S.C. 523,494–5, ren. 5–5–70. Cl. 23.
Utica Tool Co., Inc.: *See*—
Utica Drop Forge & Tool Corp.
Utica Tool Co., Inc.: *See*—
Bingham-Herbrand Corp., The.
Valley Products, Inc., Pine Mountain, Ga. 890,570, pub. 1–3–67. Cl. 46.
Van Der Heem NV, The Hague, The Netherlands. 766,711, canc. Cl. 34.
Varkala, Joseph C., Washington, D.C., to Mouli Mfg. Corp., Jersey City, N.J. 525,658, ren. 5–5–70. Cl. 23.
Vaughan Marc, Paris, France. 890,532, pub. 2–17–70. Cl. 39.
Velsicol Chemical Corp., Chicago, Ill. 890,307, pub. 2–17–70. Cl. 1.
Veluco Conservenfabrieken N.V., Geldermalsen, Netherlands. 890,582, pub. 2–17–70. Cl. 46.
Viaphone, Inc., St. Louis, Mo. 890,637, pub. 2–17–70. Cl. 100.
Viatron Computer Systems Corp., Burlington, Mass. 890,496, pub. 2–17–70. Cl. 36.
Vienna Sausage Mfg. Co., Chicago, Ill. 766,835, canc. Cl. 46.
Visking Corp., The, Chicago, Ill., to United Carbide Corp., New York, N.Y. 525,848, ren. 5–5–70. Cl. 37.
Volcanic Materials, Inc., Denver, Colo. 890,310, pub. 2–17–70. Cl. 1.
Wadsworth Electric Mfg. Co., The, Covington, Ky. 890,390, pub. 2–17–70. Cl. 21.
Wander Co., The, Chicago, Ill. 766,613, canc. Cl. 18.
Wards Cove Packing Co., Inc., Seattle, Wash. 890,586, pub. 2–17–70. Cl. 46.
Washington Forge, Inc., Englishtown, N.J. 890,428, pub. 2–17–70. Cl. 23.
Waterco Industries, Inc., Franklin Park, Ill. 890,472, pub. 2–17–70. Cl. 31.
Waterford Glass Ltd., Johnstown, Waterford, Ireland. 890,-475–84, pub. 2–17–70. Cl. 33.
Watkins, H. G., d.b.a W-W Trailer Manufacturers, Madill, Okla. 890,374, pub. 2–17–70. Cl. 19.
Waukesha Motor Co., Waukesha, Wis. to Bangor Punta Operations, Inc., Greenwich, Conn. 524,486, ren. 5–5–70. Cl. 21.
Weight Watchers International, Inc., Great Neck, N.Y. 890,-594, pub. 2–17–70. Cl. 50.
Welty-Way Products Inc., Cedar Rapids, Iowa. 890,419–21, pub. 2–17–70. Cl. 23.
Wendell Fabrics Corp., New York, N.Y. 890,546, pub. 2–17–70. Cl. 42.
Western Litho Plate & Supply Co., St. Louis, Mo. 890,327, pub. 2–17–70. Cl. 6.
Western States Char-Steak House, Inc., Chicago, Ill. 890,654, pub. 2–17–70. Cl. 101.
Westinghouse Air Brake Co., Pittsburgh, Pa. 890,430, pub. 2–10–70. Cl. 23.
Westinghouse Electric Corp.: *See*—
Westinghouse Electric & Mfg. Co.
Westinghouse Electric & Mfg. Co., East Pittsburgh, to Westinghouse Electric Corp., Pittsburgh, Pa. 267,598, ren. 5–5–70. Cl. 21.
Whirlpool Corp.: *See*—
Nineteen-Hundred Corp.
Whirlpool Corp., Benton Harbor, Mich. 890,384, pub. 2–17–70. Multiple Class (Classes 21 and 36).
White, D.A., Inc., New York, N.Y. 890,340, pub. 2–17–70. Cl. 12.
White Swan Hosiery Corp., New York N.Y. 766,919, canc. Cl. 39.
Whiting, E. B. & A. C., Co., Burlington, Vt. 766,672, canc. Cl. 23.
Whittenberger, John L. d.b.a. Prism Falmouth, Mass. 890,-539, pub. 2–17–70. Cl. 39.
Wig Magic, Inc., Memphis, Tenn. 890,627, pub. 2–17–70. Cl. 52.
Wilbur Chocolate Co., Inc.: *See*—
Wilbur-Suchard Chocolate Co., Inc.
Wilbur-Suchard Chocolate Co., Inc., to Wilbur Chocolate Co., Inc., Lititz, Pa. 523,315, ren. 5–5–70. Cl. 46.
Williams, J. B., Co., Inc. The, New York, N.Y. 890,610, pub. 2–17–70. Cl. 51.
Wil-Sher Associates, Inc., Inglewood, Calif. 890,457, pub. 2–17–70. Cl. 26.
Wilson, Thomas & Co. Inc., New York, N.Y. 766,785, canc. Cl. 42.
Wilton Products, Inc., Wilton, Conn., 766,856, canc. Cl. 50.
Wolfe, Howard D., Richmond, Va. 766,925, canc. Cl. 44.
Wolfson, Leonard G., d.b.a. Living Lens Research, Boston, Mass. 890,452, pub. 2–17–70. Cl. 26.

Woodmen of the World Life Insurance Society and/or Omaha Woodmen Life Insurance Society, Omaha, Nebr. 890,680, pub. 2–17–70. Cl. 102.
Wooster Products Inc., Wooster, Ohio. 890,341–3, pub. 2–17–70. Cl. 12.
Worcester Telegram & Gazette, Inc., Worcester, Mass. 890,-518, pub. 2–17–70. Cl. 38.
Wright, Wm. E., & Sons Co., West Warren, Mass. 766,578, canc. Cl. 7.
Wyeth Inc., Philadelphia, Pa. to American Home Products Corp., New York, N.Y. 525,120, ren. 5–5–70. Cl. 18.
Yakima Bait Co., Inc., Granger, Wash. 766,662, canc. Cl. 22.
Yardley of London, Inc., New York, N.Y. 890,611–12, pub. 2–17–70. Multiple Class (Classes 51 and 52).
Zayre Corp., Natick, Mass. 890,406, pub. 2–17–70. Cl. 22.
Zenith Integrated-Data Processing, Inc., Sacramento, Calif. 890,658, pub. 2–17–70. Cl. 101.
Zotos International, Inc.: *See*—
Sales Affiliates, Inc.

U.S. GOVERNMENT PRINTING OFFICE: 0—1970

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U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

May 12, 1970 Volume 874 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1970

Examiner affirmed	142
Examiner affirmed in part	17
Examiner reversed	36
Total	195

Service by Publication

Arno C. Schwarz

In accordance with Rule 47 of the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on June 10, 1968, of an application for patent entitled "Final Drive for Terrain Vehicle," on behalf of Arno C. Schwarz, whose last known address is 55 Oakmount Road, Apt. 1503, Toronto 5, Ontario, Canada. The application was made in compliance with Rule 47(a) and 35 U.S.C. 116 by Joachim Wappler without execution by the said Arno C. Schwarz. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said Arno C. Schwarz in connection with the said application must be taken within forty-five days of the publication of this notice.

RICHARD A. WAHL,
Assistant Commissioner of Patents.

Arno C. Schwarz

In accordance with Rule 47 of the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on June 10, 1968, of an application for patent entitled "Variable Speed Drive and Combined Braking and Steering Mechanism," on behalf of Arno C. Schwarz, whose last known address is 55 Oakmount Road, Apt. 1503, Toronto 5, Ontario, Canada. The application was made in compliance with Rule 47(a) and 35 U.S.C. 116 by Joachim Wappler without execution by the said Arno C. Schwarz. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said Arno C. Schwarz in connection with the said application must be taken within forty-five days of the publication of this notice.

RICHARD A. WAHL,
Assistant Commissioner of Patents.

George Ewing Patterson

In accordance with Rule 47 of the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on July 17, 1967, of an application for patent entitled "Double Glazed Windows," on behalf of George Ewing Patterson, whose last known address is 1 Bysouth Close, Clay Hill, Ilford, Essex, England. The application was made in compliance with Rule 47(a) and 35 U.S.C. 116 by William John Tribble, James Peter Bock and Roy F. Lankester without execution by the said George Ewing Patterson. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said George Ewing Patterson in connection with the said application must be taken within sixty days of the publication of this notice.

RICHARD A. WAHL,
Assistant Commissioner of Patents.

Thomas Anthony Henshaw

In accordance with Rule 47(b) of the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on June 12, 1968, of an application for patent entitled "Jet Head for Foam Generators," on behalf of Thomas Anthony Henshaw, whose last known address is 9 Arundel Crescent, Brighton, Sussex, England. The application was made in compliance with Rule 47(b) and 35 U.S.C. 118 by Pyrene Company without execution by the said Thomas Anthony Henshaw. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said Thomas Anthony Henshaw in connection with the said application must be taken within sixty days of the publication of this notice.

RICHARD A. WAHL,
Assistant Commissioner of Patents.

New Applications Received During January 1970

Patents	7396
Designs	438
Plant Patents	11
Reissues	11
Total	7856

Issue—May 12, 1970

Patents	1300	No. 3,510,879 to No. 3,512,178, incl.
Designs	51	No. 217,531 to No. 217,581, incl.
Reissues	5	No. 26,874 to No. 26,878, incl.
Def. Pub.	4	No. T874,001 to No. T874,004, incl.
Total	1360	

Certificates of Correction for the Week of May 12, 1970

Re. 26,710	3,451,980	3,460,934	3,467,658	3,472,303	3,477,688	3,483,711	3,487,088
3,317,991	3,453,191	3,460,952	3,467,696	3,472,500	3,478,050	3,483,732	3,487,112
3,391,099	3,453,800	3,460,969	3,467,698	3,472,541	3,478,087	3,483,763	3,487,519
3,397,060	3,453,957	3,461,013	3,467,704	3,472,664	3,478,247	3,483,797	3,487,537
3,402,393	3,454,550	3,461,075	3,467,717	3,472,906	3,478,839	3,483,802	3,487,602
3,406,135	3,454,650	3,461,291	3,467,738	3,473,273	3,479,215	3,483,825	3,487,778
3,411,576	3,454,959	3,462,174	3,467,864	3,473,579	3,479,231	3,483,871	3,488,002
3,420,847	3,455,148	3,462,427	3,468,072	3,473,794	3,479,235	3,483,891	3,488,027
3,421,845	3,455,149	3,462,644	3,468,751	3,474,945	3,479,415	3,483,949	3,488,055
3,429,889	3,455,744	3,462,744	3,468,987	3,475,168	3,479,418	3,484,199	3,488,134
3,432,619	3,455,915	3,462,921	3,469,082	3,475,170	3,479,700	3,484,791	3,488,246
3,439,379	3,457,479	3,463,834	3,469,630	3,475,175	3,481,179	3,484,880	3,488,283
3,440,224	3,458,256	3,463,919	3,470,013	3,475,301	3,481,201	3,484,956	3,488,325
3,443,513	3,458,318	3,464,107	3,470,102	3,475,469	3,481,637	3,485,161	3,489,024
3,444,073	3,458,658	3,464,318	3,470,126	3,476,079	3,481,962	3,485,582	3,489,126
3,444,148	3,458,829	3,464,443	3,470,176	3,476,120	3,482,864	3,485,603	3,489,602
3,444,212	3,459,195	3,464,741	3,470,338	3,476,210	3,482,962	3,485,625	3,489,685
3,445,477	3,459,532	3,465,068	3,470,364	3,476,639	3,483,023	3,485,699	3,489,707
3,445,616	3,459,799	3,465,751	3,470,868	3,476,667	3,483,024	3,485,803	3,489,823
3,447,885	3,459,885	3,466,005	3,471,142	3,476,754	3,483,031	3,485,934	3,490,074
3,448,020	3,460,183	3,466,213	3,471,444	3,476,921	3,483,059	3,486,100	3,490,502
3,449,319	3,460,308	3,466,647	3,471,501	3,477,085	3,483,082	3,486,110	3,490,862
3,450,595	3,460,330	3,466,829	3,471,507	3,477,213	3,483,144	3,486,414	3,490,936
3,450,704	3,460,362	3,467,017	3,471,619	3,477,280	3,483,268	3,486,493	
3,450,760	3,460,906	3,467,182	3,471,961	3,477,413	3,483,373	3,486,903	
3,451,570	3,460,933	3,467,442	3,472,014	3,477,617	3,483,428	3,487,065	

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF APRIL 21, 1970

PATENT EXAMINING GROUPS *Denotes oldest new application.	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	4-15-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*1-12-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-08-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	3-05-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	2-19-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	1-03-69
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-15-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*4-01-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	8-09-68
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-07-68
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	7-10-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-26-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bending, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*7-12-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	9-27-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	3-03-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	12-11-68

Total number of pending applications (excluding Designs)	182,472
Total number of Design applications pending	3,413

Expiration of patents: The patents within the range of numbers indicated below expire during April 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,633,571 to 2,637,028, inclusive
Plant Patents	Numbers 1,178 to 1,181, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE WALTER BERNHART AND WILLIAM A. FETTER

No. 8187. Decided November 20, 1969

[57 CCPA —; 417 F.2d 1395; 163 USPQ 611]

1. CLAIM—CONSTRUCTION OF CLAIMS—MENTAL STEPS—MEAN PLUS FUNCTION—DIGITAL COMPUTER—35 U.S.C. 112.

"Looking first at the apparatus claims, we see no recitation therein of mental steps, nor of any element requiring or even permitting the incorporation of human faculties in the apparatus. These claims recite, and can be infringed only by a digital computer in a certain physical condition, i.e. electromechanically set or programmed to carry out the recited routine. The claims also define the invention as having plotting means for drawing lines or for illustrating an object. When such functional language is used in a claim, 35 U.S.C. 112 states that 'such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.' The specification here mentions only mechanical drafting machines. The claims therefore cover, under section 112, only such mechanical drafting machines and their equivalents. We know of no authority for holding that a human being, such as a draftsman, could ever be the equivalent of a machine disclosed in a patent application, and we are not prepared to so hold in this case. Accordingly, we think it clear that applicants have not defined as their invention anything in which the human mind could be used as a component."

2. PATENTABILITY—APPARATUS—DIGITAL COMPUTER—"PRINTED MATTER" CASES DISTINGUISHED.

"Nor are the 'printed matter' cases, cited by the Board * * * controlling as to these apparatus claims either on the facts or in principle. On their facts, those cases dealt with claims defining as the invention certain novel arrangements of printed lines or characters, useful and intelligible only to the human mind. Here the invention as defined by the claims *requires* that the information be processed not by the mind but by a machine, the computer, and that the drawing be done not by a draftsman but by a plotting machine. Those 'printed matter' cases therefore have no factual relevance here."

3. SAME—STATUTORY CLASSES OF INVENTION—NOVELTY IN NON-STATUTORY CLASS.

"A much closer question arises, however, when we consider the *principle* extracted by the Examiner from the mental step cases and by the Board from the printed matter cases. The principle may, we think, be fairly stated as follows: If, in an invention defined by a claim, the novelty is indicated by an expression which does not itself fit in a statutory class (in this case not a machine or a part thereof), then the whole invention is non-statutory since all else in the claim is old. We do not believe this view is correct under the Patent Act and the case law thus far developed."

4. SAME—SAME—PRINCIPLES OF NATURE AND MATHEMATICS—35 U.S.C. 101.

"We think it is clear that in enacting section 101 Congress meant to exclude principles or laws of nature and mathematics, of which equations are an example, from even temporary monopolization by patent. Accordingly, no rule of law should be announced which would impress a monopoly upon all uses of the equations disclosed by appellants here in their patent application."

5. SAME—SAME—MATHEMATICAL EQUATIONS UTILIZED IN APPARATUS—35 U.S.C. 103.

"To allow the claims in issue here would not prohibit all uses of those [mathematical] equations. * * * a member of the public would have to do much more than use the equations to infringe any of these claims. He would have to use them in the physical equipment recited in the claim. Moreover, all machines function according to laws of physics which can be mathematically set forth if known. We cannot deny patents on machines merely because their novelty may be explained in terms of such laws if we are to obey the mandate of Congress that a machine is subject matter for a patent. We

should not penalize the inventor who makes his invention by discovering new and unobvious mathematical relationship which he then utilizes in a machine, as against the inventor who makes the *same machine* by trial and error and does not disclose the laws by which it operates. The mandate of Congress in 35 U.S.C. 103 is that 'patentability shall not be negatived by the manner in which the invention was made.' For the foregoing reasons, we conclude that under the statute the apparatus herein claimed constitutes statutory subject matter."

6. SAME—SAME—SAME—MEANS PLUS FUNCTION—*In re Prater et al.* CONSTRUED.

"*Prater* * * * dealt in part with an apparatus claim * * * which, while it did not set forth specific equations, defined the invention by reference to 'a set of linear simultaneous equations' and 'the determinant for a first set of said equations.' The Board of Appeals in that case held, as did the Examiner here, that the novelty resided in the mathematical computations which, being in themselves non-statutory, rendered the claimed invention non-statutory. We held the claim to be patentable, noting that no 'mental steps' issue was involved because the means-plus-function language did not encompass a human being. * * * The same type of language is used in the apparatus claims here. The same result must obtain, i.e. no question of mental steps is raised."

7. SAME—SAME—APPARATUS—PROGRAMMED DIGITAL COMPUTER—35 U.S.C. 101 AND 103.

"There is one further rationale used by both the Board and the Examiner, namely, that the provision of new signals to be stored by the computer does not make it a new machine, i.e. it is *structurally* the same, no matter how new, useful and unobvious the result. This rationale really goes more to novelty than to statutory subject matter but it appears to be at the heart of the present controversy. To this question we say that if a machine is programmed in a certain new and unobvious way, it is physically different from the machine without that program; its memory elements are differently arranged. The fact that these physical changes are invisible to the eye should not tempt us to conclude that the machine has not been changed. If a new machine has not been invented, certainly a 'new and useful improvement' of the unprogrammed machine has been, and Congress has said in 35 U.S.C. 101 that such improvements are statutory subject matter for a patent. It may well be that the vast majority of newly programmed machines are obvious to those skilled in the art and hence unpatentable under 35 U.S.C. 103. We are concluding here that such machines are statutory under 35 U.S.C. 101, and that claims defining them must be judged for patentability in light of the prior art."

8. CLAIM—BROADER THAN DISCLOSURE—PROCESS—MENTAL STEPS—*In re Prater et al.* CONSTRUED—35 U.S.C. 101 AND 112.

"There [*in Prater et al.*] we looked first to the disclosure and said: 'It would appear that the *disclosure* of apparatus for performing the process wholly without human intervention merely shows that the *disclosed* process does not fall within the so-called "mental steps" exclusion.' * * * We then looked to the claims and found that they were broad enough to cover performance of the process in the mind without the use of machinery. We did not rule then on the question of whether claims covering truly mental steps could be statutory under 35 U.S.C. 101. We held that the applicants were claiming more than they regarded as their invention, thus rendering the claims unpatentable under the second paragraph of 35 U.S.C. 112."

9. PATENTABILITY—STATUTORY CLASSES OF INVENTION—PROCESS—PROGRAMMING DIGITAL COMPUTER.

"In the case now before us, the disclosure shows only machinery for carrying out the portrayal process. In fact it is the chief object of the invention to eliminate the drudgery involved in a draftsman's making the desired portrayals. Accordingly, a statutory process is here disclosed. Looking then to method claim 13, we find that it in no way covers any mental steps but requires both a 'digital computer' and a 'planar plotting apparatus' to carry it out. To find that the claimed process could be done mentally would require us to hold that a human mind is a digital computer or its equivalent, and that a draftsman is a planar plotting apparatus or its equivalent. On the facts of this case we are unwilling so to hold. We conclude that the method defined by claim 13 is statutory, and its patentability must be judged in light of the prior art."

10. SAME—PROCESS AND APPARATUS—OBVIOUSNESS—DIGITAL COMPUTER—ADDITION OF PLOTTING APPARATUS.

"Taylor shows the computation of the positions of points of a three-dimensional object on a plane of projection, as applicants define in claims 8, 13 and 18. These claims then add only one more limitation: in claim 13 the step of applying the computer output to a plotting apparatus, and in claims 8 and 18 the addition of the plotting machine as part of the claimed structure. This limitation is insufficient to define an invention which is unobvious over Taylor because, as applicants argued in the Patent Office on the question of sufficiency of their disclosure, any person skilled in the art would know *how* to take the computer output and use it to control a drafting machine. The desirability of eliminating the draftsman in the Taylor teaching would have been apparent when applicants made their invention, and since any person skilled in the art would, by applicants' own argument, know how to do so, we must conclude that the invention defined by claims 8, 13 and 18 was obvious."

11. SAME—APPARATUS—OBVIOUSNESS—PROGRAMMED DIGITAL COMPUTER—NEW PROGRAMMING.

"Taylor's object is to partially automate the tedious process of making various kinds of drawings of three-dimensional objects. Applicants' object is to further automate the production of these drawings. Their invention as defined by claim 19 does this in two ways: It adds the plotting machine at the output end of the computer, and it conditions the computer in a new way to perform the data transformations. The first addition alone would not have saved the invention from obviousness, as we discussed above. We believe the second addition, the new programming claimed, does make the invention as a whole unobvious."

12. SAME—COMBINATION—OLD COMBINATION—MPEP 706.03(j).

"The rationale of an old combination rejection is stated in MPEP 706.03(j) as follows: 'The fact that an applicant has improved one element of a combination which may be *per se* patentable does not entitle him to a claim to the improved element in combination with old elements where the elements perform no new function in the combination.' This statement has the support of many cases. * * * Why an applicant should not be so entitled is not clear. Many cases have said that the combination claim reciting only one new element with no new result is overclaiming or claiming more than the applicant invented. Such statements are indeed puzzling in view of the fact that the addition of elements to a claim *narrows* its scope and thereby creates a lesser monopoly. Others have said the combination is not new, or is obvious if no new coaction or result is obtained. This too is unsound, since it is not the result which is to be patented but the recited machine, composition, etc. If the prior art does not show or suggest the improved element itself, it defies logical reasoning to say that the same prior art suggests the use of that improved element in a combination."

13. SAME—SAME—SAME—35 U.S.C. 112.

"Our primary concern, however, is not with the soundness of the underlying policy, if any, for old combination rejections; it is with whether such rejections are proper under the present statute. The Patent Office Board of Appeals has recognized this problem in *Ex parte Des Granges*, 864 O.G. 712, 162 USPQ 379 (1968). There the Board found that there was a statutory basis for the rejection in that portion of section 112 which requires that the claims specifically point out and distinctly claim the invention. We agree. We think that that statutory langauge is the only proper basis for an old combination rejection, and in applying the rejection that language determines what an applicant has a right and an obligation to do."

14. SAME—SAME—SAME—PROGRAMMED COMPUTER AND PLOTTING DEVICE—35 U.S.C. 112.

"Applying the section 112 language to claims 19–21 [drawn to the combination of a programmed computer and a plotting device], we do not see, and the Examiner has not stated, how any of the claims would be made more particular or distinct by eliminating the plotting machine limitation from the body of the claim. Indeed the opposite appears to be true, since moving the recitation of the plotting machine to the preamble (in the continental manner or in the manner permitted by *Ex parte Jepson*, 1917 C.D. 62) would greatly increase the number of words in the preamble and impair, rather than enhance, the intelligibility of the claim. Neither would complete elimination of the plotting machine recitation make the claims more particular or distinct, since the monopoly defined by the claims would then be substantially broadened beyond the automatic drafting art. We therefore conclude that the rejection of claims 19–21 on the ground of old combination under 35 U.S.C. 112 was erroneous."

APPEAL from Patent Office. Serial No. 151,909.

MODIFIED.

Christensen, Sanborn & Matthews (*Gordon R. Sanborn, Orland M. Christensen*, of counsel) for appellants.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, MCGUIRE, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

LANE, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals[1] affirming the Examiner's rejection of claims 8, 13 and 18–21 in patent application Serial No. 151,909, filed November 13, 1961, entitled "Planar Illustration Method and Apparatus" and disclosing a method of an apparatus for automatically making a two-dimensional portrayal of a three-dimensional object from any desired angle and distance and on any desired plane of projection.

THE DISCLOSURE

The starting point for the method and the input for the apparatus is a set of data defining the three-dimensional positions of various points on or in the object relative to some convenient fixed point, plus information as to which of the various points should be connected by lines. The disclosure provides equations definitive of the geometric relationships between the three-dimensional coordinates of each point of interest and the corresponding two-dimensional coordinates which determine the location of that point on a planar portrayal or drawing to be made. The equations are sufficiently general to allow the resulting drawing to represent a view of the object as projected on any selected plane and as viewed from any point in space. The disclosure then teaches that the original data on point positions and connecting lines can be written in a form acceptable as input to a general purpose digital computer; that the equations disclosed in the application can be used to control the operation of the computer on the input data, i.e. the equations can be programmed into the computer; that an operator can select particular values for certain terms in the programmed equations, thereby determining the kind of portrayal to be produced; that the computer output will be a sequence of signals representative of the locations of points on the desired portrayal; and that those signals can be used to control the operation of a plotting machine which will produce the desired view of the object on paper.

Applicants concede that they did not invent the computer or the plotting machine. Nor do they claim any special method of feeding input data on point positions into the computer. Most importantly, they do not claim as their invention *merely* a set of equations even though, as we shall later see, those equations were not known in the prior art.

[1] This was an augmented Board composed of Friedman, Kreek, Bailey and Keely, Examiners-in-Chief, and Andrews, Acting Examiner-in-Chief.

In order to know what the invention is we must, of course, look to the claims which point it out. We find that claims 8 and 18–21 define apparatus and claim 13 defines a method. Apparatus claims 8 and 18 are substantially the same in scope and subject matter; apparatus claims 19–21 are substantially similar. To simplify and clarify the issues here, we consider claim 18 as representative of the first group and claim 19 as representative of the second group. Method claim 13 has a lengthy and somewhat confusing preamble providing antecedents for various terms in the body of the claim. We omit most of the preamble for clarity. The representative claims are therefore as follows:

13. A plotting method * * * comprising:
(*a*) a first step of programming the computer to compute the position of planar Cartesian coordinate axes in the given plane relative to the given set of object points,
(*b*) a second step of programming the computer to compute and produce an output defining in sequence the coordinates of the projection of each given point on the plane with reference to the Cartesian coordinate axes, and
(*c*) the step of applying the computer output to the input of a planar plotting apparatus adapted to provide on a plane a succession of straight-line segments that connect between sequential points having positions corresponding to the coordinates computed by the second step.

18. A system for providing a planar illustration of a three dimensional object as seen by an observer from a selected observation point in space comprising: signal means providing a first group of signals representing the three dimensional co-ordinates of the location of the observation point and a series of second groups of signals representing the three dimensional co-ordinates of a series of point of the object, each of said group of signals being referenced to a first co-ordinate system; electronic digital signal processing means coupled with said signal means and programmed to provide a series of third groups of signals corresponding to the two dimensional co-ordinates of the intersection of each line of sight from the observation point to each point of the object with a selected plane in said first co-ordinate system; and planar illustration means coupled with said signal processing means and responsive to said series of third groups of signals to provide a planar illustration of the object.

19. A system for providing a drawing of an object comprising in combination: electronic digital computer means programmed to respond to applied signals (x_e, y_e, z_e) and a series of groups of signals (x_1, y_1, z_1) to provide a corresponding series of pairs of output signals (v_1, w_1) with the relationship between signals (x_1, y_1, z_1) and (x_e, y_e, z_e) to the signal (v_1, w_1) being defined as follows:

$$v_1=\frac{k(x_e^2+y_e^2+z_e^2)(-y_ex_1+x_ey_1)}{\sqrt{(x_e^2+y_e^2)}\,[(x_e^2+y_e^2+z_e^2)-(x_ex_1+y_ey_1+z_ez_1)]}$$

$$w_1=\frac{k\sqrt{(x_e^2+y_e^2+z_e^2)}\,[-x_ez_ex_1-y_ez_ey_1+z_1(x_e^2+y_e^2)]}{\sqrt{(x_e^2+y_e^2)}\,[(x_e^2+y_e^2+z_e^2)-(x_ex_1+y_ey_1+z_ez_1)]}$$

where k is a selectable variable; signal means coupled with said computer means and providing said signals (x_1, y_1, z_1) and (x_e, y_e, z_e) thereto with said signals (x_1, y_1, z_1) representing the three dimensional co-ordinates of selected points on the object and with said signals (x_e, y_e, z_e) representing the three dimensional co-ordinates of the location of the observation point from which the object is seen; and planar plotting means coupled with said computer means and responsive to said signals (v_1, w_1) to make a drawing of the object.

THE REJECTIONS

The Examiner's first ground of rejection, applied to all the claims here in issue, was insufficient disclosure under the first paragraph of 35 U.S.C. 112 and Patent Office Rule 71(b). The Examiner contended that since applicants had merely set forth equations and asserted that the equations could be readily programmed by programmers

of ordinary skill, they had not set forth *how* the automatic equipment of their invention was to be made, but merely invited programmers to solve applicants' problems. The Board reversed this rejection, noting that the statute required only enough information in the disclosure to enable persons of ordinary skill to practice the invention. The Board recognized that applicants' equations could be readily programmed into the computer by those skilled in programming, and held that the disclosure was therefore sufficient. See *in re Naguin*, 55 CCPA 1428, 398 F.2d 863, 158 USPQ 317 (1968). Since the Board reversed this ground of rejection, it is not in issue here, but we mentioned it because of its relationship to obviousness, which we shall later discuss.

The apparatus claims were further rejected by the Examiner as failing to define a machine within the statutory class (35 U.S.C. 101) "since for patentability they were predicated on mental steps," citing a patent to Tripp [2] which, said the Examiner, showed that it was old to combine a programmed digital computer with a plotting device. The Examiner indicated that the novelty in applicants' claims therefore lay in the equations with which the computer was programmed, and that this is not a *structural* difference over the prior art. The Examiner concluded that since the programming was not structural, the claims were "predicated for patentability on mental steps." As to the method claim, the Examiner similarly argued that since the novelty of applicants' claimed invention lay in the particular equations to be solved, the invention is non-statutory, citing *Ex parte Meinhardt*, 1907 C.D. 238; *In re Abrams*, 38 CCPA 945, 188 F.2d 165, 89 USPQ 266 (1951); *In re Yuan*, 38 CCPA 967, 188 F.2d 377, 89 USPQ 324 (1951); and *In re Middleton*, 35 CCPA 1166, 167 F.2d 1012, 77 USPQ 615 (1948). The Board affirmed these rejections, but it reasoned with respect to the apparatus claims that the issues were analogous to the "printed matter" cases such as *Ex parte Gwinn*, 112 USPQ 439 (PO Bd. App. 1955). Regarding these cases, the Board said:

> The rationale of these cases appears to be that the law does not favor the granting of a patent for non-statutory subject matter by indirection, and this should be applicable to a mathematical formula or an algorithm as well as to printed text, when the real substance of the contribution by its originator clearly is unpatentable in its own right.
>
> Turning to apparatus claims 8 and 18 to 21, we note that the only apparatus recited is the admittedly old computer and plotting machine and the sole distinction presented therein upon which patentability could be predicated is the identification in the claims of the meaning which certain signals represent to the human mind, or the algorithm which the computer is to solve. We find that these claims are founded on non-statutory subject matter.

As to method claim 13, the Board rejected applicants' contention that the claim defines a new use of an old machine within the meaning of 35 U.S.C. 100(b), and ruled that only a new result was defined by the claim, the use being the old use of solving equations and plotting the results.

The Board nowhere mentioned "mental steps" in its affirmance of the Examiner's rejections based on non-statutory subject matter, but it expressely adopted "the reasons set forth in the Examiner's answer * * * and not inconsistent herewith." While such a statement tends to cloud and complicate the issue before this court, we address ourselves to the several rationales involved in these rejections, all of

[2] U.S. Patent 3,066,868, filed Nov. 15, 1956, issued Dec. 4, 1962.

which were asserted before our recent decision in *In re Prater and Wei*, 56 CCPA —, — F.2d —, 162 USPQ 541 (1969).

[1] Looking first at the apparatus claims, we see no recitation therein of mental steps, nor of any element requiring or even permitting the incorporation of human faculties in the apparatus. These claims recite, and can be infringed only by, a digital computer in a certain physical condition, i.e. electromechanically set or programmed to carry out the recited routine. The claims also define the invention as having plotting means for drawing lines or for illustrating an object. When such functional language is used in a claim, 35 U.S.C. 112 states that "such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." The specification here mentions only mechanical drafting machines. The claims therefore cover, under section 112, only such mechanical drafting machines and their equivalents. We know of no authority for holding that a human being, such as a draftsman, could ever be the equivalent of a machine disclosed in a patent application, and we are not prepared to so hold in this case. Accordingly, we think it clear that applicants have not defined as their invention anything in which the human mind could be used as a component. [2] Nor are the "printed matter" cases, cited by the Board, supra, controlling as to these apparatus claims either on the facts or in principle. On their facts, those cases dealt with claim defining as the invention certain novel arrangements of printed lines or characters, useful and intelligible only to the human mind. Here the invention as defined by the claims *requires* that the information be processed not by the mind but by a machine, the computer, and that the drawing be done not by a draftsman but by a plotting machine. Those "printed matter" cases therefore have no factual relevance here.

[3] A much closer question arises, however, when we consider the *principle* extracted by the Examiner from the mental step cases and by the Board from the printed matter cases. The principle may, we think, be fairly stated as follows: If, in an invention defined by a claim, the novelty is indicated by an expression which does not itself fit in a statutory class (in this case not a machine or a part thereof), then the whole invention is non-statutory since all else in the claim is old. We do not believe this view is correct under the Patent Act and the case law thus far developed.

[4] We think it is clear that in enacting section 101 Congress meant to exclude principles or laws of nature and mathematics, of which equations are an example, from even temporary monopolization by patent. Accordingly, no rule of law should be announced which would impress a monopoly upon all uses of the equations disclosed by appellants here in their patent application. [5] To allow the claims in issue here would not prohibit all uses of those equations. As we have pointed out above, a member of the public would have to do much more than use the equations to infringe any of these claims. He would have to use them in the physical equipment recited in the claim. Moreover, all machines function according to laws of physics which can be mathematically set forth if known. We cannot deny patents on machines merely because their novelty may be explained in terms of such laws if we are to obey the mandate of Congress that a machine is subject matter for a patent. We should not penalize the inventor who makes his invention by discovering new and unobvious mathematical relationships which he then utilizes in a machine, as

against the inventor who makes the *same machine* by trial and error and does not disclose the laws by which it operates. The mandate of Congress in 35 U.S.C. 103 is that "patentability shall not be negatived by the manner in which the invention was made." For the foregoing reasons, we conclude that under the statute the apparatus herein claimed constitutes statutory subject matter.

The case law leads to the same conclusion [6] *Prater*, supra, dealt in part with an apparatus claim (see 162 USPQ at 545) which, while it did not set forth specific equations, defined the invention by reference to "a set of linear simultaneous equations" and "the determinant for a first set of said equations." The Board of Appeals in that case held, as did the Examiner here, that the novelty resided in the mathematical computations which, being in themselves non-statutory, rendered the claimed invention non-statutory. We held the claim to be patentable, noting that no "mental steps" issue was involved because the means-plus-function language did not encompass a human being. 162 USPQ at 551–552. The same type of language is used in the apparatus claims here. The same result must obtain, i.e. no question of mental steps is raised.

[7] There is one further rationale used by both the Board and the Examiner, namely, that the provision of new signals to be stored by the computer does not make it a new machine, i.e. it is *structurally* the same, no matter how new, useful and unobvious the result. This rationale really goes more to novelty than to statutory subject matter but it appears to be at the heart of the present controversy. To this question we say that if a machine is programmed in a certain new and unobvious way, it is physically different from the machine without that program; its memory elements are differently arranged. The fact that these physical changes are invisible to the eye should not tempt us to conclude that the machine has not been changed. If a new machine has not been invented, certainly a "new and useful improvement" of the unprogrammed machine has been, and Congress has said in 35 U.S.C. 101 that such improvements are statutory subject matter for a patent. It may well be that the vast majority of newly programmed machines are obvious to those skilled in the art and hence unpatentable under 35 U.S.C. 103. We are concluding here that such machines are statutory under 35 U.S.C. 101, and that claims defining them must be judged for patentability in light of the prior art. The Solicitor's brief, while stating agreement with all the grounds of rejection applied by the Board does not discuss the questions of statutory subject matter. The Solicitor cites no authorities to us on this point and instead relies upon section 103 in urging us to affirm the rejections for prior art reasons.

Turning now to method claim 13, it recites three steps: Programming the computer to compute positions of planar axes, programming the computer to render an output representative of the coordinates of planar point positions, and applying the output of the computer to a plotting apparatus.. The Solicitor's brief does not cite any authority to support the contention that this claim is drawn to non-statutory subject matter. We think, however, that this question is answered by what we said in *Prater*, supra. [8] There we looked first to the disclosure and said: "It would appear that the *disclosure* of apparatus for performing the process wholly without human intervention merely shows that the *disclosed* process does not fall within the so-called 'mental steps' exclusion." 162 USPQ at 549 (emphasis

in original). We then looked to the claims and found that they were broad enough to cover performance of the process in the mind without the use of machinery. We did not rule then on the question of whether claims covering truly mental steps could be statutory under 35 U.S.C. 101. We held that the applicants were claiming more than they regarded as their invention, thus rendering the claims unpatentable under the second paragraph of 35 U.S.C. 112.

[9] In the case now before us, the disclosure shows only machinery for carrying out the portrayal process. In fact it is the chief object of the invention to eliminate the drudgery involved in a draftsman's making the desired portrayals. Accordingly, a statutory process is here disclosed. Looking then to method claim 13, we find that it in no way covers any mental steps but requires both a "digital computer" and a "planar plotting apparatus" to carry it out. To find that the claimed process could be done mentally would require us to hold that a human mind is a digital computer or its equivalent, and that a draftsman is a planar plotting apparatus or its equivalent. On the facts of this case we are unwilling so to hold. We conclude that the method defined by claim 13 is statutory, and its patentability must be judged in light of the prior art.

Turning to the prior art, the Examiner applied Taylor [3] alone under 35 U.S.C. 103 against all the claims, while the Board applied Taylor in view of Tripp. We agree with the Examiner's application of Taylor alone against claims 8, 13 and 18.

[10] Taylor shows the computation of the positions of points of a three-dimensional object on a plane of projection, as applicants define in claims 8, 13 and 18. These claims then add only one more limitation: in claim 13 the step of applying the computer output to a plotting apparatus, and in claims 8 and 18 the addition of the plotting machine as part of the claimed structure. This limitation is insufficient to define an invention which is unobvious over Taylor because, as applicants argued in the Patent Office on the question of sufficiency of their disclosure, any person skilled in the art would know *how* to take the computer output and use it to control a drafting machine. The desirability of eliminating the draftsman in the Taylor teaching would have been apparent when applicants made their invention, and since any person skilled in the art would, by applicants' own argument, know how to do so, we must conclude that the invention defined by claims 8, 13 and 18 was obvious.

In claim 19 the equations disclosed in the application are used to define the condition of the digital computer. The obviousness issue here is whether the claimed invention as a whole, i.e. the entire apparatus defined by claim 19, would have been obvious to one of ordinary skill in the art in view of the teachings of Taylor. Tripp does not attempt to solve the three-to-two dimensional geometry problems to which appellants' claims 19–21 and Taylor's disclosure are addressed but merely shows computerized drawing in general. It therefore appears that Tripp does not shed any light on the specific obviousness question with which we are concerned. The Solicitor, in his brief and oral argument, similarly deemphasized Tripp and concentrated on Taylor alone.

[11] Taylor's object is to partially automate the tedious process of making various kinds of drawings of three-dimensional objects.

[3] U.S. Patent 3,153,224, filed Feb. 23, 1960, issued Oct. 13, 1964.

Applicants' object is to further automate the production of these drawings. Their invention as defined by claim 19 does this in two ways: It adds the plotting machine at the output end of the computer, and it conditions the computer in a new way to perform the data transformations. The first addition alone would not have saved the invention from obviousness, as we discussed above. We believe the second addition, the new programming claimed, does make the invention as a whole unobvious.

The Tayor equations for finding the planar coordinates (f_1, f_2) are:

$$f_1=\frac{\sqrt{(a_1-b_1)^2+(a_2-b_2)^2}[(a_3-b_3)](a_1-b_1)(a_1-c_1)+(a_2-b_2)(a_2-b_2)]]-(a_2-c_2)\sqrt{(a_1-b_1)^2+(a_2-b_2)^2}}{(a_1-b_1)(a_1-c_1)+(a_2-b_2)(c_2-c_2)+(a_3-b_3)(a_3-c_3)}$$

$$f_2=\frac{[(a_1-b_1)^2+(a_2-b_2)^2+(a_3-b_3)^2][(a_1-b_1)(a_2-c_2)-(a_2-b_2)(a_1-c_1)]}{\sqrt{(a_1-b_1)^2+(a_2-b_2)^2}[(a_1-b_1)(a_1-c_1)+(a_2-b_2)(a_2-c_2)+(a_3-b_3)(a_3-c_3)]}$$

where a is the observation point, b is the penetration point of a sight line normal to the projection plane, and c is a typical object point to be portrayed. The subscripts 1, 2 and 3 refer to the three coordinates of each of the points a, b and c.

As far as the record before us reveals, Taylor's expression for the three-to-two dimensional transformation was the *only* way it could be done at the time applicants filed. There is nothing in the record to suggest that there was any possibility of the simplified programming claimed by the applicants in claim 19. The Patent Office belatedly, by an appendix to the Solicitor's brief, attempts to show that Taylor's equations can be manipulated to an identity with the equations appearing in claim 19. In so doing the Solicitor has had the benefit of seeing applicants' equations, and with this hindsight a mathematical identity is revealed. There is nothing to suggest that, within the context of automated drawing, one of ordinary mathematical skill armed with the Taylor reference would be able to discover the simpler equations which are the basis of the claimed programming. Accordingly, we conclude that claim 19 as a whole defines an invention which is not obvious in view of the prior art. The same reasoning and the same conclusion apply to claims 20 and 21.

Lastly, the Examiner rejected claims 19–21 as being "drawn to the old combination of a programmed computer and a plotting device, which combination is shown to be old by Tripp." The Board apparently affirmed this rejection, but seems to have mixed it into the discussion of novelty and obviousness. The rejection was stated by the Examiner to be under section 112 and we will so treat the Board's affirmance of it.

[12] The rationale of an old combination rejection is stated in MPEP 706.03(j) as follows: "The fact that an applicant has improved one element of a combination which may be *per se* patentable does not entitle him to a claim to the improved element in combination with old elements where the elements perform no new function in the combination." This statement has the support of many cases. See, e.g., *Lincoln Engineering Co.* v. *Stewart-Warner Corp.*, 303 U.S. 545 (1938). Why an applicant should not be so entitled is not clear. Many cases have said that the combination claim reciting only one new element with no new result is overclaiming or claiming more than the applicant invented. Such statements are indeed puzzling in view of the fact that the addition of elements to a claim *narrows* its scope

and thereby creates a lesser monopoly. Others have said the combination is not new, or is obvious, if no new coaction or result is obtained. This too is unsound, since it is not the result which is to be patented but the recited machine, composition, etc. If the prior art does not show or suggest the improved element itself, it defies logical reasoning to say that the same prior art suggests the use of that improved element in a combination.

[13] Our primary concern, however, is not with the soundness of the underlying policy, if any, for old combination rejections; it is with whether such rejections are proper under the present statute. The Patent Office Board of Appeals has recognized this problem in *Ex parte Des Granges*, 864 O.G. 712, 162 USPQ 379 (1968). There the Board found that there was a statutory basis for the rejection in that portion of section 112 which requires that the claims specifically point out and distinctly claim the invention. We agree. We think that that statutory language is the only proper basis for an old combination rejection, and in applying the rejection that language determines what an applicant has a right and an obligation to do.

[14] Applying the section 112 language to claims 19–21, we do not see, and the Examiner has not stated, how any of the claims would be made more particular or distinct by eliminating the plotting machine limitation from the body of the claim. Indeed the opposite appears to be true, since moving the recitation of the plotting machine to the preamble (in the continental manner or in the manner permitted by *Ex parte Jepson*, 1917 C.D. 62) would greatly increase the number of words in the preamble and impair, rather than enhance, the intelligibility of the claim. Neither would complete elimination of the plotting machine recitation make the claims more particular or distinct, since the monopoly defined by the claims would then be substantially broadened beyond the automatic drafting art. We therefore conclude that the rejection of claims 19–21 on the ground of old combination under 35 U.S.C. 112 was erroneous.

As to claims 8, 13 and 18 the decision of the Board is affirmed; as to claims 19–21 the decision of the Board is reversed.

MODIFIED.

U.S. Court of Customs and Patent Appeals

IN RE KENNETH W. DOAK AND MICHAEL ERCHAK, JR.

No. 8202. Decided December 31, 1969

[57 CCPA —; — F.2d —; 164 USPQ 128]

1. PATENTABILITY—PROCESS—OBVIOUSNESS—POLYMERIZATION OF ETHYLENE.

"We cannot agree with appellants' characterization of Deex, or with their assertion that they are the first to polymerize ethylene over a wide, 'dynamic' temperature range. It is evident from Deex as a whole—Example 5 in particular— * * * that he, like appellants, desired to polymerize ethylene over a broader temperature range than had theretofore been possible with the use of a single catalyst. To accomplish that result, rather than using a single catalyst, most of which decomposes at a relatively high temperature to result in little polymerization in the upstream portion of the reactor but extensive polymerization in the downstream portion with danger of substantial carbonization, Deex employs two peroxygen catalysts having significantly different decomposition temperatures to obtain substantial polymerization in the upstream portion of the reactor initiated by the low temperature catalyst which continues over a smooth temperature curve to a peak temperature, thus obtaining higher conversion and more desirable polymer properties. With the two initiators employed in Examples 3 and 5, the peak temperature was approximately 215–220° C., although Deex suggests that it is possible to retain a smooth temperature curve and obtain even higher conversions by conducting the polymerization at still higher reaction temperatures while avoiding *undesirably* high peak temperatures. As one way of accomplishing *that* result, we see no reason why one of ordinary skill in this art would not, as a matter of course, employ the requisite amount of yet another initiator compound having a still higher decomposition temperature."

2. SAME—SAME—SAME—SAME.

"Appellants * * * give an illustration of their contention [that the Deex et al. reference patent did not involve the concept of polymerization initiators with overlapping decomposition temperature ranges]. The general selection of initiators which appellants seem to urge would be made from the list contained in the Deex disclosure ignores, however, the more specific selection criteria imposed by Examples 3 and 5 to permit obtention of a smooth temperature curve in accordance with the patentee's suggestion. We note that appellants do not argue that one of ordinary skill would be unaware that the initiators suggested by Examples 3 and 5 of Deex do in fact have overlapping decomposition properties."

3. SAME—PARTICULAR SUBJECT MATTER—"ETHYLENE POLYMERIZATION PEROXIDE-INITIATOR AND PROCESS."

The refusal of certain claims in an application entitled "Ethylene Polymerization Peroxide-Initiator and Process," as unpatentable over the prior art, is affirmed.

APPEAL from Patent Office. Serial No. 211,355.

AFFIRMED.

Fred S. Valles for appellants.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, MATTHEWS, *Judge*, *sitting* by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

RICH, *Acting Chief Judge*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals[1] affirming the Examiner's rejection under 35 U.S.C. 103 of claims 31–34 in application Serial No. 211,355, filed July 20, 1962 for "Ethylene Polymerization Peroxide-Initiator and Process."

The invention relates to a continuous process for preparing low-density polyethylene by polymerizing ethylene in a tubular reactor at temperatures of 225–600° F. and pressures of at least 1000 atmospheres in the presence of certain free radical initiators or catalysts. Appellants' specification comments on certain problems involved in prior art processes:

* * * In polymerization reactions at these high pressures oxygen or a peroxide, that is a free radical initiator, is usually employed at temperatures ranging from about 225° to about 600° F. The polymerization reaction of ethylene in high pressure processes of this nature is highly exothermic and heat control methods have to be employed to avoid an undue rise in reaction temperature which can result in run-away reactions and explosions. * * *

* * * it is known that in polymerization reactions of ethylene erratic uncontrolled temperature fluctuations in the reaction zone directly affect the physical properties of the polymer and as a consequence various schemes have been proposed in the art for effecting a reaction without large fluctuations in the reactor temperature curve (profile). The temperature profile can be constructed by simply plotting the readings from all of the thermocouples inserted along the reactor. Thus when ethylene and peroxide initiator are introduced into a tube and polymerization begins, usually at a temperature above 225° F., due to the exothermicity of the reaction and the initial high concentration of the initiator, a temperature peak occurs in the reaction which affects conversion and the

[1] Federico and Behrens, Examiners-in-Chief, and Stone, Acting Examiner-in-Chief; opinion by Stone.

properties of the polymer. The properties of the polymer are affected if such a peak is followed by uncontrolled erratic peaks or valleys along the reactor temperature profile. * * *

To obviate some of those difficulties, appellants employ in their process a multicomponent, free radical-generating, peroxide initiator composition which is said to effect both a controlled, uniform rate of change of temperature between the initiation temperature and the peak reaction temperature as well as an increased conversion of ethylene to polymer. The nature of the particular peroxide initiator composition is best reflected in representative claim 31 (emphasis ours):

31. A process for polymerizing ethylene in a tubular reactor at pressures of at least 15,000 p.s.i. and at temperatures which rise, due at least in part to the heat generated by the polymerization reaction, from about 225° F. to as high as 600° F., which comprises maintaining a controlled temperature rise during said polymerization reaction by providing a substantially controlled and continuous supply of free radicals during the polymerization temperature rise by employing during said reaction *a series of free radical forming peroxide initiators of distinct but overlapping decomposition temperature ranges, at least three such peroxide initiators being employed* and at least one of each of said peroxides being selected from each type of the group consisting of Types I, II and III, said types having 10 hour half-lives at the following temperatures: Type I—from 110° to 175° F.; Type II—from 175° to 250° F.; and Type III—from 250° to 320° F.

Appellants' specification explains the result of their use of three initiators having the decomposition properties defined in the above claim as follows:

* * * in the prior art, in order to obtain a high conversion with a high temperature peroxide, for example a Type III initiator, it was essential to inject it at a low temperature. However, in order to obtain the required high rate of free radical formation at the low temperature, a large quantity of peroxide was required. As the temperature increased, the rate of radical formation would become so high that the temperature would rise above the decomposition point of ethylene. This invention overcomes this difficulty by the use of a lesser amount of a high temperature peroxide, that is a Type III initiator, and the introduction of a controlled amount of a Type II peroxide initiator which has a half-life of 10 hours at 175° to 250° F. This Type II peroxide supplies the required amount of free radicals at the lower temperature. Therefore, as the temperature increases, the Type II peroxide is dissipated and the Type III peroxide furnishes the required (but smaller) amount of free radicals. The use of Type I peroxide permits the use of a still lower initiation temperature, this lower initiation temperature being limited only by practical considerations involving kinetic chain length at low temperatures. The use of several peroxide initiators thus makes it possible to initiate the reaction at a lower temperature and obtain a controlled (although not necessarily uniform) temperature rise across the reaction zone. * * *

In a process, as the instant, employing a multicomponent peroxide initiator, at any given temperature range, the quantity of the useful initiator present will determine how many polymer chains will be started while at that temperature. Also, since the amount of polymerization in any given section determines the quantity of heat liberated and thus the temperature rise of the reactants, the amount of useful initiator present in its useful range will determine the slope of the reactor temperature profile within its useful range. It is thus possible in accordance with this invention to adjust the slope of portions of the reactor temperature profile without drastically altering other conditions. * * *

The useful range of the initiators employed should preferably overlap each other. That is, at any given temperature range one particular initiator type is predominantly useful; however at the beginning of the range the preceding initiator is still somewhat useful and at the end of the range the next initiator begins to be useful (i.e. to decompose). Such overlaps are preferred as they contribute related benefits. *The overlap of free radicals generated from the different peroxides will prevent wide or sharp fluctuations in the free radical concentration in the reaction zone, and this prevents sharp changes in rate of change of temperature which results in keeping a smooth temperature profile.* This results in better control over the reaction and leads to better control of polymer properties. [Emphasis ours.]

The references are:

Overbaugh, 2,909,513, Oct. 20, 1959.

Deex et al., 3,142,666, July 28, 1964 (filed Mar. 5, 1959).

The Examiner rejected the claims under 35 U.S.C. 103 as unpatentable over Deex alone or in view of Overbaugh.[2]

Deex relates to "methods for controlling the highly exothermic polymerization of ethylene as carried out continuously by a non-solvent process in a tubular reactor so as to obtain high conversions to polymers of ethylene having good density and tensile properties." He accomplishes those results by employing (1) a mixture of organic peroxide initiators having "significantly different" decomposition or initiation temperatures or, alternatively, (2) a mixture of "one or more" peroxide catalysts with oxygen wherein there is a "significant difference"[3] in the effective initiating temperature of "at least two" of the initiators. According to Deex, with such an initiator combination, the ethylene polymerization procedure involves:

* * * utilizing a high temperature peroxygen or oxygen catalyst under high temperature conditions suitable for obtaining high conversion with some loss of desirable polymer properties, and the additional use therein of a low temperature peroxygen catalyst to obtain a substantial portion of polymerization while being heated up to the high temperature, thereby improving the properties of the resulting polymer and possibly also improving conversion.

In Example 3, Deex employs a mixture of benzoyl peroxide and t-butyl perbenzoate[4] ("decomposition temperatures" as defined by Deex of 133° C. and 166° C., respectively) as polymerization initiators in amounts of 6 and 11 micromols/mol. of ethylene, respectively, to obtain a conversion of 15.8% over a reaction temperature range of 120–220° C., whereas increasing the benzoyl peroxide amount from 6 to 8½ micromols/mol. raised the conversion to 19.5%.

In Example 5, in which benzoyl peroxide and oxygen were employed as polymerization initiators ("decomposition temperatures" as defined by Deex of 133° C. and 160° C., respectively), Deex states:

* * * A substantial part of the foregoing polymerization, as determined from the internal temperatures measured in the reaction tube, took place at reaction temperatures of 120 to 170° C., and the peak reaction temperature in the latter half of the tube was only 215° C. In contrast to this, a single catalyst would ordinarily have no effective polymerization occurring in large parts of the reaction tube, as indicated by temperature data; for example, with t-butyl perbenzoate as a single catalyst, there will often be practically no polymerization in the upstream portion of the reaction tube, with temperatures of the order of 50 to 70° C., while in the downstream portion of the tube there is danger of the peak temperature going high enough to cause substantial carbonization. *In one aspect, the present invention can be considered as utilizing catalyst mixtures to effect a more smooth reaction temperature-reactor time curve, i.e., to have a substantial portion of the polymerization occur at the lower temperatures around*

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[2] Overbaugh was cited by the Examiner for a point no longer in issue here. It need not be further discussed, inasmuch as appellants state in their brief:

The determinative issue involved in the second ground of rejection, namely the obviousness of the subject matter of appellants' claims over Deex et al. in view of Overbaugh is thus a secondary consideration and will stand or fall with the determination of the first and main ground of rejection.

[3] By "significant difference" in the decomposition temperature Deex means that there should be a difference of at least 10° C. (18° F.) and preferably 20° C. (36° F.) or more between the temperatures at which each of the peroxide initiators has a half life of *one* minute, the latter temperatures being arbitrarily defined by Deex as the decomposition temperature of the respective initiator. It should be observed that Deex and appellants define the decomposition temperatures or ranges in a different manner, although, as the Examiner noted, the usable peroxides disclosed by Deex are substantially the same as those appellants disclose.

[4] Those two initiators are defined by appellants as belonging to their "Type I" and "Type II" categories, respectively.

120 to 170° C., and to also have a substantial portion at temperatures about 170° C. but without any sharp, high peaks in the temperature curve. In the present reaction the temperature has been controlled to the extent that the peak temperature is only 215° C., while polyethylene can be polymerized at temperatures as high as 320° C. It will be realized that it would be feasible to conduct the polymerization at considerably higher temperatures while retaining a smooth reaction temperature curve without reaching undesirably high peak temperatures, and to obtain the even higher conversions associated with higher reaction temperature. * * * [Emphasis ours.]

In the Examiner's view, appellants and Deex recognized many of the same problems existing in the ethylene polymerization art and have attempted to solve those problems in much the same manner. He acknowledged that Deex did not expressly disclose the use of three peroxide initiators, but nevertheless maintained that the language of Deex's disclosure suggests that two or more peroxides were contemplated. The Examiner considered that it would be obvious to one of skill in the art to use three peroxides having different, but overlapping, decomposition temperature ranges since Deex specifically discloses that a smoother reaction temperature-reactor time curve free of sharp high peaks can be obtained using multiple, rather than single, free radical initiators.

The Board agreed, adding:

* * * the reference utilizes catalyst mixtures to effect a more smooth reaction temperature-reactor time curve without any sharp high peaks which is the result appellants wish to attain.

Thus, the process of the reference accomplishes substantially the same results as appellants' process, and we are reinforced in this position by reference to * * * [appellants' specification] which states: "A minimum of two peroxide initiators is required in accordance with this invention."

* * * since Deex et al. clearly suggest the use of a plurality of peroxide initiators, it is considered that appellants have merely followed this teaching and have employed three or more such peroxide initiators for the same purpose in view. We consider this to be the ordinary and expected advance in the art and within the ordinary skill of those working in this field.

Appellants urge that the Examiner and Board failed to consider either the background of their invention or the state of the prior art at the time they made their invention. As a result, appellants contend, the Examiner and Board erroneously concluded that the respective objectives of Deex and appellants were the same, and that Deex suggests the process appellants carry out wherein a reaction temperature-reactor time curve containing what they term a sharp, high reaction temperature peak is obtained.

The alleged state of the prior art, to which appellants refer, was set forth in their petition for reconsideration before the Board and is reiterated here. It relates to so-called "constant environment" ethylene polymerization processes in which polymerization occurs in autoclaves or tubular reactors at substantially constant temperature or over a relatively narrow temperature range employing either a single catalyst or two catalysts decomposing at substantially the same temperature. Appellants correctly view their process as a departure from *such* prior art processes, inasmuch as it involves polymerization over a *wide* temperature range of 225° F.–600° F. with the assistance of three or more polymerization initiators having the different but overlapping decomposition temperature ranges recited in the claims. Implicit in appellants' argument here is their relegation of Deex to the category of "constant environment" or constant temperature polymerization processes. As evidence of that, appellants rely on the heretofore quoted

Example 5 of Deex where the reaction is carried out in a manner to avoid "any sharp, high peaks" in the reaction temperature-reactor time curve.

[1] We cannot agree with appellants' characterization of Deex, or with their assertion that they are the first to polymerize ethylene over a wide, "dynamic" temperature range. It is evident from Deex as a whole—Example 5 in particular—that he did not wish to conduct his polymerization at temperatures approaching isothermal, constant environment conditions or to avoid a reaction temperature peak,[5] but that he, like appellants, desired to polymerize ethylene over a broader temperature range than had theretofore been possible with the use of a single catalyst. To accomplish that result, rather than using a single catalyst, most of which decomposes at a relatively high temperature to result in little polymerization in the upstream portion of the reactor but extensive polymerization in the downstream portion with danger of substantial carbonization, Deex employs two peroxygen catalysts having significantly different decomposition temperatures to obtain substantial polymerization in the upstream portion of the reactor initiated by the low temperature catalyst which continues over a smooth temperature curve to a peak temperature, thus obtaining higher conversion and more desirable polymer properties. With the two initiators employed in Examples 3 and 5, the peak temperature was approximately 215–220° C., although Deex suggests that it is possible to retain a smooth temperature curve and obtain even higher conversions by conducting the polymerization at still higher reaction temperatures while avoiding *undesirably* high peak temperatures. As one way of accomplishing *that* result, we see no reason why one of ordinary skill in this art would not, as a matter of course, employ the requisite amount of yet another initiator compound having a still higher decomposition temperature.

Contrary to appellants' arguments, it seems to us that both the general and more specific disclosure of Deex reasonably suggests the use of at least three initiators for effecting polymerization over a broad temperature range as the Examiner has found.

The question remains whether Deex would suggest the use of three peroxide initiators having the *overlapping* decomposition properties which provide the substantially continuous supply of free radicals during the polymerization temperature rise as recited in the claims. That issue was recognized by the Examiner, though he did not discuss it to any great extent other than to observe that Deex, like appellants, desires to obtain a smooth reaction temperature-reactor time curve over a wide temperature range. It appears to have been the Examiner's position that one of ordinary skill would realize that he would necessarily have to employ at least two, perhaps three or more, peroxides having overlapping decomposition temperature ranges in order to obtain such a smooth curve free of erratic changes.

On that issue, appellants contend:

* * * The true concept of Deex et al. is clearly disclosed in the specification of their patent * * *. This concept did not involve initiators *with overlapping decomposition temperature ranges* as is obvious from the list presented * * *.

[5] Taken in context, what is clear from Deex is that he, like appellants, wished to avoid *undesirably high* reaction temperature peaks which led to decomposition or carbonization of the polymer. The language of Example 5 itself establishes that substantial polymerization occurs in the 120–170° C. (248–338° F.) temperature range as well as in the 170–215° C. (338°–419° F.) range with the added suggestion that it would be clear to one in the art how conditions of Example 5 could be modified to obtain polymerization at even higher temperatures, perhaps up to 320° C. (608° F.), a total range comparable to that of appellants.

[2] Appellants then give an illustration of their contention. The general selection of initiators which appellants seem to urge would be made from the list contained in the Deex disclosure ignores, however, the more specific selection criteria imposed by Examples 3 and 5 to permit obtention of a smooth temperature curve in accordance with the patentee's suggestion. We note that appellants do not argue that one of ordinary skill would be unaware that the initiators suggested by Examples 3 and 5 of Deex do in fact have overlapping decomposition properties.

Appellants' arguments have not convinced us of error in the position taken by the Examiner and affirmed by the Board. [3] The decision is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,552,433, J. H. Kirby II, FORMATION TESTING TOOL, **filed** July 16, 1963, D.C., S.D. Tex. (Houston), Doc. 63–H–392, *John H. Kirby II and Hayzel C. Kirby* v. *Schlumberger Well Surveying Corporation.* Stipulation and order of dismissal with prejudice. Parties mutually release each other from all claims and causes of action, Feb. 24, 1970.

2,830,431, N. E. Klein, STRAND TWISTING MACHINE; **2,834,178,** same, STRAND HANDLING MACHINE **filed** Feb. 13, 1970, D.C., E.D. Va. (Alexandria), Doc. 68–70–A, *Deering Milliken Research Corporation* v. *Constantine Vecchioni and Societe Industries Mechaniques Allies.*

2,834,178. (See 2,830,431.)

2,937,065, Harza, deceased, by F. H. Camphausen and E. W. Hillier, executors, WATER STOP, **filed** Jan. 23, 1968, D.C., S.D. Tex. (Houston), Doc. 68–H–60, *Water Seals, Inc.* v. *Tiger Industries, Inc., et al.* Consent judgment, patent valid; defendants have infringed upon said claim 12 and hereby are enjoined. Plaintiff's claim of trademark infringement dismissed without prejudice. Defendants' counterclaims dismissed with prejudice, Feb. 23, 1970.

2,982,145, H. Orner, RECIPROCABLE FEED MECHANISM; **3,234,810,** same, PRELOADED BALL BEARING SCREW AND NUT MECHANISM. **filed** Aug. 13, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c1693, *Harry Orner* v. *Scully-Jones Company.* Stipulated all claims and counterclaims be dismissed with prejudice, Feb. 19, 1970.

2,995,437, C. A. Hollingsworth, DEFLUORINATION OF PHOSPHATE ROCK, **filed** Feb. 18, 1970, D.C., S.D. Tex. (Houston), Doc. 70–H–149, *Borden, Inc.* v. *Occidental Petroleum Corp. and Occidental Chemical Co.*

3,002,240, M. Laguerre, CLOSURE DEVICE, **filed** Feb. 18, 1970, D.C., E.D. Pa. (Philadelphia), Doc. CA–70–505, *John L. Rie Inc.* v. *Shelly Bros., Inc.*

3,011,608. (See 3,429,410.)

3,038,534, R. J. Cayton, VERTICAL VENETIAN BLINDS, **filed** Sept. 27, 1962, D.C., S.D.N.Y., Doc. 62–C–3274, *Verticals Inc.* v. *Vertical Blinds Corp. of America.* Stipulation and order, complaints and counterclaims 65–2733, 66–408 and 62–3274 be dismissed with prejudice, Feb. 11, 1970.

3,051,894, D. F. Fathauer, IMPEDANCE INDICATING INSTRUMENT, **filed** Feb. 24, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c439, *Eaton Yale and Towne, Inc.* v. *Overton Corp.*

3,052,540, H. G. Freif, DYE SENSITIZATION OF ELECTROPHOTOGRAPHIC MATERIALS, **filed** Feb. 18 and 26, 1970, D.C. Mass. (Boston), Appeals Nos. 7540 and 7553, respectively, *Neshua Corporation (appellant in 7553 and appellee in 7540)* v. *RCA Corporation (appellant in 7540 and appellee in 7553).*

3,089,301, S. J. Prezekop, LAWN MOWER HANDLE SUPPORT, **filed** Feb. 25, 1970, D.C., E.D. Mich. (Detroit), Doc. 34524, *Fairway Construction Company* v. *Woodfield Construction Co.*

3,105,436, Rounds and Hofmeier, CHECK PROTECTORS, **filed** Feb. 19, 1970, D.C. Mass. (Boston), Doc. 70–306–F, *Kenworth Industries, Inc.* v. *Bandwagon, Inc.*

3,113,685, J. P. Miller, MACHINE AND METHOD FOR LOADING PORTABLE TANKS, **filed** Feb. 10, 1970, D.C., S.D. Ill. (Peoria), Doc. P–3117, *State Bank of Annawan* v. *Rendispos Corporation, Delmar D. Masters and Hal Pettit.*

3,117,701, M. B. Stull, DISPENSING CLOSURE AND CONTAINER, **filed** Nov. 7, 1969, D.C. Del. (Wilmington), Doc. 3802, *Morton B. Stull* v. *Glamorene Products Corporation.* Stipulation of dismissal, Feb. 17, 1970.

3,118,151, H. Fredman, ONE-PIECE BELT-TYPE BEDDING CARRIER, **filed** Feb. 8, 1967, D.C. Md. (Baltimore), Doc. 18035–C, *Harry Fredman* v. *Knickerbocker Bed Spring Co., Max Alperstein Department Stores, Inc. and Walter L. Harders.* Consent judgment, Feb. 20, 1970.

3,130,898, E. Raamat, TUBE CLOSURE, **filed** Feb. 19, 1970, D.C. Dist. of Col. (Washington), Doc. 499–70, *Tupak of America, Inc.* v. *Eric Raamat and Tube-Vend Limited.*

3,184,893, W. S. Booth, CONTACT FOUNDATION METHOD, **filed** Feb. 18, 1970, D.C.N.Y. Doc. 70–C–660, *Contact Foundation Inc.* v. *M. Paquet & Co.*

3,192,655, G. L. Harn, HOLDER FOR CAMPAIGN RIBBONS, **filed** Feb. 3, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70–255–DWW, *Loma Linda Industries and Gene L. Harn* v. *Cherrco and Gene Cherry.*

3,234,810. (See 2,982,145.)

3,429,410, Q. A. Hansen, CLUTCH WITH NON-ROTATABLE FLUID MOTORS; **3,011,608,** same, FLUID PRESSURE OPERATED CLUTCH HAVING AN INTEGRAL AND NON-ROTATABLE CYLINDER AND PISTON ASSEMBLY, **filed** Dec. 24, 1969, D.C., E.D. Wis. (Milwaukee), Doc. 69–C–631, *Formsprag Company* v. *Cabat Engineering Corporation.*

D. 210,129, C. A. Ross, COMBINED ELECTRIC GUITAR AMPLIFIER AND LOUD SPEAKER HOUSING UNIT OR SIMILAR ARTICLE; **D. 211,358,** same, COMBINATION GRILLE AND SPEAKER PARTS FOR A LOUDSPEAKER ENCLOSURE, **filed** Jan. 16, 1969, D.C., S.D.N.Y., Doc. 69–C–164, *Kustom Electronics, Inc. et ano* v. *Maurice Lipsky Music Co., Inc.* Stipulation and order discontinuing action, Feb. 10, 1970.

D. 211,358. (See D. 210,129.)

DEFENSIVE PUBLICATIONS

PUBLISHED MAY 12, 1970

Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T874,001
FABRICS WOVEN FROM MICROCELLULAR FILAMENTS AND METHOD OF PRODUCING SAME

Mary Margaret Schick, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 23, 1969, Ser. No. 835,475
Int. Cl. D03d *15/00*
U.S. Cl. 161—72
5 Sheets Drawing. 30 Pages Specification

Interweaving collapsed microcellular filaments and dense textile yarns followed by inflation of the microcellular filaments and calendering, forms a fabric characterized in that:

(a) each microcellular filament is, along its whole length, at least 1.1 to 10.0 times as wide in the plane of the fabric as it is thick and exhibits variable thickness along its length such that the ratio of the maximum thickness to the minimum thickness is at least 1.5;
(b) each microcellular filament substantially fills the space between adjacent dense yarns;
(c) The contactable surface of the fabric, as defined by its farthest protruding elements at crossings of strands, is composed of portions of both the microcellular filaments and dense yarns;
(d) the cells of the microcellular filaments have transverse dimensions measured through the free space in the fabric plane at least twice as great as their thickness dimensions.

An example of such fabric comprises 220/50/2Z dense Dacron® polyester yarn and 53 denier ultramicrocellular polyethylene terephthalate filaments. Each ultramicrocellular filament was collapsed on its bobbin to a ribbon-like shape about 0.01" wide and about 0.0025" thick. A 2 x 2 basket weave with 60 individual strands per inch in both warp and fill directions was formed. After standard scouring, the finished count was 68 x 66 strands per inch and the fabric weight was 2.4 oz./yd.² at a thickness of about 0.008 inch.

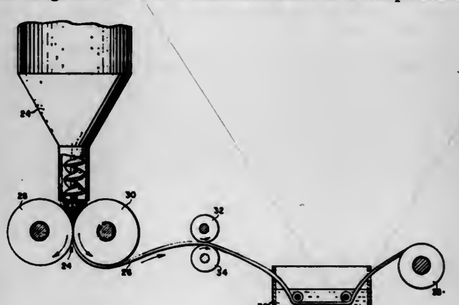
Such fabrics have at least substantially equivalent strength, opacity, drape and flexibility properties—as compared to known fabrics for comparable uses—at considerably reduced fabric weights.

T874,002
PROCESS FOR IMPROVING THE BLUSH RESISTANCE OF SHEETS OF CRYSTALLIZABLE ORGANIC POLYMER

John M. Wininger, Jr., Paul K. Fain, Jr., and Robert B. McFall, all of Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 735,729, June 10, 1968. This application Nov. 4, 1969, Ser. No. 871,658
Int. Cl. B29d *7/14*
U.S. Cl. 264—175
2 Sheets Drawing. 11 Pages Specification

Sheets of normally crystalline organic polymer provided with improved blush resistance by (a) providing the sheet with molten surfaces and then rapidly quenching or (b) by reducing the sheet in thickness an amount in the range of 10–30% while maintained at a temperature



below its softening point. The polymer may be, for example, polyethylene, polypropylene or polyallomer.

T874,003
ADDITIVE COMPOSITION

Clarence E. Tholstrup and Alan Bell, both of Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 664,965, Sept. 1, 1967. This application Nov. 20, 1969, Ser. No. 872,443
Int. Cl. C08g *51/02*
U.S. Cl. 260—40
No Drawing. 15 Pages Specification

Additives (such as stabilizers, pigments, slip agents, and dyes) may be uniformly incorporated in moldable, fiber-, and film-forming polyesters by mixing the additive with a copolyester having a melting point of from about 150 to 240° C. and an inherent viscosity of at least 0.5 and being a copolyester of (1) from about 75 to about 95 mole percent of ethylene glycol, (2) from about 5 to about 25 mole percent of a diol selected from the group consisting of aliphatic diols having 4 to 10 carbon atoms and cycloaliphatic diols having 4 to 10 carbon atoms, and (3) at least one difunctional dicarboxylic acid, and then blending the resultant additive composition with said polyester.

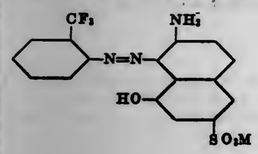
T874,004
DYEING POLYAMIDE FIBERS WITH A RED MONAZO ACID DYE

Stanley B. Speck, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 823,136, May 8, 1969. This application Nov. 12, 1969, Ser. No. 876,032
Int. Cl. D06p *1/10*; C09b *29/30*
U.S. Cl. 8—42
No Drawing. 14 Pages Specification

The process of dyeing polyamide fibers, especially in the form of carpets, to lightfast yellowish-red shades by contacting the fibers with an aqueous dyebath having a pH of 3.0 to 7.0 and containing disodium dodecyldiphen-

ylether disulfonate and the red monazo acid dye of the structure



where M is H, ammonium radical or alkali metal; and, optionally, further containing non-ionic surface active agents such as the ethylene oxide adducts of long chain fatty alcohols. Wool and silk may also be dyed by this process.

REISSUES

MAY 12, 1970

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

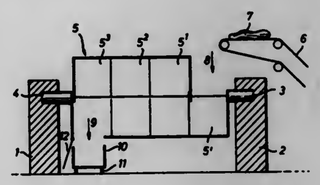
26,874
APPARATUS FOR THE TREATMENT OF TEXTILES OR FABRICS OR THE WASHING OF LAUNDRY

Konrad Schäfer, 8 Schoppingstr., Munich 60, Obermenzing, Germany

Original No. 3,330,139, dated July 11, 1967, Ser. No. 437,884, Mar. 8, 1965. Application for reissue May 1, 1969, Ser. No. 830,891

Int. Cl. D06f 37/08

U.S. Cl. 68—58 16 Claims



1. Apparatus for the treatment of textile goods in which material to be treated is advanced intermittently through a succession of treatment chambers in counter-flow to a treatment liquid, said apparatus comprising a rotary drum having a horizontal axis and mounted for rotation about said axis, said drum being partitioned axially into a plurality of separate treatment chambers in which successive treatment stages are performed, each said chamber having an inlet opening through which the material is received and an outlet opening through which the material is discharged, fluid supply means for supplying treatment liquid to said chambers, and movable transfer means operable at the end of each treatment stage to inter-connect said inlet and outlet openings of adjacent treatment chambers for effecting transfer of the material between successive chambers when the drum is rotated to a predetermined angular position.

26,875
PREPARATION OF MACROCYCLIC COMPOUNDS

Nissim Calderon, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Original No. 3,439,057, dated Apr. 15, 1969, Ser. No. 664,947, Sept. 1, 1967. Application for reissue Aug. 7, 1969, Ser. No. 853,563

Int. Cl. C07c 3/10

U.S. Cl. 260—666 6 Claims

The invention described is one of preparation of unsaturated large ring alicyclic compounds by subjecting, acyclic unsatufated compounds containing at least two non-conjugated double bonds and containing at least 16 carbon atoms, to a catalyst which is a mixture of (a) at least one organo metallic compound wherein the metal is from Groups Ia, IIa, IIb and IIIa of the Periodic Table of Elements, (b) at least one metal salt wherein the metal is selected from the group of molybdenum and tungsten and (c) at least one compound of the general formula RYH wherein Y is from the group of oxygen and sulfur and R is a radical selected from the group of hydrogen, alkyl, aryl, aralkyl, alkaryl and alkenyl and when Y is S, R may be a thioalkyl, thioaralkyl and a thiolkaryl and when Y is O, R is an alkoxy, alkaryloxy or an aralkoxy and radicals of alkyl, aryl, aralkyl, alkaryl, and alkenyl which a hydrogen is substituted by a thiol or a hydroxyl group. These unsaturated large ring alicyclic compounds are useful as intermediates to produce such things as large ring ketones which in turn are useful as perfume bases.

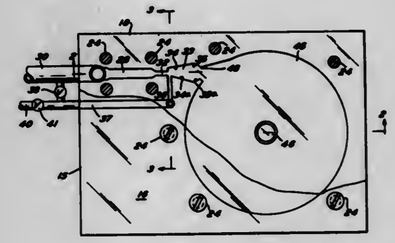
26,876
FLOW CONTROL APPARATUS

Robert B. Adams, Tredyffrin Township, Chester County, and Coleman B. Moore, Uwchland, Pa., assignors to Moore Products Co., Philadelphia, Pa., a corporation of Pennsylvania

Original No. 3,267,946, dated Aug. 23, 1966, Ser. No. 272,663, Apr. 12, 1963. Application for reissue Sept. 21, 1966, Ser. No. 584,317

Int. Cl. F15c 1/16

U.S. Cl. 137—81.5 8 Claims



This disclosure is of fluid flow control apparatus which includes a substantially circular vortex chamber with a fluid inlet in its peripheral wall and a central fluid outlet.

A fluid jet is supplied to the vortex chamber through its inlet from an exteriorly disposed fluid interaction chamber in which interaction chamber the direction of the jet where it enters the vortex chamber is determined in a range between radial delivery in the vortex chamber to tangential delivery in that chamber.

26,877
PROCESS FOR THE HYDROLYSIS OF CYCLIC ACETALS AND KETALS

Francisco Alvarez and John B. Siddall, Palo Alto, Calif., and Augusto Ruiz, San Cristobal de las Casas, Chiapas, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

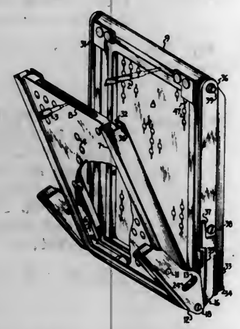
No Drawing. Original No. 3,338,926, dated Aug. 29, 1967, Ser. No. 546,602, May 2, 1966, which is a continuation-in-part of application Ser. No. 460,462, June 1, 1965. Application for reissue Apr. 29, 1969, Ser. No. 822,073

Int. Cl. C07c 169/22

U.S. Cl. 260—397.4 10 Claims

The process for the hydrolysis of cyclic steroidal acetal and ketal which comprises treating the latter at a temperature from about —30° C. to about 25° C. with at least a 10-fold molar excess of an aqueous solution with about 20% to about 90% by weight of hydrogen fluoride or hydrogen chloride to give the corresponding free dihydroxy steroidal compounds.

26,878
PLUGBOARD ASSEMBLY
Gilbert C. Sitz, Paxtonia, Pa., by AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey, assignee
Original No. 2,927,295, dated Mar. 1, 1960, Ser. No. 411,969, Feb. 23, 1954. Application for reissue May 7, 1969, Ser. No. 844,218
Int. Cl. H01r *13/26, 25/00*
U.S. Cl. 339—18
14 Claims



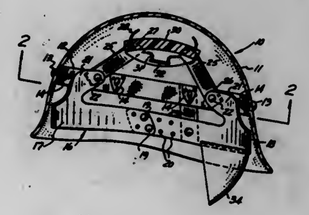
A plugboard assembly wherein the contacts are first caused to wipe clean a path thereon during interconnection of the assembly and subsequently caused to engage at a pre-wiped intermediate point on said path.

PATENTS

GRANTED MAY 12, 1970

GENERAL AND MECHANICAL

3,510,879
HELMET HEAD SUSPENSION
Daniel D. Webb, Birmingham, Mich., assignor to American Safety Equipment Corporation of Michigan, Oak Park, Mich.
Filed July 24, 1968, Ser. No. 747,169
Int. Cl. A42b *3/02*
U.S. Cl. 2—3
4 Claims



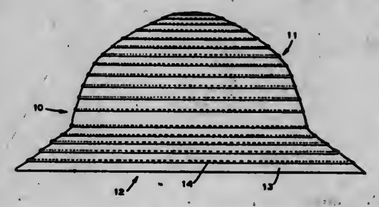
A helmet head suspension including a stiffened headband located at the open bottom of the helmet shell and an upper, flexible band secured to the shell at spaced intervals, with the headband having upwardly extending tabs secured to the upper band at spaced apart locations, and a pair of opposed, flexible, side straps interconnecting the headband and upper band between the tabs.

3,510,880
BATHING CAP
Horst Gerson, 48 Herforder Str., 48 Bielefeld, Germany
Filed July 31, 1968, Ser. No. 748,986
Claims priority, application Germany, Aug. 9, 1967, G 50,850; Nov. 9, 1967, 1,660,732
Int. Cl. A42b *1/12*
U.S. Cl. 2—68
11 Claims



A bathing cap for protecting the hair of a wearer against wetting comprises a shell-like cap body having an open side. A marginal portion of the body frames the open side and has an inner surface adapted for engaging the head of a wearer. The marginal portion is provided with one or more channels or chambers extending or distributed circumferentially of the open side and being open to or communicating with the surface of the marginal portion. Suction means communicates with these channels or chambers for producing an underpressure therein whereby to effect water-tight engagement of the surface of the marginal portion with the head of a wearer.

3,510,881
HAT CONSTRUCTION
Lester Deutsch, 60 E. 8th St., New York, N.Y. 10003
Filed July 15, 1968, Ser. No. 744,941
Int. Cl. A42b
U.S. Cl. 2—175
3 Claims



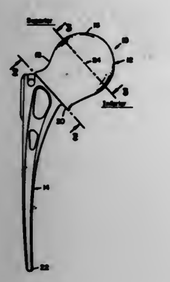
A hat formed of spirally wound braided yarn tape; the tape including a core member of nonwoven synthetic fiber; the combination of braided yarns and the core member imparting superior shape retaining qualities to the hat formed therefrom.

3,510,882
ARTICLES OF HOSIERY
Anna Mae White, 561 Almena Ave., Ardsley, N.Y. 10502
Filed May 14, 1968, Ser. No. 728,980
Int. Cl. A41b *11/00*
U.S. Cl. 2—239
5 Claims



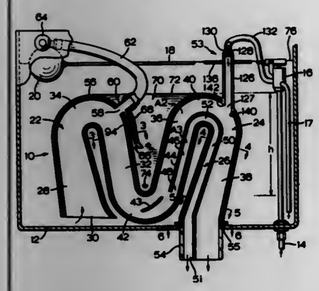
An article of hosiery for rendering leg blemishes invisible. The article of hosiery includes an inner flesh colored stocking of such denier and mesh as to render the inner stocking, for the most part, opaque, and an outer conventional stocking within which the opaque stocking is located, this outer stocking being joined to the inner stocking and coacting therewith to provide the appearance of an unblemished leg within the outer stocking.

3,510,883
JOINT PROSTHESIS
Robert F. Cathcart III, 101 S. San Mateo Drive, San Mateo, Calif. 94401
Filed Oct. 30, 1967, Ser. No. 678,972
Int. Cl. A61f *1/04*
U.S. Cl. 3—1 12 Claims



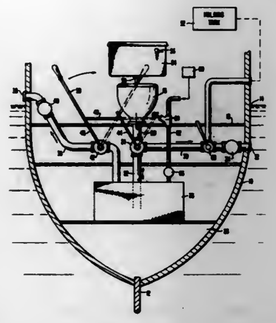
A hip prosthesis having a head member provided with a continuous periphery disposed between a neck portion and a rounded joint portion with the neck portion adapted to be rigidly secured to a mounting stem and the joint portion adapted to be shiftably mounted in the socket of a hip joint. The joint portion has a convex outer surface terminating at the continuous periphery of the head member and the convex outer surface has a curvature different from the curvature of the continuous periphery to provide a non-spherical configuration for the head member.

3,510,884
SIPHON VALVE
Frank Philip Sloan, 19 Lascelles Blvd., Toronto 7, Ontario, Canada
Continuation-in-part of application Ser. No. 704,593, Feb. 12, 1968, which is a continuation-in-part of application Ser. No. 499,715, Oct. 21, 1965. This application Mar. 11, 1969, Ser. No. 806,074
Int. Cl. E03d *1/08*
U.S. Cl. 4—42 4 Claims



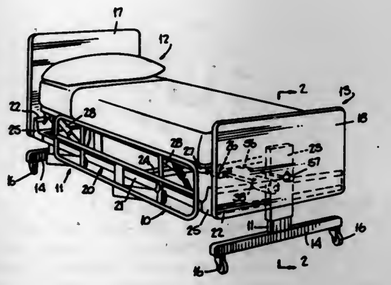
A siphon valve, primary for toilet tanks, having primary and secondary siphons joined at a central bend to form an M-shaped structure. A tertiary siphon inside the secondary siphon extends from just above the intermediate bend to the secondary siphon outlet. Water enters the primary siphon and discharges through the secondary and tertiary siphons, flow commencing upon release of air through an air opening in the top of the primary siphon. A flow deflector in the central bend diverts extra water to the secondary siphon, and the outlet leg of the secondary siphon contains an elongated venturi to increase flow velocity therein, to expel air bubbles in the secondary siphon.

3,510,885
MARINE TOILET CONSTRUCTION
William D. Murray, Jr., Rte. 1, Big Flat, Missoula, Mont. 59801
Filed Nov. 13, 1967, Ser. No. 682,008
Int. Cl. E03d *11/10*
U.S. Cl. 4—77 6 Claims



A marine toilet having a receiving tank disposed below the head and compressed air means for blowing the contents of the receiving tank outwardly through the boat hull beneath the water line.

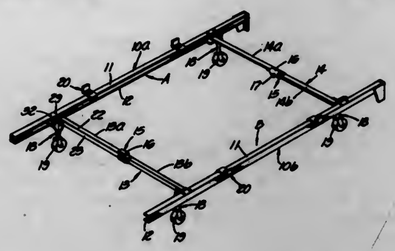
3,510,886
CONTROL FOR ADJUSTABLE BED
Roland A. Benoit, Fresh Meadows, and Joseph Tripodi, Brooklyn, N.Y., assignors to InterRoyal Corporation, a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 712,740
Int. Cl. A61g *7/10*
U.S. Cl. 5—63 9 Claims



A bed has an adjustable frame for adjusting a mattress support member to various positions. The head end and the foot end of the bed may be adjusted so the mattress support member is inclined either downwardly from the head end toward the foot end (Reverse Trendelenburg selection) or downwardly from the foot end toward the head end (Trendelenburg selection). A position selector

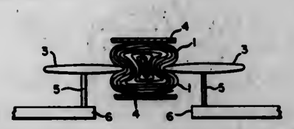
mechanism cooperates with a suitable power unit to provide the bed operator with means for selecting the Reverse Trendelenburg or Trendelenburg positions or other positions of adjustment for the mattress support member of the bed.

3,510,887
FOLDABLE BED FRAME STRUCTURE
Melvin P. Spitz, Beverly Hills, Calif., assignor, by mesne assignments, to Bedline Mfg. Co., Bell Gardens, Calif., a partnership
Filed Dec. 11, 1967, Ser. No. 689,420
Int. Cl. A47c *23/06*
U.S. Cl. 5—176 12 Claims



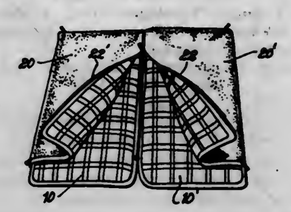
A foldable bed frame having a channel side rail and swingably connected crossbar of angle section with one end extending through a cutout in the bottom of a transverse short channel section with one leg underlying one flange of the channel section and the other leg being rigidly connected to a deflected portion of the bottom of the section or by an angle member, which may be a part of a supporting leg structure, riveted to both the bottom of the channel section and the angle section. A pivot pin extends through the flanges of the channel side rail, the flanges of the transverse channel section, and one leg of the angle crossbar so as to swingably mount the crossbar for movement to an extended position of use with the flanges of the side rail and the transverse channel in overlapped nested relation, and a folded position of non-use with the flanges on the transverse section at an angle to the side rail flanges, the flanges of the transverse section having notches for interlocking with a second pin on the side rail at the use position of the crossbar. Offset box spring retaining clips are movably mounted on the side rails and adjustably positionably therealong by means of side rail embracing elements.

3,510,888
CUSHION, PROCESS AND APPARATUS FOR MAKING THE SAME
Martin Douglas Le Van, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 25, 1968, Ser. No. 747,554
Int. Cl. A47g *9/00*
U.S. Cl. 5—337 16 Claims



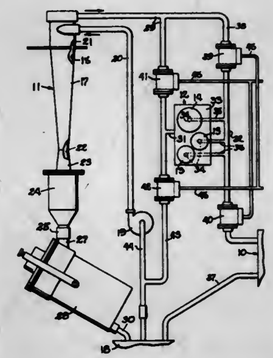
A resilient pillow having smooth, wrinklefree top and bottom surfaces comprised of compressed textile fiber filling material of a batting encapsulated and held in a compressed resilient state by a covering, the filling material having an accordion-like fold in opposite sides aligned with and adjacent to the longitudinal sides of the pillow to maintain the top and bottom surfaces of the pillow in a taut and wrinklefree state and to absorb any creases from the filling material surface while providing a pillow of increased durability. Also disclosed is a process for preparing the pillow and an apparatus useful in carrying out the process.

3,510,889
CONVERTIBLE SLEEPING BAG
Judith A. Peterson, Washington, Mo., assignor to Kellwood Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 8, 1968, Ser. No. 719,634
Int. Cl. A47g *13/09*
U.S. Cl. 5—343 5 Claims



A convertible sleeping bag is formed of a plurality of planar elements detachably secured together along the sides and bottom, as by slide fasteners, whereby, using the same bottom or body supporting element, the user may selectively attach a top or cover element of desired character, according to temperature requirements. The invention also contemplates, by the same construction, that a single sleeping bag may be converted into a double bag, using the same or similar bottom and cover elements and likewise permitting a selection of cover elements of different thermal characteristics.

3,510,890
DRYCLEANING AND FLUID DECONTAMINATION APPARATUS AND METHOD
Mark R. Estabrook, Rockford, Ill., assignor to Barnes Drill Co., Rockford, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 741,522, July 1, 1968. This application Sept. 17, 1968, Ser. No. 767,036
Int. Cl. B01d *37/04*; D06f *39/10, 43/08*
U.S. Cl. 8—158 9 Claims



A drycleaning and fluid decontamination apparatus including a washer, a Hydroclone separator, a bank of filter and chemical cartridges for final cleaning of the separator, a pump, and flow control valves and pipes

for routing the fluid normally from the separator forwardly through the bank to the washer and back to the separator. During unloading and reloading of the washer, fluid is routed from the separator reversely through the bank and back to the separator to backwash the cartridges and remove collected solids from the system. An option by-passes the forward flow through the bank around the washer upon resumption of forward flow through the bank for removal of solids deposited on the output sides of the cartridges.

3,510,891
DYEING POLYAMIDE FIBERS WITH PELARGONIC ACID
Ronald R. Luongo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 23, 1966, Ser. No. 596,470
Int. Cl. D06p 5/04
U.S. Cl. 8—173 **3 Claims**

The process of dyeing synthetic fibers, said fibers consisting essentially of the polymeric reaction product of bis(para-aminocyclohexyl)methane and a diacid selected from the group consisting of dodecanedioic acid and nonanedioic acid, comprising the steps of:

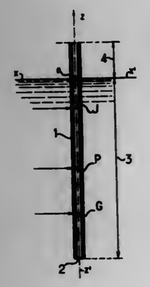
placing said fibers in a bath containing from 1% to 30% of pelargonic acid, said acid being dispersed in said bath, the percentage expressed based on the weight of said fibers to be dyed, said bath also containing a dye,

acidifying the bath of a pH of from 3.5 to 4.5,

maintaining the temperature of the bath at about 90° C. for about 1 hour, and

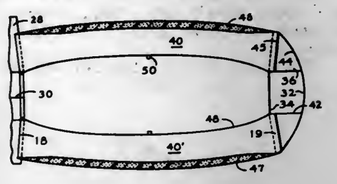
scouring said fibers in an alkaline bath.

3,510,892
FLOATING PLATFORM
Georges Monnereau, Paris, and Edmond Niffels, L'Hay-les-Roses, France, assignors to Compagnie Generale d'Automatisme, Paris, France, a corporation of France
Filed Nov. 29, 1967, Ser. No. 686,536
Claims priority, application France, Nov. 30, 1966, 85,513
Int. Cl. B63b 21/52
U.S. Cl. 9—8 **1 Claim**



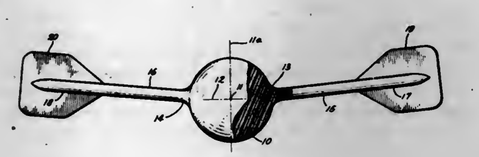
A floating platform comprising at least one semi-submersible support unit, having a hollow vertical cylindrical shape and having a coaxial flat disc concentrically secured thereto and immersed to a specific depth below the sea-level for improving the stability to swells of the whole structure.

3,510,893
LIGHT-WEIGHT TUBULAR STRUCTURE
Alvin Edward Moore, 916 Beach Blvd., Waveland, Miss. 39576
Filed Aug. 28, 1967, Ser. No. 663,888
Int. Cl. B63c 9/04; B63d 37/00
U.S. Cl. 9—11 **31 Claims**



An inflated, light-weight device, serving either as a useful article of manufacture and commerce or a structural element of composite objects. Basically, it comprises: a tube having a round middle part; preferably two tapered end parts, each being wider than the middle part and tapering to flatted-together and bonded end portions; and closable means to supply gas (preferably helium) to its sealed space. This tubular element preferably is surrounded by foam plastic, which may form the periphery of a structural element, or may be more extensive, around assembled tubes and within a skin. The invention also comprises skin material of plastic-impregnated network; and methods of making the tube.

3,510,894
PROPULSION DEVICE FOR SWIMMERS
Byron Eriksen, 4505 Harriet Ave. S., Minneapolis, Minn. 55409
Filed Jan. 14, 1969, Ser. No. 791,073
Int. Cl. A63b 31/06
U.S. Cl. 9—307 **2 Claims**

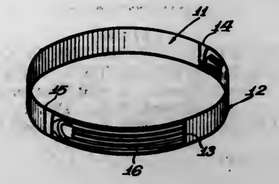


A device for assisting a swimmer to travel through the water comprises a float and pair of paddles secured to the float and projecting in opposed relation therefrom. The device is manufactured from a foamed plastic material and has a high density outer skin and a low density inner structure.

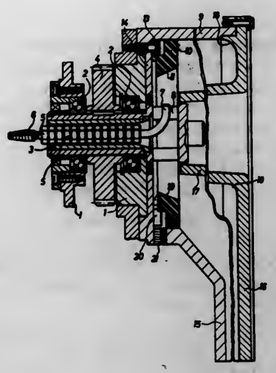
3,510,895
LIFE SAVER FOR SWIMMERS
Richard H. Wynne, 1534 E. 59th St., Chicago, Ill. 60637
Filed May 10, 1968, Ser. No. 728,121
Int. Cl. B63c 9/18
U.S. Cl. 9—323 **12 Claims**

A self-inflating flotation device, in the form of an elastic hollow band designed to be worn by a swimmer around his upper arm or neck, is divided into two sealed segments such that if one segment is defective or is punctured, the other will still inflate. Within each segment is a mixture of solid chemicals capable of generating heat when catalyzed into chemical action, and a non-elastic

tube containing a condensed gas under pressure. When the device is stretched beyond a predetermined triggering point, the pressurized tube is opened, allowing the condensed gas to escape, vaporize and inflate the sealed segment. Simultaneously, the chemical mixture is brought into contact with a catalyst, so that the heat produced by the resulting reaction accelerates the vaporization of the condensed gas.



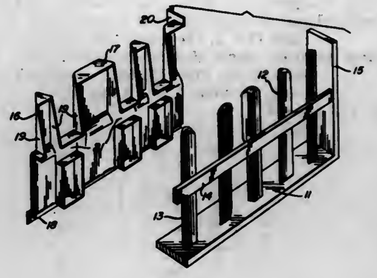
3,510,896
THREAD CUTTING MACHINE
Günter von den Steinen, Hagen, Germany, assignor to Nutap Schuhl & Von den Steinen, Hagen, Germany
Filed May 6, 1968, Ser. No. 726,947
Claims priority, application Germany, May 18, 1967, N 30,528
Int. Cl. B23g 1/00; 11/00
U.S. Cl. 10—129 **4 Claims**



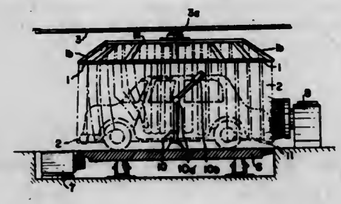
An improvement in thread cutting machines of the type having a rotatably mounted elongated screw tap, with a front portion onto which workpieces may be introduced and a bent rear portion from which workpieces may be discharged, and a workpiece collecting housing arranged around the rear portion of the screw tap. The improvement includes a resilient ring arranged within the housing and around the rear portion of the screw tap. The ring is constructed with a conical inner surface which flares outward in a direction away from the rear of the screw tap.

3,510,897
PROTECTIVE SHELL FOR PEG RACK
Gustave E. Laub, 4920 Marine Drive, Chicago, Ill. 60640
Filed Aug. 21, 1969, Ser. No. 852,045
Int. Cl. A43d 3/00
U.S. Cl. 12—123 **5 Claims**

A protective shell comprises an integral plastic member adapted to fit over a peg rack for holding shoe uppers during the sole cementing operation. A conventional peg rack comprises a bar having a plurality of longitudinally spaced pegs, which may be called pins or paddles, extending from one side thereof in approximately perpendicular relationship to the bar. The plastic member includes an annular ledge adapted to fit over the top surface of transverse bar of the peg rack, and a plurality of arms projecting forwardly from the ledge and adapted to fit over the pegs. The arms are spaced to receive a shoe upper between adjacent arms and each arm has downwardly inclined side walls to support a last on which a shoe upper is mounted and to provide nonscuff engagement with the shoe uppers.



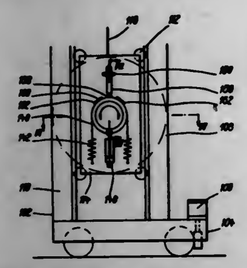
3,510,898
AUTOMATIC WASHING APPARATUS FOR CAR BODY AND THE LIKE
Seizo Tatara, 18 Takidai-cho, Funabashi-shi, Chiba-ken, Japan; Yoshio Odachi, 1477 Higashiterao-cho, Tsurumi-ku, Yokohama-shi, Kanagawa-ken, Japan; and Masaru Tokoro, 146, 1-chome, chofu-Minemachi, Ohta-ku, Tokyo, Japan
Filed Apr. 16, 1968, Ser. No. 721,667
Int. Cl. B60s 3/06
U.S. Cl. 15—21 **10 Claims**



A car washing apparatus capable of automatically washing the exterior of an automobile. The apparatus includes a support structure for the vehicle and a washing structure located over the support structure. One of these structures is movable relative to the other so that the action of the washing structure can be distributed over the exterior of the vehicle. This wash structure includes vertically suspended sheet members which may be in the form of strips of cloth or other suitable soft, water-absorbent sheet material. The liquid may be sprayed onto this sheet material or flexible tubes in the sheet material may direct washing liquid thereto. A structure is provided for causing these washing strips of sheet material to become attracted to and to cling to the exterior of the vehicle. This latter structure takes the form of permanent magnets imbedded in soft rubber and attached to the fabric strips of sheet material so that the magnets by attraction to the metal of the car will

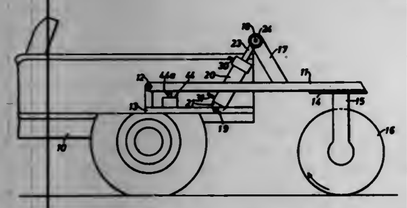
cause the sheet material to cling to the exterior surface which is being washed, so as to achieve a frictional rubbing between the sheet material surface and the exterior car surface.

3,510,899
VEHICLE WASHING INSTALLATION
Max Vollenweider and Erwin Remund, Horgen, Switzerland, assignors to Sam Vollenweider AG, Horgen, Switzerland, a corporation of Switzerland
Filed Oct. 2, 1967, Ser. No. 672,087
Claims priority, application Switzerland, Oct. 6, 1966, 144,521/66; Mar. 22, 1967, 4,085/67
Int. Cl. B60s *3/06*; A46b *13/02*
U.S. Cl. 15—21 6 Claims



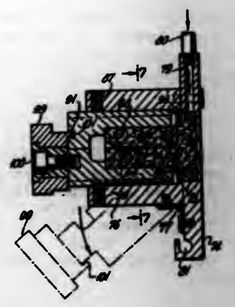
A car washing installation having a travelling frame or gantry movable lengthwise relative to the automobile to be washed. The travelling gantry supports carriage means mounted to be elevationally displaceable, and a roller brush means is carried by the carriage means for rotation about a substantially horizontal axis. Separate drive means serve for displacing the travelling gantry and for elevationally displacing the aforesaid carriage means. Additionally, means are provided for movably mounting the roller brush means at the carriage means to possess an additional degree of freedom of movement, and return means serve to restore the roller brush means into its normal position. Switch means coupled with both of the drive means and operably associated with the roller brush means control the elevational displacement of the carriage means and the travelling motion of the travelling gantry as a function of the deflection of the roller brush means taking place within the aforesaid degree of freedom of movement and against the action of the return means.

3,510,900
SWEEPING MACHINES
Claes Emil Rosland, Lund, Sweden, assignor to Asbrink Elker Atkiebolag
Filed May 21, 1968, Ser. No. 730,707
Claims priority, application Sweden, May 26, 1967, 7,411/67
Int. Cl. E01h *1/02*
U.S. Cl. 15—82 5 Claims



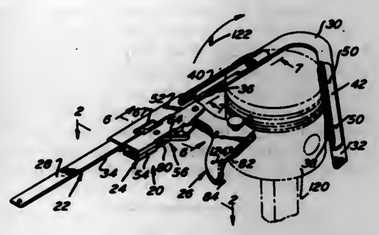
A sweeping machine has a cylindrical brush mounted in a support assembly on a vehicle. The support assembly is vertically adjustable by means of hydraulic jack means. In order to obtain a constant brush pressure the hydraulic jack has a double-ended cylinder and a differential pressure piston and the ends of the hydraulic cylinder are connected to a hydraulic fluid line in which the hydraulic pressure is kept constant by means of pressure control valve means.

3,510,901
LIQUID TREATING MEANS FOR IMAGE CARRYING FILM ON PROJECTION APPARATUS
Richard Sassenberg, 450 Weaver St., Larchmont, N.Y. 10538
Filed May 28, 1968, Ser. No. 740,394
Int. Cl. G03d *5/06*
U.S. Cl. 15—100 11 Claims



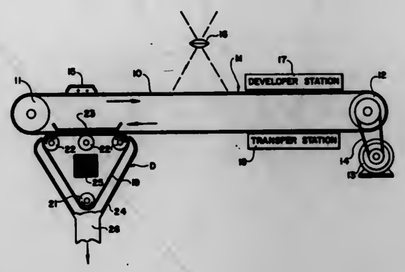
Liquid supplying and applicating apparatus for coating a film just prior to projection, said supplying apparatus functioning to maintain a small supply of liquid to said applicator at all times and increasing the supply of liquid when said projection apparatus is operated and said applicator including means for holding resilient pads in contact with each side of the film and means for distributing the liquid uniformly to each of the pads.

3,510,902
PISTON RING GROOVE CLEANER
Smith Kyser, Lowell, Mich., assignor to Aircraft Specialties, Inc., Lapeer, Mich., a corporation of Delaware
Filed Dec. 20, 1967, Ser. No. 692,052
Int. Cl. B60s *5/00*
U.S. Cl. 15—104.01 6 Claims



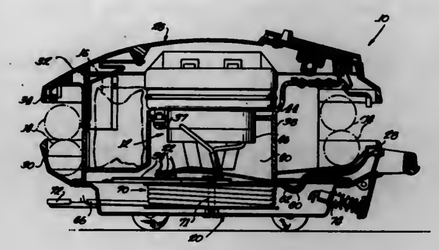
A piston ring groove cleaner comprising an elongated bar having a first straight portion and a second straight portion which is bent back upon itself at one end of said bar to provide means for engaging a piston. A slidable member adapted to slide along the first straight portion of the bar is also provided. The slidable member has a spring urged pivotal locking member for engaging the first straight portion so that the slidable member may be slid towards one end of the bar, but is normally locked against being slid towards the other end of the bar. A cutting element holder arm is also provided which is pivotally mounted to the slidable bar and adapted to be spring urged towards the first end of the bar.

3,510,903
ENDLESS CLEANING WEB
Hans O. Stoever and Stephen F. Michatek, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 1, 1968, Ser. No. 725,742
Int. Cl. A47l *25/08*; B41f *35/00*; G03g *1/22*
U.S. Cl. 15—256.5 10 Claims



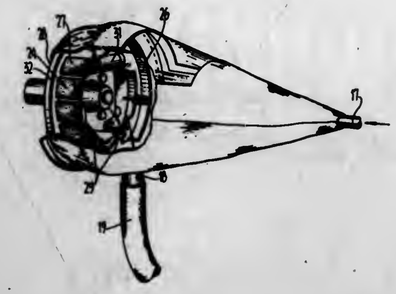
Residual toner particles on a photoconductive belt are cleaned therefrom by frictional engagement of a cleaning web running along an endless path in the opposite direction to the belt. The cleaning web itself is cleaned by a vacuum so that it may be reused.

3,510,904
THERMAL CONTROL MEANS FOR A CLEANER ASSEMBLY
Robert C. Lagerstrom, Normal, Ill., assignor to National Union Electric Corporation, Stamford, Conn., a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,531
Int. Cl. A47l *5/00*
U.S. Cl. 15—319 3 Claims



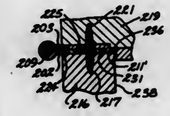
Disclosed herein is a suction cleaner assembly having a fan for drawing air entrained materials into the cleaner assembly and a thermally responsive device mounted in a path of air flow from the fan for sensing when the temperature of the air exceeds a predetermined temperature and for disabling the fan when the predetermined temperature is exceeded to protect the suction cleaner assembly against overheating.

3,510,905
CLEANING SYSTEM FOR AUTOMOBILE BRAKES
John R. Bannert, 7676 Brighton Drive, Dublin, Calif. 94566
Filed Mar. 14, 1968, Ser. No. 713,220
Int. Cl. B60s *3/00*; A47l *5/14*
U.S. Cl. 15—345 2 Claims



A cleaning system that includes a hood adapted to fit over the backing plate and linings of an automobile brake in sealing relation thereto, and having an inlet port for the sealed insertion of the barrel of an air gun and an outlet port for the attachment of a vacuum hose. Air is directed from the gun barrel into the sealed interior of the hood upon the brake assembly to remove accumulated dust and dirt, and the dust and dirt is withdrawn through the vacuum outlet port to thereby clean the brakes.

3,510,906
TAMPERPROOF HINGE
James Granville Baldwin, Sr., 3605 S. Grady, Tampa, Fla. 33609
Filed Feb. 16, 1968, Ser. No. 705,990
Int. Cl. E05d *9/00*
U.S. Cl. 16—128 4 Claims

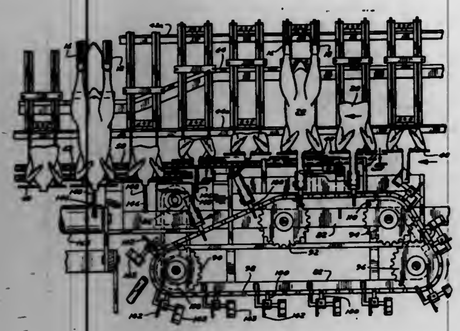


A tamperproof hinge which prevents unauthorized removal of a closed door from its frame after the hinge pins have been withdrawn. At least one hinge plate has a side edge bent to form a lip that extends across the side edge of the other hinge plate when the door is closed. The lip forms an abutment which engages the side edge of the other hinge plate to prevent sliding the hinge plates relative to each other when they are in face-to-face relation and the door is closed.

3,510,907
METHOD AND APPARATUS FOR CLEANING ANIMALS SUCH AS POULTRY
Jack J. Rejsa, Minneapolis, Minn., and Henry N. Schacht, Gainesville, Ga., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 26, 1968, Ser. No. 716,139
Int. Cl. A22c *21/00*
U.S. Cl. 17—11 9 Claims

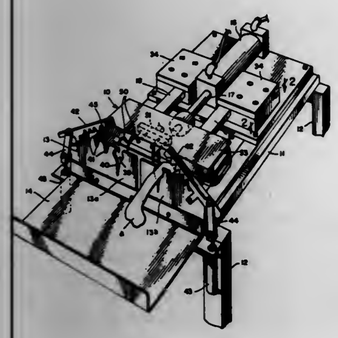
An apparatus for removing the neck, esophagus and trachea from poultry. A plurality of bird engaging support plates are mounted upon an endless conveyor synchronized with the movement of the birds as they are carried

horizontally upon conventional overhead processing conveyor. As the birds are engaged by the plates, a cam elevates each plate to raise the wings and body. A groove in the plate receives and properly locates the neck so that it can be engaged by a cutter designed to only partially



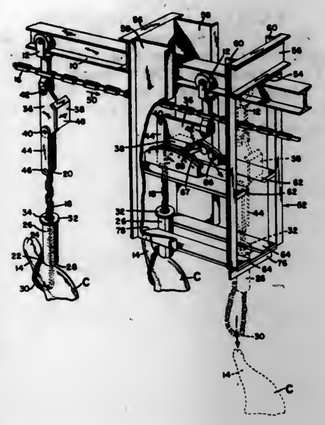
sever the neck at its base leaving the esophagus and trachea intact. Jaws grasp and remove the neck but leave the trachea and esophagus which are then engaged by a pair of cooperative knurled rollers that withdraw them from the body cavity.

3,510,908
APPARATUS FOR STRIPPING MEAT FROM SKELETAL COMPONENTS
Asa B. Segur, Oak Park, and Rodney J. Lindgren, Chicago, Ill., assignors to Asa B. Segur, doing business as A. B. Segur & Company, Oak Park, Ill.
Filed Sept. 6, 1967, Ser. No. 665,827
Int. Cl. A22c *21/00*
U.S. Cl. 17—1 13 Claims



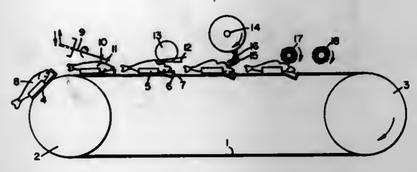
A device and method for stripping meat, particularly raw poultry meat, from a plurality of skeletal components at the same time. Such skeletal components are clamped by their ends between the jaws of a retractable carriage and are thereafter pulled through openings defined by a stationary plate and by closable gate elements. During initial portion of the piston stroke, the clamping jaws close tightly about the ends of the skeletal components, and during the remainder of the uninterrupted stroke the carriage draws away from the plate and gates to strip the meat from the bones or tendons.

3,510,909
AUTOMATIC UNSHACKLER
Raymond A. Herzog, Cincinnati, Ohio, assignor to Cincinnati Butcher's Supply Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 16, 1967, Ser. No. 683,716
Int. Cl. A22b *5/00*
U.S. Cl. 17—24 16 Claims



An overhead conveyor is provided with spaced trolleys advanced by a drive chain, said trolleys each carrying an animal shackle of the self-tightening loop or noose type which may release the animal by relaxing and enlarging the loop or noose. The release or unshackling of the animal is performed within a rigid stationary frame, with the use of means for automatically enlarging the loop or noose, said means within the frame having no moving parts and no power means additional to the drive for advancing the trolleys.

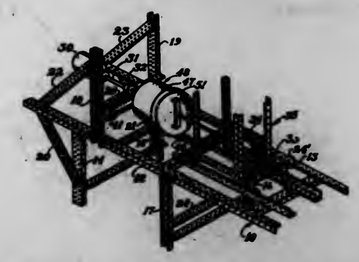
3,510,910
METHOD FOR MECHANICALLY REMOVING THE GILLS AND ENTRAILS FROM FISH
Robert A. Erkins, Buhl, Idaho, assignor to Rudolf Georg Theodor Baader, trading as Fa. Nordischer Maschinenbau Rud. Baader, Lubeck, Germany
Filed Apr. 14, 1967, Ser. No. 630,905
Claims priority, application Germany, May 10, 1966, N 28,510
Int. Cl. A22c *25/14*
U.S. Cl. 17—52 4 Claims



Method for the removal of gills and entrails of a fish wherein the fish are carried in pockets on a conveyor past a series of mechanisms first to make a pair of transverse cuts on the underside of the fish the first between the mandibular of the lower jaw and the second severing the symphysis from the claviculae, thereafter making a

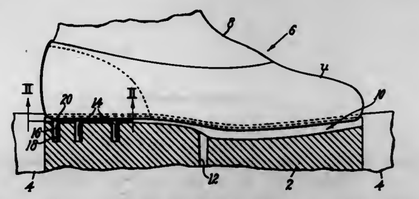
longitudinal cut to open the belly cavity between the second cut and the vent, gripping the bridge of flesh between the transverse cuts and tearing out the gills and entrails by traction. This process avoids removal of the complete lower jaw but does ensure complete removal of gills and throat which is of importance for the processing e.g. of mackerel, trout, etc.

3,510,911
APPARATUS FOR ROTATIONAL MOLDING OF THERMOPLASTIC ARTICLES
Jerry Alter, 1511 Sherwood Drive, East Meadow, N.Y. 11554
Filed Apr. 11, 1968, Ser. No. 720,635
Int. Cl. B29g *7/00*
U.S. Cl. 18—26 3 Claims



An apparatus is provided for rotational molding of thermoplastic articles. The apparatus is simple and inexpensive and is capable of ready adjustment to accommodate a range of sizes.

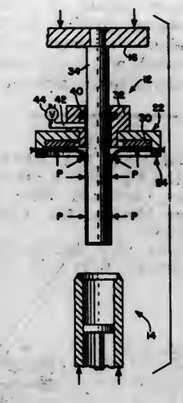
3,510,912
MOLD ASSEMBLIES FOR SHOE SOLES
Robert F. Lane, Danvers, Mass., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed July 19, 1968, Ser. No. 746,132
Int. Cl. B29c *1/00*
U.S. Cl. 18—42 4 Claims



Mold assembly for molding a sole onto a lasted upper, including upper engaging means disposed on the mold cavity surface of the bottom mold member and protruding therefrom to urge the upper close against the mold cavity surface of a footform on which the upper is mounted.

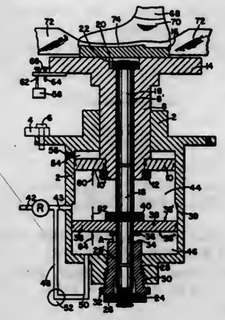
3,510,913
DEEP DRAWN ARTICLE FORMING APPARATUS
Bryant Edwards, Clarendon Hills, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed June 8, 1966, Ser. No. 556,083
Int. Cl. B29c *17/04*
U.S. Cl. 18—19 3 Claims

Apparatus for manufacturing deep drawn articles of thin-wall thermoplastic construction to provide a substantially uniform wall thickness throughout all wall portions thereof through the use of mold members which



control material distribution from the inception to the completion of the forming cycle.

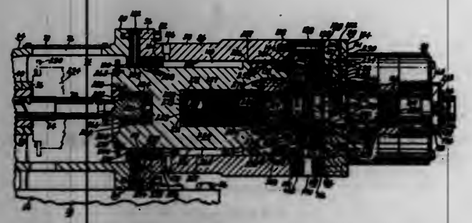
3,510,914
MOLDING INJECTION TERMINATION
Ladislav Hujik, Batawa, Ontario, Canada, assignor to Bata Shoe Company, Inc., Belcamp, Md.
Filed Feb. 12, 1968, Ser. No. 704,795
Claims priority, application Canada, Feb. 16, 1967, 983,066
Int. Cl. B29f *1/06*
U.S. Cl. 18—30 18 Claims



Apparatus for positioning a movable mold member which forms a molding cavity with other cavity-forming mold components, the apparatus including a cylinder having an axially reciprocal piston rod carried thereby. The end of the piston rod projecting from the cylinder has a platform which carries the movable mold member, and the other end of the piston rod carries a piston which coacts with the cylinder. A central rod is contained in an axial bore in the piston rod, the central rod having a piston secured to it and also coacting with the cylinder. Means for adjusting the reciprocal movement of the

central rod. A first pressure chamber defined between the piston rod piston and the central rod piston, and a second pressure chamber defined between the central rod piston and the end of the cylinder. Means for introducing and maintaining fluid pressure in both the first and second pressure chambers, and means for exhausting the fluid pressure from the second chamber. Furthermore, the apparatus can carry adjustable means on the platform for activating a microswitch which will terminate the injection of molding material in the molding cavity.

3,510,915
INJECTION MOLDING MACHINE PRESSURE BALANCED DRIVE SHAFT
Oskar R. Johansson, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 18, 1968, Ser. No. 722,449
Int. Cl. B29f *1/06*
U.S. Cl. 18—30 12 Claims



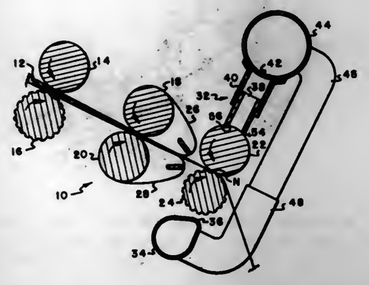
In a reciprocating screw injection molding machine wherein independently controlled rotary and axial movements are imparted to the plasticizing screw by a piston-cylinder motor having its reciprocable piston slidingly driven by a rotary splined shaft driven in turn by a separate motor means, the improvement comprising an enclosed drive shaft flange portion outside the cylinder bore, with the total effective area of the axial flange face facing away from the cylinder being substantially equal to the total effective area of the axial end face of the drive shaft portion engaging the piston, and conduit means connecting these areas whereby the sum of the axial fluid pressure forces acting on the drive shaft approaches zero and obviates the need for an axial thrust bearing.

3,510,916
DEVICE FOR INSTALLING MOLDED-IN INSERTS IN SANDWICH PANELS
Charles S. Phelan, Tustin, Calif., assignor to Shur-Lok Corporation, Santa Ana, Calif., a corporation of California
Original application June 21, 1965, Ser. No. 465,684, now Patent No. 3,392,225, dated July 9, 1968. Divided and this application Jan. 8, 1968, Ser. No. 696,474
Int. Cl. B29d *3/00*
U.S. Cl. 18—36 13 Claims



Disclosed herein is a holder for installing a fastener insert in a hole in a lightweight sandwich panel, comprising an adhesive-coated plate which is first adhered to the end of the insert with portions of the holder, including their adhesive-coated faces, projecting beyond the sides of the insert; the insert is then placed in the hole with the projecting portions bridging across the mouth of the hole, and the adhesive faces of these projecting poritions are adhered to the panel at the margin of the hole so as to hold the insert in position in the hole while uncured potting compound is injected past the holder into the hole and is subsequently hardened into a rigid anchoring body securing the insert in the hole.

3,510,917
PNEUMATIC CLEANER
Russell B. Newton, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Feb. 6, 1964, Ser. No. 342,924
The portion of the term of the patent subsequent to May 17, 1983, has been disclaimed
Int. Cl. D01h *5/66*
U.S. Cl. 19—263 2 Claims



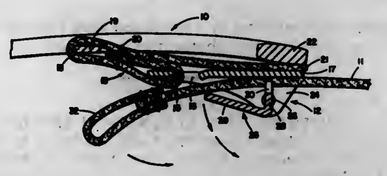
1. Textile drafting apparatus comprising a plurality of drafting rolls and including a pair of rolls in peripheral nip-forming engagement with each other, means supplying fiber to be drafted between said pair of rolls, suction conduit means in frictional engagement with one roll of said pair of rolls, said suction conduit means being a low friction resistant substantially rigid plastic-like material to prevent excessive wear on said one roll and said suction conduit means, means for connecting said conduit means to a source of negative pressure, and means providing fluid communication between said one roll and said suction conduit means to apply suction pressure to said one roll to remove lint scraped from said one roll by said suction conduit means.

3,510,918
CLAMPING DEVICE
Hans Oetiker, Oberdorfstrasse 21, Horgen, Switzerland
Filed Sept. 24, 1968, Ser. No. 762,020
Int. Cl. B65d *63/02*
U.S. Cl. 24—19 23 Claims



A band clamp in which two overlapping band ends are provided with apertures, whereby the band ends are connected with each other, after the apertures are aligned, by the insertion of the fold portion of a tensional spring element through the aligned apertures from the inside of the clamp; the tensional spring element may be retained in its assembled condition by means of an insert element extending through the fold portion whereby pressure forces seeking to enlarge the diameter of the clamp will contract the inner ends of the fold portion.

3,510,919
ADJUSTABLE BELT
Israel Chernuchin, 10549 Valparaiso St., Los Angeles, Calif. 90034
Filed Apr. 4, 1968, Ser. No. 718,818
Int. Cl. A44b *11/00*
U.S. Cl. 24—74 8 Claims



An adjustable belt device in which the end of the belt extends through a clamp, with the belt having an extension beyond the clamp to permit the end portion of the belt to be raised to loosen the clamp without the use of tools, a stop on the end portion of the belt to prevent the belt from becoming separated from the clamp, and a buckle attached to the clamp by means of a strip of material having two overlapping loops and an extension that overlies and conceals the clamp.

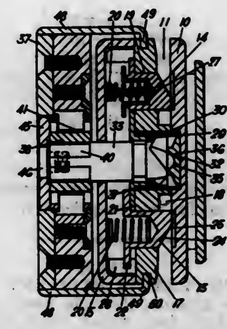
3,510,920
GARMENT DRAPING BUTTON
Irving David Tias, 2 Archbridge Lane, Springfield, N.J. 07081
Filed Mar. 5, 1968, Ser. No. 710,580
Int. Cl. A44b *1/18*
U.S. Cl. 24—90 5 Claims



The present invention deals with a garment draping button comprising a substantially flat and substantially stiff but yieldable sheet material carrying a tongue thereon, the tongue comprising a neck portion carrying a head at one end portion thereof with the other end portion being connected to the sheet, a layer of pressure sensitive adhesive material on one side of the sheet and a protective readily removable backing material covering the adhesive layer.

3,510,921
QUICK RELEASE DEVICES
Alfred Edward Gillmore, Woking, Surrey, England, assignor to G.Q. Parachute Company, Limited, Woking, Surrey, England, a British company
Filed Mar. 29, 1968, Ser. No. 717,336
Int. Cl. A44b *11/25*; B64d *17/30*
U.S. Cl. 24—205.17 5 Claims

A quick release device for a parachutist's harness of the type which holds a number of lugs, connected to the harness, on spigots inside the release device, the lugs being released from the spigots when a control plate is turned has a locking means such as plates on one part of the device engaging a groove on another part, or a circlip in a groove in one part which rests against a plate on the other part, to prevent accidental axial movement of the two parts which might release the lugs.



3,510,922
FASTENER STUD ASSEMBLY
Theodore Dzus, West Islip, and Conrad J. Gunther, Uniondale, N.Y., assignors to Dzus Fastener Co. Inc., West Islip, N.Y., a corporation of New York
Filed Jan. 31, 1968, Ser. No. 701,908
Int. Cl. A44b *17/00*; F16b *43/00*
U.S. Cl. 24—221 3 Claims

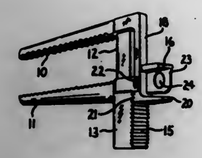


A fastener stud assembly including a cup to enclose a headed stud, encircled by a spring, is given its final form at the time of manufacture, such that a bucking tool may be inserted therein to engage with the base cup surfaces. So engaged the cup flange may be readily flared to secure that cup to a desired mounting. Thereafter, the cup receives the stud encircled by a spring; a supported latch element movable with the stud is employed to retain these parts within the cup. Also, by such preforming of the cup, it may be anodized, coated, or otherwise treated at the time of manufacture, with no danger of subsequent cracking, or spoilage of the finish; this being due to the fact that the outer cup end is not subjected to a constricting action to retain the stud and spring therein.

3,510,923
PARALLEL JAW RATCHET CLIP AND RETRACTOR
Lawrence W. Blake, Huntington Beach, Calif., assignor, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed June 20, 1968, Ser. No. 738,562
Int. Cl. A61b *17/12*
U.S. Cl. 24—263 18 Claims

Two embodiments of the clip and one embodiment of retractor are disclosed, made of plastic for use as dispos-

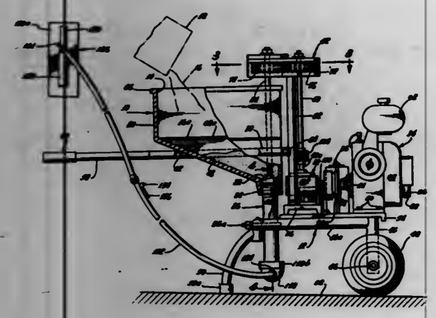
able items. The jaws have sliding action by movement of a plunger in a barrel. A first pair of pinch grips is provided for applying the device and a second pair of pinch grips is provided for releasing the device.



3,510,924
TROWELING PLASTER DELIVERY APPARATUS

David Chester Kramer, Redondo Beach, Calif., assignor to Trowel Fast, Inc., Azusa, Calif., a corporation of California

Filed Mar. 21, 1967, Ser. No. 624,836
Int. Cl. E04f *13/00*
U.S. Cl. 25—104.5 7 Claims



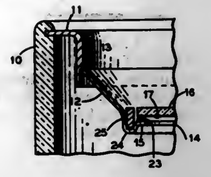
Apparatus is provided for controllably delivering liquid plaster to a dispensing head including a carriage, a hopper supported on the carriage to have a relatively large inlet opening upwardly for reception for plaster or plaster forming materials and an upright wall and a lower outlet toward which plaster in the hopper gravitates; a generally upright shaft penetrating downwardly within the hopper through the plaster surface level toward the outlet in closely spaced relation to the upright hopper wall; a pump housing and a cooperating plaster displacing member at the outlet to receive plaster from the hopper interior and means provided on the carriage to support the shaft from above the plaster surface level and to controllably displace the shaft for plaster delivery which means are so constructed and arranged that the maximum extent of the hopper inlet remains vertically unobstructed.

3,510,925
METHOD FOR MAKING A TUBE STRUCTURE

Horst G. Fleck, Titusville, N.J., assignor, by mesne assignments, to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware

Filed Feb. 20, 1968, Ser. No. 706,967
Int. Cl. H01j *9/36*
U.S. Cl. 29—25.15 2 Claims

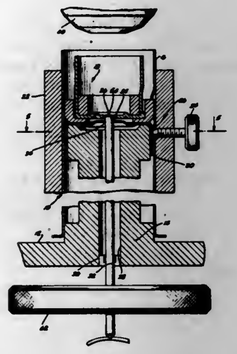
An illustrative embodiment of the invention shows a method and apparatus for joining a crystalline magnesium fluoride faceplate to the envelope of a photomultiplier tube. The bialkali photocathode deposited on the faceplate is protected from the chemically incompatible silver chloride sealing compound by a preglazed glass frit that acts as a barrier between the photocathode and the seal.



3,510,926
ELECTRON GUN ALIGNMENT DEVICE

Frederick G. Oess, Oceanside, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Jan. 2, 1968, Ser. No. 695,078
Int. Cl. H01j *9/06*
U.S. Cl. 29—25.19 5 Claims



An aligning jig and method of operation to precisely align the G1 and G2 electrode apertures of an electron gun is disclosed. An aligning mandrel is positioned in one aperture and adjacent the other and rotated to view misalignment. The supporting cylinder is then manually distorted to produce aperture alignment.

3,510,927
METHOD FOR MAKING BEARING WITH SEAL

Paul W. Leak, Simsbury, Conn., assignor, by mesne assignments, to Industriewerk Schaeffler O.H.G., a partnership of Germany

Continuation of application Ser. No. 541,838, Apr. 11, 1966. This application Feb. 4, 1969, Ser. No. 798,261
Int. Cl. B23p *11/00*
U.S. Cl. 29—148.4 3 Claims

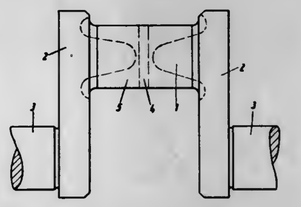


A method for making a needle roller bearing in which the outer shell is formed with a radially extending integral flange. An elastomeric seal having a hardened insert bonded in place is positioned adjacent to the flange with the hardened insert presenting a riding surface to the ends of the needle rollers or the cage thereof.

3,510,928
METHOD FOR IMPROVING THE TORSIONAL FATIGUE STRENGTH OF CRANKSHAFTS

Gerhard Seulen and Friedhelm Reinke, Remscheid, Germany, assignors to AEG-Elotherm G.m.b.H., Remscheid-Hasten, Germany

Filed Feb. 12, 1968, Ser. No. 704,891
Claims priority, application Germany, Oct. 6, 1967, A 57,003
Int. Cl. B21d *53/10*; B21k *1/08*
U.S. Cl. 29—149.5 3 Claims

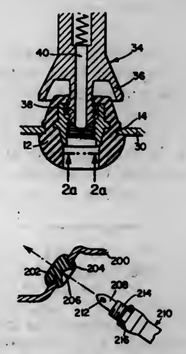


Crankshafts frequently have low torsional fatigue strength in the region of the oil holes on the main bearing surfaces when inductively hardened. The invention provides a method for producing hardened zones which increase in depth along the main bearing surface towards the oil hole, which oil hole is preferably hardened along its whole length, whereby the torsional fatigue strength is improved.

3,510,929
PROCESS FOR PREPARING TUBELESS PNEUMATIC TIRES FOR USE AND STRUCTURE BY WHICH THE PROCESS MAY BE UTILIZED

Louis Edward Kilmarx, Dickson, Tenn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Sept. 20, 1967, Ser. No. 669,225
Int. Cl. B21d *53/00*; B21k *29/00*; B23p *15/26*
U.S. Cl. 29—157 2 Claims



The tubeless tire is mounted on a rim in which the valve-stem opening is blocked by obstruction means having any of various structures. The tire is filled "under the bead." Subsequently a selected valve stem is used to force the obstruction means to unblock the opening and is mounted in the opening in communication with the tire.

3,510,930
METHOD OF FABRICATING A HEAT EXCHANGER

Edward P. Oddy, Detroit, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Original application Oct. 24, 1965, Ser. No. 504,915, now Patent No. 3,437,134, dated Apr. 8, 1969. Divided and this application June 14, 1968, Ser. No. 796,242
Int. Cl. B21d *53/02*; B23p *15/26*
U.S. Cl. 29—157.3 4 Claims

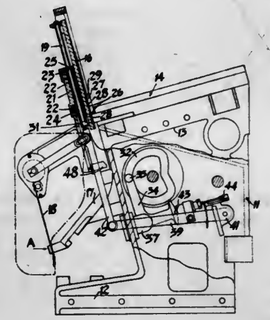


A method of making fin elements for heat exchangers and assembling heat exchangers therefrom. The fins are fabricated from metal strip by forming tube receiving openings in the strip, punching a plurality of integral spacer loops and integral turbulizer loops from the strip between the openings, and severing the strip into fins of a predetermined length. The fins thus fabricated are stacked so that the openings register each with the other, a plurality of tubes are inserted through the openings, and the fins are joined to the tubes to form a heat exchanger.

3,510,931
MACHINE FOR USE IN ASSEMBLING BATTERY PLATE PACKS

John Derek Harris, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Dec. 14, 1967, Ser. No. 690,571
Claims priority, application Great Britain, Dec. 15, 1966, 56,174/66
Int. Cl. H01m *35/18*
U.S. Cl. 29—204 9 Claims



A machine which, together with a plurality of similar machines, can be used in assembling battery plate packs,

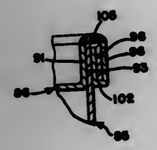
includes a magazine into which a plurality of one of the components of the battery plate pack is stacked on edge, a reciprocable slide for removing the components singly from the magazine, and a chute into which the slide feeds the components. The shape of the chute is such that a component in the chute can be transferred automatically from the chute to a conveyor running beneath the chute by the action of a part moving with the conveyor.

3,510,932

METHOD OF RECONDITIONING A METAL DRUM

Paul D. Lammers, Oakwood, and Delno L. Scott, Dayton, Ohio, assignors to Lammers Barrel Corp., Dayton, Ohio, a corporation of Ohio

Filed Nov. 8, 1967, Ser. No. 681,493
Int. Cl. B22d 19/10; B23p 7/00
U.S. Cl. 29—401 3 Claims



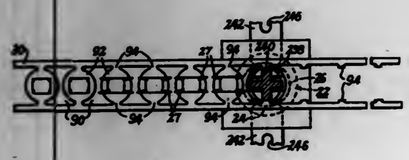
A method of reconditioning a metal drum including removing an end cover of the drum by grinding the radial flange portion of the chime to detach the inner cylindrical chime portion of the end cover from the outer cylindrical chime portion without unfolding the seam, removing the end cover in order to clean the inner surfaces of the drum and cover, reinserting the end cover within the end of the drum, and welding the inner cylindrical chime portion to the outer cylindrical chime portion.

3,510,933

APPARATUS AND METHOD FOR CONTINUOUSLY FORMING INTRACUTANEOUS INJECTORS

Arthur S. Taylor, Spring Valley, and Ellsworth R. Sandhage, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed May 26, 1967, Ser. No. 641,639
Int. Cl. B23p 17/00, 23/04
U.S. Cl. 29—417 24 Claims



Herein disclosed are an apparatus and method for continuously forming disposable intracutaneous injectors. The apparatus comprises a press for forming scarifying plates on a continuous strip, an ultrasonic bath, a dryer, an applicator for applying a biologically-active liquid to the plates and apparatus for feeding and assembling the plates on handles.

The strip is intermittently fed by predetermined increments through the apparatus and the various mechanisms of the apparatus are coordinated with the rate of feed of the strip and with each other to produce the finished intracutaneous injector.

3,510,934

METHOD OF MANUFACTURING A WRITING OR DRAWING NIB

Harald Koellchen, Geretsried, Upper Bavaria, Germany, assignor to Standardgraph Filler & Flebig GmbH, Geretsried, Bavaria, Germany

Filed Feb. 1, 1967, Ser. No. 613,297
Claims priority, application Germany, Feb. 4, 1966, F 48,354
Int. Cl. B23p 17/00, 11/00; B21d 39/00
U.S. Cl. 29—419 2 Claims

Writing or drawing nibs consisting of a bundle of metal fibers or threads within a liquid-tight metal covering. The metallic cover for the nibs may be provided by nickel or chromium coatings, or by mounting the fibers within a



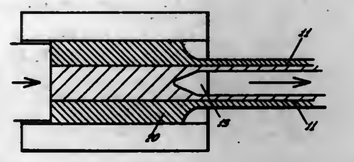
steel tube. The thus covered fiber bundle may additionally be covered with a protective epoxy resin coating.

3,510,935

PROCESS OF MANUFACTURING ROD-SHAPED MULTILAYER SEMIFINISHED MATERIAL

Eugen Dürrwächter, Carl-Ludwig Meyer, Ulf Harmsen, and Wolfgang Pöttken, Pforzheim, Germany, assignors to Eugen Durrwachter Doduco, Pforzheim, Germany

Filed May 3, 1966, Ser. No. 547,282
Claims priority, application Germany, Jan. 3, 1966, D 49,065, D 49,066, D 49,067
Int. Cl. B22f 3/24
U.S. Cl. 29—420.5 12 Claims



Process of manufacturing multilayer extrusions wherein a multilayer, compacted block is formed by compacting a powder mixture of metal particles adapted for cold-bonding under pressure and a compound which tends to chemically decompose at an elevated temperature. The compacted block is then sintered at a temperature at which such compound decomposes. Subsequently, the sintered block is extruded in the direction of its layer.

3,510,936

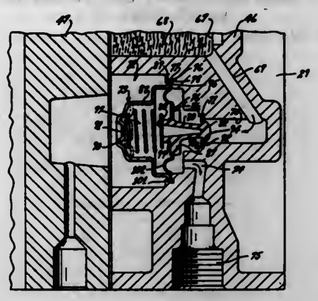
METHOD FOR MAKING A PRESSURE REGULATOR

Michael J. Caparone, Arcadia, and Theodore J. Dykzeul, Rolling Hills, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Original application Mar. 23, 1964, Ser. No. 353,924, now Patent No. 3,439,699, dated Apr. 22, 1969. Divided and this application May 6, 1968, Ser. No. 752,402
Int. Cl. B23p 19/04, 21/00, 23/00
U.S. Cl. 29—454 9 Claims

This disclosure relates to a pressure regulator formed from a one-piece flexible diaphragm and valve member

structure wherein the flexible valve member is disposed spaced from one side of the flexible diaphragm so that the flexible valve member can be flexed through a valve seat of a housing to open and close the valve seat on



one side thereof while the flexible diaphragm is disposed on the other side of the valve seat and can be utilized to cooperate with the housing structure carrying the valve seat to define a chamber therewith.

3,510,937

METHOD OF INSTALLING LOUDSPEAKER LEAD WIRES

Elmore A. Heppner, Round Lake, and Charles J. Kanthack, Fox Lake, Ill., assignors to Heppner Manufacturing Co., a corporation of Illinois

Filed Feb. 5, 1968, Ser. No. 703,076
Int. Cl. H04r 31/00
U.S. Cl. 29—594 5 Claims



A method of installing lead wires in a loudspeaker wherein a pair of lead wires are attached to a terminal assembly and passed concurrently through openings in the speaker cone. The wires are suitably arched by movement of a clip portion of the terminal assembly into retained association with a lug on the loudspeaker frame. The free ends of the wires are then secured to the voice coil leads. The terminal assembly is preformed to have the lead wires secured to a pair of spaced terminals carried by insulation means on a clip element. The clip defines a socket adapted to be fitted onto the frame lug for retained association of the terminal assembly with the frame.

3,510,938

METHOD OF MAKING INDUCTION HEATER RING

George L. McFarland, Salem, Va., assignor to General Electric Company, a corporation of New York

Filed June 3, 1968, Ser. No. 733,924
Int. Cl. H01f 17/00
U.S. Cl. 29—602 2 Claims

A strip of chrome copper, or similar metal, formed into a circular shaped, partial ring with the ends of the strip separated and abutting each other, the ends of the strip also being plated with silver, or other precious metal, whereby force exerted across the perimeter of the device closes the ring bringing the ends of the strip into intimate electrical contact so that the completed ring may be used



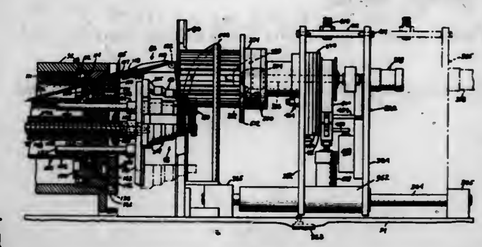
as a supplemental heating, internal short-circuited secondary, in an induction heater roll.

3,510,939

COIL DEVELOPING METHOD

Dallas F. Smith, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 594,462, Nov. 15, 1966. This application Apr. 2, 1969, Ser. No. 812,650
Int. Cl. H01f 7/06
U.S. Cl. 29—605 6 Claims

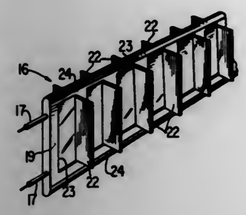


Method for developing wound coil groups for ultimate placement into slots of electromagnetic cores. A noncollapsing, multistage, coil form has a number of different size coil-forming stages on which turns of electrically conductive wire are wound by a reversibly rotatable flyer assembly into serially connected coils of different sizes as some of the turns are being transferred into a coil-receiving assembly. During the winding of the turns, the tendency of the wire to oscillate is reduced as it is being held. At least some of the turns are automatically transferred into the coil-receiving assembly as other turns are being wound in the same coils, all of the turns being transferred from the multistage coil form without need for collapsing the form. The coil-receiving assembly and coil form are indexed relative to one another at the proper time to accommodate all coil groups in a given winding. In this way, the same noncollapsing form and coil-receiving assembly may be employed in the automatic development of a number of coil groups of the same winding with reduced tendency for turns to cross over and with rather short interpole wires being permitted between coil groups. The method may be efficiently and rapidly practiced, is versatile, and is capable of use in connection with a wide range of core and wire sizes.

3,510,940
HEATING AND RADIATING UNIT FOR ELECTRIC HEATERS

Harley J. Orr, Bedford, N.H., assignor to Sola Basic Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 7, 1967, Ser. No. 666,063
Int. Cl. H05b 3/00, 3/16
U.S. Cl. 29—611 8 Claims

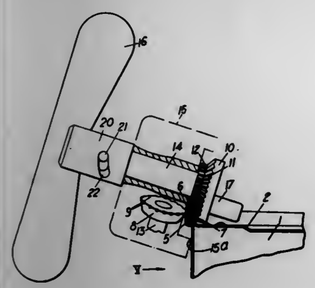


An electric heating element for baseboard heaters or the like wherein strips of supporting material, insulating strips and a heater element strip are fed to a forming and gathering apparatus and formed into a heating unit. The supporting material preferably has fins stamped thereon.

3,510,941
CAN OPENERS

Donald Ross Fyfe, Wembley Park, England, assignor to The Metal Box Company Limited, London, England, a British company

Filed Mar. 8, 1968, Ser. No. 711,791
Claims priority, application Great Britain, Mar. 23, 1967, 13,814/67
Int. Cl. B67b 7/34
U.S. Cl. 30—15.5 12 Claims

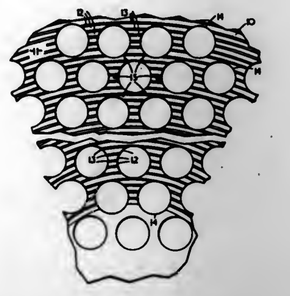


In a can opener of the kind in which a rotatable cutter is arranged to cut through the seaming wall of a double seam by which a can end is secured to a can body, the cutter and a wheel having a chuck wall engaging surface and which is arranged to engage the top of the seaming wall radius of the can are rotatable with spindles appropriate thereto and which are mounted substantially at right angles one to the other in a housing common thereto. An abutment parallel with the wheel spindle extends from the housing at the trailing end thereof to engage the top of the seaming wall radius of the can and a second abutment provided on the housing engages the side of the can during a cutting operation.

3,510,942
FOIL FOR DRY SHAVERS

Norman Thomas Sanders, Studley, England, assignor to Wilkinson Sword Limited, London, England, a British company

Filed Nov. 7, 1967, Ser. No. 681,249
Int. Cl. B26b 19/42
U.S. Cl. 30—34.2 8 Claims

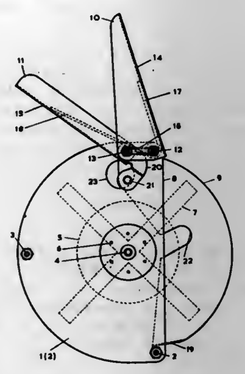


A guard member (sometimes known as a shear plate) to cooperate with the cutter member of a dry shaver is formed in a conventional manner from carbon or stainless steel between 0.0015 and 0.005 inch in thickness with apertures, which need not be circular, 0.015 to 0.025 inch across and at least approximately 0.006 inch apart. The surface of the foil which is in contact with the cutter member is formed with a recessed pattern of straight or curved grooves or of discrete indentations between 0.0001 and 0.0002 inch in depth and typically 0.003 inch wide and 0.001 inch apart so that the boundary of such an aperture intersects the recessed pattern and is thus of castellated, wavy, or other undulating form in the direction of the thickness of the foil.

3,510,943
CUTTING DEVICE WITH SAFETY GUARD

Reginald John Fowler, 6 Compton Road, London N. 21, England, and Abraham William Croot, 50 Bramble Road, Hatfield, Hertfordshire, England

Filed Aug. 3, 1967, Ser. No. 658,273
Int. Cl. B26b 25/00, 29/00
U.S. Cl. 30—287 2 Claims



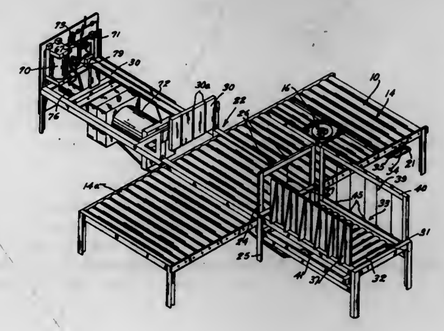
A shroud for a rotating cutter has a bearing about the spindle to orient the shroud with respect to the cutter. The shroud includes a fixed member having plates on both

sides of the cutter, to one of which the bearing is affixed, and a movable member having plates on both sides of the cutter and spaced closer together than the plates on the fixed member so as to move between the plates of the fixed member. The movable member is pivotally connected to the fixed member at a point spaced to one side of the spindle and has an operating handle connected thereto by which the movable member may be moved from a position at which the cutter is enclosed to a position between the plates of the fixed member with a substantial portion of the cutter exposed. Spring means are operably connected to the movable member to resiliently urge it to the position at which the cutter is enclosed.

3,510,944
GIANT CHEESE BLOCK HANDLING AND CUTTING MACHINE

James G. Johanski, Jr., Green Bay, Wis., assignor to Safeway Stores, Incorporated, Oakland, Calif., a corporation of Maryland

Filed July 25, 1967, Ser. No. 655,926
Int. Cl. A01j 23/00
U.S. Cl. 31—23 20 Claims

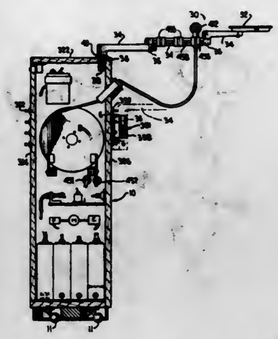


The present invention relates to methods of and apparatuses for handling and cutting cheese or other semi-soft material. The method includes the steps of forming a molded giant cheese block in a cheese mold having a liner of film such as a synthetic plastic film at one plant and closing the mold, shipping the molded cheese in the cheese mold to a packaging plant after the cheese has been cured, removing end covers from opposite ends of a cheese mold having a giant cheese block therein and cutting film strips off opposite ends of the giant cheese block, forcing the giant cheese block from the mold while longitudinally cutting the film along top and bottom sides of the block and cutting the block into elongated cheese pieces along the longitudinal lines of the cut of the film, stripping the exposed film from the top and adjacent sides of the cut pieces, supporting the elongated cheese pieces at one side against movement, and transversely cutting the cheese pieces while cutting the film at a bottom side of the pieces thereby dividing the pieces into smaller cheese blocks of approximately the same size. The present invention further relates to a giant cheese block mold stripper and block cutter for removing a mold from a giant cheese block and for longitudinally cutting the block and for then transversely cutting the block to divide the giant cheese block into smaller cheese blocks of approximately the same size.

3,510,945
DENTAL UNIT WITH ADJUSTABLY MOUNTED TRAY

Charles Weiss and David Harold Linn, New York, N.Y., assignors, by mesne assignments, to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Original application Apr. 12, 1965, Ser. No. 447,416. Divided and this application Sept. 25, 1968, Ser. No. 762,528
Int. Cl. A61c 19/02
U.S. Cl. 32—22 5 Claims



A dental unit is disclosed as having an adjustably positionable tray. The tray can be mounted on the top of the unit or, if desired, can be mounted on a selected vertical wall such as the front wall or the rear wall. The dental unit is thereby convertible for left-handed or right-handed dentists and is adaptable for use when the dentist practices either the "time-motion" or "traditional" technique of dentistry.

3,510,946
ORTHODONTIC APPLIANCE

Peter C. Kesling, Green Acres, La Porte, Ind. 46350

Filed Feb. 28, 1969, Ser. No. 803,181
Int. Cl. A61c 7/00
U.S. Cl. 32—14 10 Claims



Orthodontic appliance in the form of a molded, arch-shaped device of resilient material for engagement with one or both of the arches of a person and including impressions of the teeth for urging the teeth into preselected positions, wherein rigid means is molded into the body of resilient material for engagement with at least one of the labial or lingual surfaces of a tooth to provide better retention of one or more teeth and to enhance proper positioning or orientation of the appliance relative to the teeth.

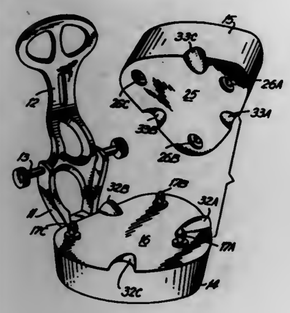
3,510,947
INTERCHANGEABLE DENTAL ARTICULATOR

Joseph J. Tuccillo, Norwalk, Conn., and Michael C. Howard, North Woodmere, N.Y., assignors to J. T. Jelenko & Co., Inc., New Rochelle, N.Y., a corporation of New York

Filed July 19, 1968, Ser. No. 746,146
Int. Cl. A61c 11/00
U.S. Cl. 32—32 11 Claims

A plurality of spaced rigid studs each tapers outward from a base portion adjacent the surface of a member to

a head portion having a diameter larger than that of the base portion. A pair of the members are mounted to permit relative movement simulating that of the jaws and each of the members removably secures a dental model via the studs. Each of the dental models has a surface abutting the surface of the corresponding one of the members when the model is secured to the member. A plurality of bores are formed in each dental model in cooperating relation with the studs of the corresponding one of the members and opening on the surface of the dental model. An annular member is embedded in the dental model adjacent the opening of each bore and has an inner surface tapering outward from the opening of the bore with a minimum diameter and a maximum diameter farthest from the opening and smaller than that of the head portion of each stud. Each annular member comprises a material which is temporarily deformable in a manner whereby the head portion of each stud passes through the corresponding one of the annular members into the corresponding one of the bores and the stud is retained in secured seated position in the bore upon abutment of the surfaces of the corresponding member and dental model.

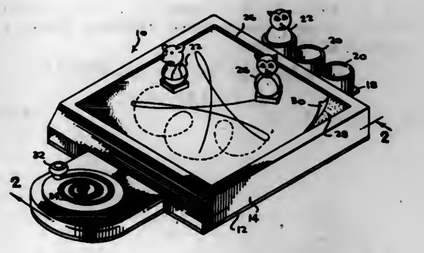


3,510,948
DENTAL WEDGE
Lowell W. Walthall, 1024 Cavender, Hurst, Tex. 76053
Filed Oct. 17, 1968, Ser. No. 768,288
Int. Cl. A61c 3/00
U.S. Cl. 32—64 8 Claims



This specification discloses, for conforming a matrix to a surface of a tooth, a dental wedge characterized by an enlongated body having esesntially three longitudinally extending sides and tapering from a butt end to a pointed end, and an enlarged head containing a vertical aperture adapted to receive a tine of an instrument to facilitate insertion or removal of the wedge with any instrument having a tine. This specification also discloses an even more nearly universally useful dental wedge having, in addition to the body and the apertured enlarged head, a section of substantially uniform thickness adapted to be gripped by pliers; such as, over and under forceps; less than the thickness of the enlarged head and less than the thickness of the butt end of the body connecting the enlarged head with the butt end; whereby, either a tined instrument or pliers can be employed to readily manipulate the dental wedge.

3,510,949
MAGNETIC GEOMETRIC PATTERN-PRODUCING DEVICE AND TOY
Alexander C. Christy, P.O. Box 1185, Morgantown, W. Va. 26502
Filed Dec. 23, 1968, Ser. No. 786,109
Int. Cl. B43l 11/00
U.S. Cl. 33—27 14 Claims

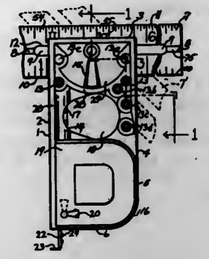


An amusement device for graphically producing geometric patterns comprising: a plurality of driving quadripole magnets each having a horizontal magnetic axis parallel to a surface and positioned immediately below said surface to magnetically drive an inscribing means, the driving magnets being positioned to revolve about a first axis perpendicular to said surface and formed into a sun gear, each said driving magnet secured for rotation to a rotatable second axis parallel to said first axis and forming planet gears, each said second axis being spaced from said first axis as by idler gears to provide varying orbits, revolving drive means operably connected to each said second axis for rotation of said second axis and simultaneous revolving of said second axis about said first axis, activating means in the form of a handle remote from said first axis to operatively control said revolving drive means, whereby said inscribing means and graphic means is magnetically driven by registry of its quadripole magnet with the driving quadripole magnet producing a graphic geometric pattern on an image receiving surface upon movement of said activating means.

3,510,950
SINE, PIN-HEADED DUAL SQUARE
Peter Andrews, 190 Gebhardt Road, Penfield, N.Y. 14526
Continuation-in-part of application Ser. No. 167,609, Jan. 24, 1962. This application Jan. 19, 1968, Ser. No. 699,199
Int. Cl. B43l 7/06
U.S. Cl. 33—94 26 Claims

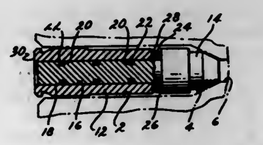
A combination square having various elements in combination that, accordingly, enables a person to have or transform the square, by substantially using and/or moving a rule means which is releasably clamped or secured substantially on pin barrier means and by substantially using an opening which is in open association with a conventional groove and/or slot in the rule means, and completely removing the rule means from the square's

head as desired, into substantially a sine angle square; sine pin-headed dual square; a right angle or 90 degree square; removable and/or a 180 degree pivoting grooved rule square; 15, 30 or 45, for example, oblique angle



square; full 360 degree bevel square; semi rigid resilient flexible concavo-convex tape measure dual square and/or a substantially rigid gauge square; pin-headed level means square, surface gauge pin-headed dual square and the like.

3,510,951
CARTRIDGE HEAD SPACE GAGING DEVICE FOR RIFLE FIRING CHAMBERS
Walter K. Dow, 86 Converse St., Longmeadow, Mass. 01106
Filed Sept. 3, 1968, Ser. No. 756,901
Int. Cl. G01b 5/00
U.S. Cl. 33—143 9 Claims



A cartridge "head space" gaging device for rifle firing chambers having a tapered forward end. Front and rear gage members are slidably joined for relative axial movement and together duplicate significant portions of the outer configuration of a rifle cartridge shell surface from tapered fore end to rear end face. Frictional means resist relative sliding movement. The gage in over size lengthwise condition is inserted in a firing chamber, the rifle action closed and opened, and the gage removed for lengthwise measurement and comparison with an established "maximum" permissible length. Preferably a deformable ring of malleable material is placed between opposed faces of the members and is compressed when the rifle action is closed in order to provide a fixed "mold" to indicate the actual "head space" condition of the rifle.

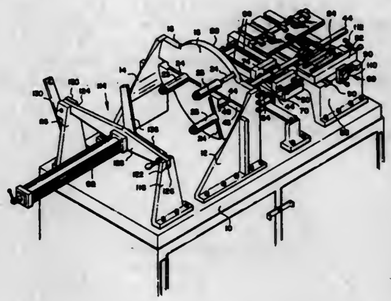
3,510,952
HEIGHT GAUGE
Nicholas M. Milan, 4215 Courville, Detroit, Mich. 48224
Filed Apr. 7, 1967, Ser. No. 629,147
Int. Cl. G01b 5/00
U.S. Cl. 33—170 8 Claims

The height gauge features a composite guide sleeve unit, one part of which is anchored within an upright tubular column structure, the second part of the sleeve unit being movable rapidly within the column structure through the agency of a micrometer threaded lead screw and nut arrangement, the screw of which is rotated by a 1:2 ratio, multiplying bevel gear drive operated directly from the exterior of the gauge by a hand wheel of substantial radius. The movable part of the guide sleeve unit



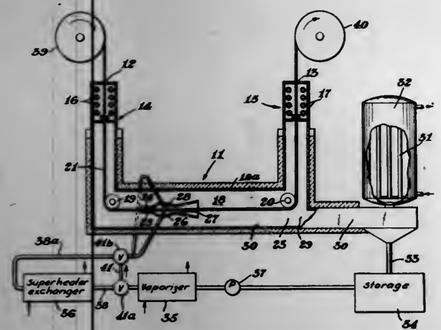
is spring biased toward the fixed part. The gauge further includes an indicator bar having gauge steps which project radially through a vertically elongated guide slot of the column structure, these steps being spaced from one another with great accuracy; and a micrometer dial at the top of the column structure which rotates with the lead screw.

3,510,953
CONTOUR INSPECTING AND COMPARING MACHINE
Arnold E. Petermann, 3415 E. Pasadena, Phoenix, Ariz. 85018
Filed Dec. 2, 1966, Ser. No. 598,662
Int. Cl. G01b 5/20
U.S. Cl. 33—174 6 Claims



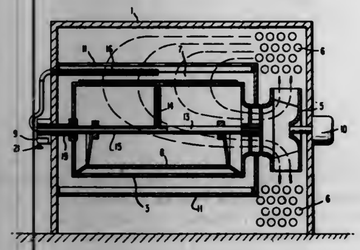
A contour inspecting and comparing machine comprising means for holding a part to be inspected and a freely, slidably manually movable carriage means supporting and inspecting bar having a pair of feelers, one adapted to engage a machine contoured part, and the other to engage a precision template for comparing the machine part with the template, and wherein the feeler bar is freely, slidably manually movable in two directions at substantially right angles to each other.

3,510,954
SOLVENT REMOVAL
James L. Dunn, Jr., Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 10, 1968, Ser. No. 720,257
Int. Cl. F26b *3/04*
U.S. Cl. 34—22 5 Claims



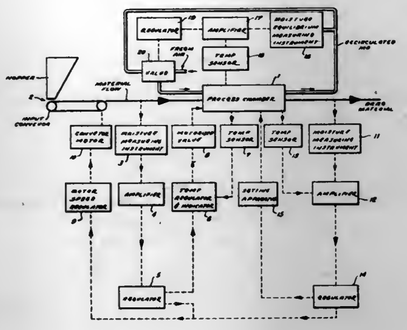
A method for removing vapors from a base material which comprises introducing the base material, which retains a vaporizable organic liquid therein, into a zone containing vapors of the organic liquid, introducing the base material into a confined zone, impinging a high-velocity jet stream of superheated vapor of said organic liquid onto the base material while within said confined zone; moving the base material from said confined zone into the surrounding vaporous atmosphere which is maintained at a temperature at least that equal to the boiling point of the liquid from which the vapors are generated; and, finally removing the base material from the so-maintained atmosphere. The apparatus for conducting the method of the present invention is also described and claimed.

3,510,955
PROCESS AND APPARATUS FOR HEAT-TREATING TEXTILE MATERIAL LENGTHS
Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to Vepa AG.
Filed Jan. 5, 1968, Ser. No. 696,003
Claims priority, application Germany, Jan. 7, 1967, V 32,735
Int. Cl. F26b *3/06, 13/30*
U.S. Cl. 34—23 14 Claims



The present disclosure relates to a process and apparatus for heat-treating textile material lengths, for example sliver-type textile materials which comprises introducing the material to be treated into a drying chamber, partially drying said material by contact heat transfer on the surface of heated rotating cylinder means and finally drying said material on the surface of at least one sieve drum means subjected to a suction draft or to a positive pressure wherein the treatment medium is passed through the material being treated.

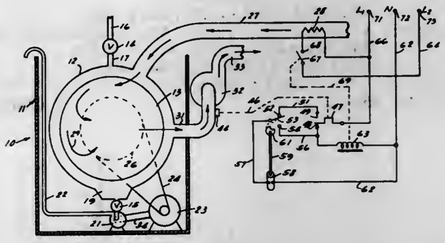
3,510,956
METHOD FOR DRYING WOOD SHAVINGS
Horst Klinkmueller, Stuttgart, and Friedrich Hirth, Stuttgart-Feuerbach, Germany, assignors to Gann Apparate- und Maschinenbau G.m.b.H., Stuttgart, Germany
Filed Nov. 15, 1967, Ser. No. 683,295
Int. Cl. F26b *3/02*
U.S. Cl. 34—25 7 Claims



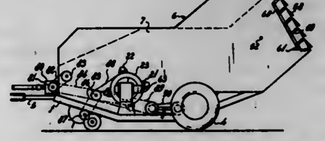
A process for drying wood shavings in the manufacture of pressed boards or lumber. The moisture content of the wood shavings is measured at the beginning and end of the process. The temperature of the process is adjusted as a function of the moisture content of the wood shavings at the beginning of the process. The speed of conveyance at which the wood shavings are conveyed through the process is regulated as a function of the moisture content of the shavings at the end of the process. A mass of air is passed through the wood shavings and brought into contact with them to the extent that the moisture in the air achieves an equilibrium state with the moisture in the shavings. A fresh supply of air is added to this mass of air so as to regulate the humidity of this air mass as a function of the moisture content in the air when in equilibrium with the moisture content of the wood shavings. The regulating functions are accomplished through motorized feedback loops. The moisture measuring instrument includes an auger which forces a sample of the wood shavings into a measuring zone where the electrical resistance of a compressed sample of the wood shavings is measured by means of electrodes projecting into the instrument chamber. The electrical resistance is an indication of the moisture content of the wood shavings.

3,510,957
DRYER CONTROL SYSTEM
Wilbur W. Jarvis, Benton Harbor, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed Mar. 20, 1968, Ser. No. 714,486
Int. Cl. F26b *21/06*
U.S. Cl. 34—53 10 Claims

A dryer control for a washer-dryer which uses temperature responsive means in cooperation with timer means to count the number of times the heater is turned off and back on near the end of the drying cycle and terminates operation of the dryer after a predetermined cumulated total. The timer is advanced when the heater is cut off thermostatically as well as when operation of the heater is re-initiated. The specific sequencing of the timer is such as to advance the timer out in a stepwise manner under the control of the exhaust stack thermostats.

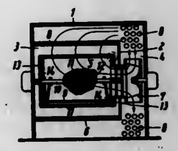


3,510,958
CROP DRIERS
Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland
Filed May 2, 1968, Ser. No. 726,049
Claims priority, application Netherlands, May 9, 1967, 6706441
Int. Cl. F26b *19/00*
U.S. Cl. 34—60 43 Claims



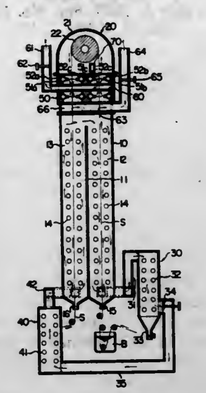
A transportable crop drier with a pick-up device for picking up crop and a conveyor mechanism that moves crop through the drier. Opposing rotatable drums, at least one of which is heated, are mounted in the path of moving crop. The drums can be adjusted to crush the crop moving between them. Heated air is passed into contact with the crop being processed as it moves through the drier.

3,510,959
APPARATUS CONTAINING A MESH JACKET AND MEANS FOR MOUNTING THE MESH JACKET
Heinz Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to VEPA AG.
Filed Jan. 23, 1968, Ser. No. 699,931
Claims priority, application Germany, Jan. 25, 1967, V 32,847
Int. Cl. F26b *13/30*
U.S. Cl. 34—115 13 Claims



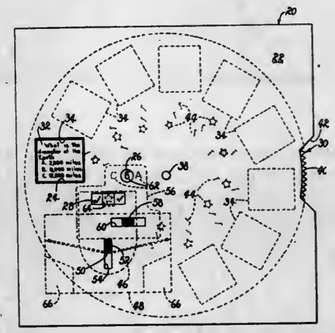
The present disclosure relates to a sieve drum means containing a mesh jacket which substantially covers the working surface of said sieve drum, said mesh jacket being closed at its joint-abutting surfaces by a spiral or zig-zag point which extends along the surface of said jacket. The mesh jacket is attached to a tensioning ring which is resiliently mounted to the bottom of the sieve drum means.

3,510,960
VERTICAL DRYING MACHINE
Hisayoshi Kubodera, 19—10 2-chome, Shinbashi, Minato-ku, Tokyo-to, Japan
Filed June 6, 1968, Ser. No. 735,987
Claims priority, application Japan, June 10, 1967, 42/36,766
Int. Cl. F26b *13/00*
U.S. Cl. 34—155 9 Claims



A vertical drying chamber containing a heating device is vertically passed through by a strip material to be dried. The strip runs along an inverted U-shaped path in the chamber over a strip guide roller located at the top of the drying chamber. Below the guide roller and above the top of the drying chamber, there are provided transverse air curtain creating nozzles which direct air onto the surface of the runs or spans of the strip and prevent heat transfer and leak of fluid from the chamber to the rollers.

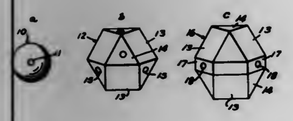
3,510,961
EDUCATIONAL DEVICES
Barbara J. Hawkins, 1622 Clinton Ave., Fresno, Calif. 93704
Filed July 3, 1967, Ser. No. 654,673
Int. Cl. G09b *3/06*
U.S. Cl. 35—9 15 Claims



A plurality of layers of material made of economical and readily available materials, such as cardboard, fiber-

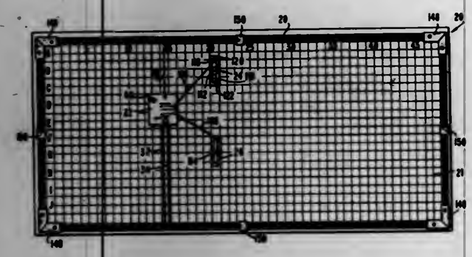
board, sheet plastic, plasticized paper, and the like, which present problem, answer and answer checking indicia for registration with windows in a cover, and slides therebetween providing for successive inspection of a problem, selection of an answer to the problem, and for unmasking the answer checking indicia for testing the accuracy of the answer selected. In one form, the problem and answer checking indicia are presented on a rotatable disk; in another form, on a scroll of paper.

3,510,962
MOLECULAR STRUCTURE MODELS
Kazuhisa Sato, 1-10-24 Meguro-honcho, Meguro-ku, Tokyo, Japan
Filed July 3, 1967, Ser. No. 654,042
Int. Cl. G09b *23/26*
U.S. Cl. 35—18 3 Claims



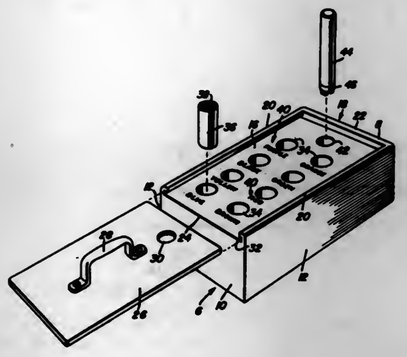
A molecular structure educational model for use in teaching stereo-chemistry using polyhedral block members representing atoms in molecules and rod members insertable in holes in said polyhedral block members for interconnecting the same and illustrating bond lengths and bond angles in molecules.

3,510,963
TEACHING SYSTEM
Paul B. Zaar, Great Neck, N.Y., and Howard Bruce Boal, Marblehead, Mass., assignors to Hickok Teaching Systems, Inc., Cambridge, Mass., a corporation of Ohio
Continuation of application Ser. No. 498,693, Oct. 20, 1965. This application Aug. 28, 1968, Ser. No. 757,221
Int. Cl. G09b *23/18*; H02b *1/04*
U.S. Cl. 35—19 8 Claims



Apparatus for demonstrating the operation of electrical and electronic circuits and systems comprised of a chalk board of ferromagnetic material with power distribution bars disposed about the periphery of the chalk board and provided with a plurality of connection points consisting of drill holes. Each circuit element is mounted on an exposed surface of a panel made of insulating material with the schematic of the circuit component drawn on the exposed surface of the panel. The panels are provided with mounting means such as magnetic material which permits location of the panels in any arbitrary position on the chalk board. Electrical connectors are provided to connect the circuit components with one another and with the sources of power. These connectors may be formed of stretchable leads so that the connectors appear as straight lines to the observer of the apparatus.

3,510,964
EDUCATIONAL COLOR CASE
Laurence A. Dahners and Thelma May Dahners, both of P.O. Box 1475, Clifton, Ariz. 85533
Filed June 8, 1967, Ser. No. 644,691
Int. Cl. G09b *19/00*
U.S. Cl. 35—22 7 Claims



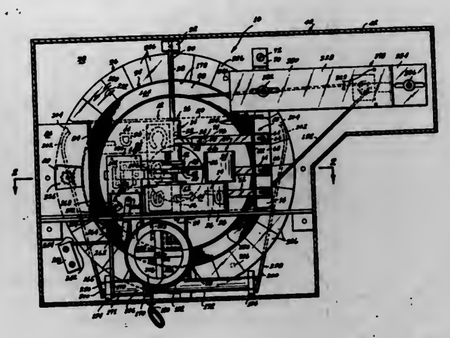
An educational toy designed and adapted to teach colors by visual color recognition, descriptive name, either or both, and which in addition, functions as a puzzle. It enables a child to puzzle out and understand the sequential steps involved in solving the problem of (1) recognizing not only basic colors (2) variations in sizes and shapes (3) distinctively colored indicia (marker labels and symbols) and (4) distinguishable color names and how they are spelled and appear in written or printed form.

3,510,965
TRAINING AID FOR SIGHTING SMALL ARMS
Don E. Rhea, 148 Wilson Ave., Placentia, Calif. 92670
Filed Apr. 14, 1967, Ser. No. 630,922
Int. Cl. F41g *3/26*
U.S. Cl. 35—25 5 Claims



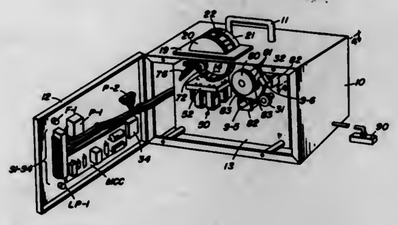
An electrically actuated light bulb and focusing lens which inserts into the barrel of, for example, a revolver. Energy for lighting the bulb is connected to one electrode of the bulb through the portion of the device in the barrel and to the other electrode through the metal portion of the revolver. When the trigger is pulled, the firing pin strikes the cartridge unit in the chamber for completing the electrical circuit. Light from the bulb appears, for example, on a target where the revolver was pointed.

3,510,966
TEACHING MACHINE TOY HAVING SEQUENTIALLY-ARRANGEABLE INDICIA MEANS AND RESPONSE MEANS
Michael E. Golden, Los Angeles, Denis V. Bosley, Palos Verdes, John H. Goetz, Sherman Oaks, James F. Munday, South Gate, and John W. Ryan, Los Angeles, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Dec. 8, 1967, Ser. No. 689,165
Int. Cl. G09b *17/00*
U.S. Cl. 35—35 7 Claims



A teaching machine toy includes (1) first means identified by indicia, such as letters or numerals, capable of sequential arrangement into meaningful or nonsense array and (2) second means, such as a phonograph, responsive to the array of said first means for producing a response characteristic thereof.

3,510,967
APPARATUS FOR READING BRAILLE
William H. King, Keith L. Wallace, and Robert A. Bruce, Marion, Iowa, assignors, by mesne assignments, to Mildred P. Gates
Filed Sept. 9, 1968, Ser. No. 758,460
Int. Cl. G09b *21/00*
U.S. Cl. 35—35 10 Claims



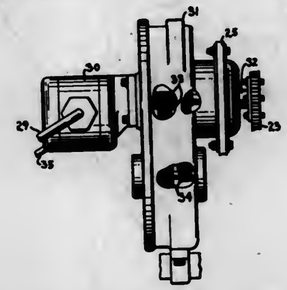
A Braille reader using an incremental tape recorder input with magnetic tape bearing Braille characters or cells encoded thereon. The particularly novel feature of the reader is a shallow, rotating drum whose periphery carries sets of radially movable pins spaced thereabout, each set consisting of six such pins arranged in a standard Braille cell pattern. A cluster of six pin-drive solenoids, responsive to the output of the recorder, moves the appropriate pin or pins in each set as the drum rotates to reproduce the Braille cell signalled by the recorder. A succession of Braille cells are thus produced on the drum and are carried around up beneath the fingers of the reader thereupon. After the cells have been sensed, the pin sets are successively cancelled before being again subjected to the pin-drive solenoids. Appropriate control circuits are provided by which to synchronize the respective operations of the recorder, the pin-drive solenoids and the drum.

3,510,968
SHOES AND SHOEMAKING METHODS
Ralph E. Hobbs, Jr., Salem, and Walter W. Yarrison, Beverly, Mass., assignors to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed June 26, 1968, Ser. No. 740,225
Int. Cl. A43b *13/12*; A43d *65/00*
U.S. Cl. 36—30 8 Claims



Shoe and shoemaking method including the steps of providing a mold assembly for the molding of a sole, the mold assembly including a bottom mold member, side mold means and a top mold member, placing a tread insert member on said bottom mold member, said tread insert member being provided with a bead member affixed to its foot-facing side, and introducing molding material between the top mold member and the bottom mold member whereby to fill the mold cavity, the material being adapted to flow substantially around the bead, whereby upon subsequent solidification of the molding material the tread insert member is securely anchored in the molding material by the bead attached to the tread member to form a composite sole.

3,510,969
HYDRAULIC DRIVE FOR SCRAPER ELEVATOR
Howard E. Stuller, Werner P. Goldkuhle, and Talmadge A. Stephenson, Lubbock, Tex., assignors to Clark Equipment Company, Buchanan, Mich., a corporation of Michigan
Filed July 31, 1967, Ser. No. 657,361
Int. Cl. B60p *1/36*
U.S. Cl. 37—8 1 Claim

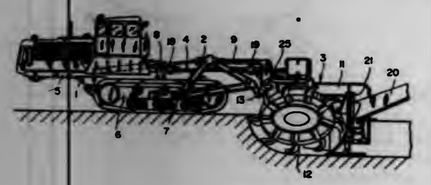


A high torque hydraulic motor is mounted on the frame of a tractor drawn elevating scraper conveyor for driving the conveyor, hydraulic fluid to the motor being directly supplied through an unobstructed hose by an hydraulic pump connected to the power take-off unit of the tractor whereby the power take-off control efficiently operates the scraper conveyor. A gear train may be inserted between the power take-off unit and the hydraulic pump when it is desirable to modify the power take-off rotation speed with respect to the input speed of the pump.

3,510,970
EXCAVATOR WITH INCLINED BUCKET WHEELS ATTACHED TO A WORKING UNIT WHICH IS HORIZONTALLY MAINTAINED

Pavel Mikhailovich Mikhailov, Kalyaeva 16, kv. 16; Alexandr Fedorovich Smirnov, Naberezhnaya Chernoi rechki 31, kv. 46; Abram Arkadievich Babitsky, Pistalova 20, kv. 6; Leonid Ivanovich Primachuk, Ul. Frunze 23, kv. 36; Antonin Afanasievich Moloditsov, Naberezhnaya reki Fontanki 118, kv. 19; Zalman Eremeevich Garbuzov, Michurinskaya ul. 13, kv. 20; Maria Nikolaevna Timofeeva, Ul. Furmanova 15, kv. 3; Anatoly Alexeevich Astashkin, Ul. Voinova 2/4, kv. 53; Gavrill Akhmetovich Mutushev, Kirovsky prospekt 26/28, kv. 87; and Anatoly Fedorovich Arkhipov, V.O. Veselnaya ul. 2/93, kv. 38, all of Leningrad, U.S.S.R.

Filed Mar. 2, 1967, Ser. No. 620,081
Int. Cl. E02f 5/08
U.S. Cl. 37—94 5 Claims

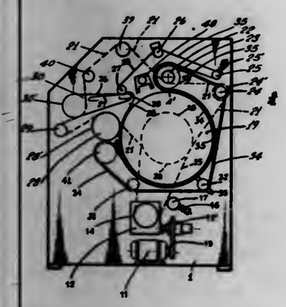


A wheel excavator is provided which has a hoisting frame supported from a vehicle for pivotable movement in a vertical plane and from the frame there is mounted a working unit for movement horizontally and vertically. The hoisting frame is pivotably moved relative to the vehicle by a hydraulic cylinder connected therebetween and the working unit is moved relative to the hoisting frame by means of hydraulic cylinders. The hydraulic cylinder which controls the vertical movement of the working unit is regulated by a slide valve which in turn is operated by a connecting rod secured to a telescoping member connected between the vehicle and the working unit whereby the working unit can be maintained at a particular position.

3,510,971
MANGLE

Libero Bravetti, Via Asti 1, Cologno Monzese, Milan, Italy

Filed Feb. 26, 1969, Ser. No. 802,385
Claims priority, application Italy, June 21, 1968, 18,045/68
Int. Cl. D06f 69/02
U.S. Cl. 38—8 11 Claims

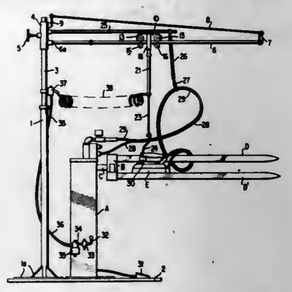


A mangle for pressing textiles and similar articles stretches the articles as they are pressed against a rotating heated cylinder. The articles may be led through a series of successive mangles.

3,510,972
IRON LIFTER FOR SEAM BUSTERS

Hugh L. Thompson, 316 Washington St., Waco, Tex. 76703

Filed May 22, 1969, Ser. No. 826,886
Int. Cl. D06f 71/00
U.S. Cl. 38—42 12 Claims

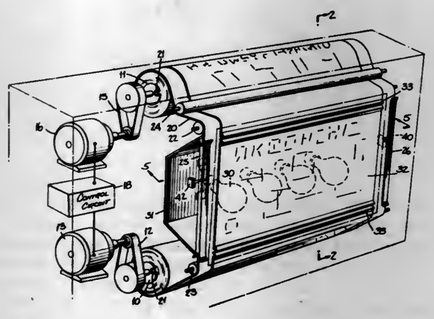


The iron lifter for seam busters comprises an upright carrying a vertically adjustable sleeve, and a horizontal rod has one end fixed in said sleeve overlying the pair of bucks of the seam buster. A trolley is reciprocably mounted on the rod and an air cylinder is pivotally suspended from the trolley. A piston in the cylinder has a piston rod extending below the air cylinder and a steam iron is pivotally connected with the lower end of the piston rod. A micro-switch on the iron controls the flow of steam into the iron, and a solenoid controlled valve controls the flow of compressed air into the cylinder below the piston, the micro-switch simultaneously operating the solenoid valve, whereby when the micro-switch is released the cylinder will normally maintain the iron raised to engage the uppermost buck, and when closed the iron will be lowered by the cylinder to engage the lowermost buck.

3,510,973
ILLUMINATED DISPLAY

Dante V. Mazzocco, Sr., Hartsdale, N.Y., assignor to Translucent Display Corporation, New York, N.Y., a corporation of New York

Filed Apr. 10, 1968, Ser. No. 720,197
Int. Cl. G09f 11/295
U.S. Cl. 40—31 9 Claims

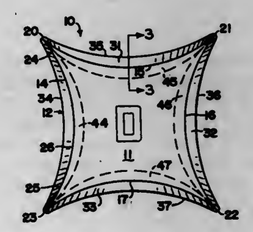


Apparatus for sequentially displaying a plurality of display sheets including a housing and means therein defining a display window. A light source is positioned in the housing and aimed at the window. An elongated flexible translucent carrier web is positioned therein for longitudinal movement between the window and the light source and is moved past the display window so that different longitudinally displaced zones therealong successively become positioned in alignment therewith for predetermined durations. Means are provided on the carrier web for temporarily securing printed sheets thereto.

3,510,974
DISPLAY DEVICE

John Lane, Kirtland, Ohio, assignor to Keeler & Dunkel, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Jan. 19, 1968, Ser. No. 699,166
Int. Cl. G09f 1/00
U.S. Cl. 40—124.1 18 Claims



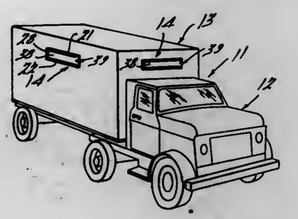
A self-supporting display device formed from a sheet of bendable material. The display includes a display surface and a frame-like structure surrounding the surface. The frame-like structure is formed by folding the sheet and the folded frame-forming material is stressed to maintain the device assembled and supported without the use of fastening devices or easels.

A blank from which the device is constructed is also disclosed.

3,510,975
SIGN ASSEMBLY FOR MOTOR VEHICLES

William J. Lowmaster, Royal Oak, Mich., assignor to The Mathews Company, a corporation of Michigan

Filed June 16, 1967, Ser. No. 646,538
Int. Cl. G09f 7/100
U.S. Cl. 40—129 1 Claim

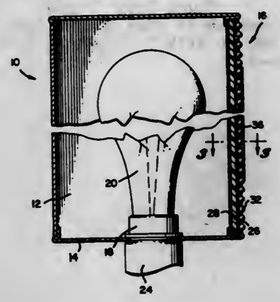


A motor vehicle embodying a sign assembly carried on opposite sides, front and rear of the vehicle for indicating the class of goods carried by the vehicle. Each sign assembly is comprised of a mounting portion in which a plurality of stacked cards bearing different legends are supported. A restraining means holds the cards within the stack and permits selective repositioning of the cards for changing the exposed legend.

3,510,976
SAFETY ROAD SIGN

Ronald F. Pauline, Mount Union, and Allan D. Parry, East Freedom, Pa., assignors to Prismo Safety Corporation, Huntingdon, Pa., a corporation of Pennsylvania

Filed Mar. 20, 1968, Ser. No. 714,675
Int. Cl. G09f 13/20
U.S. Cl. 40—132 4 Claims



A flat, clear acrylic sign which has glass spheres dropped on the outside face thereof. Approximately 50% of these spheres are mirror coated. A message is screened on this face. A translucent phosphorescent coating is sprayed on the back of the acrylic plate. A source of light behind the sign shines through revealing the message, while the sign remains reflectorized to headlights and the phosphorescent coating provides a built-in safety factor in case the light behind fails.

3,510,977
ROTATABLE DISPLAY PEN

Emil Hechtle, Mountainside, N.J., assignor to Radiant Pen Corp., Kenilworth, N.J.

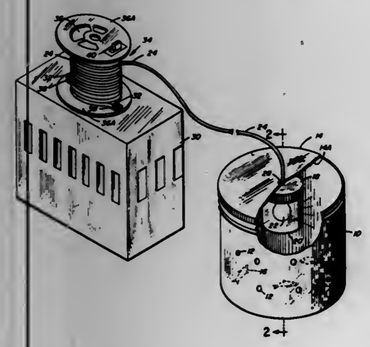
Continuation-in-part of application Ser. No. 680,132, Nov. 2, 1967. This application Feb. 20, 1968, Ser. No. 706,989
Int. Cl. G09f 3/00
U.S. Cl. 40—334 10 Claims



A pushbutton type display writing instrument having a cap, containing a pushbutton mechanism, a transparent outer barrel completely enclosing an apertured screen

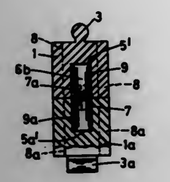
seated therein through which aperture a rotatable display member is partially visible, said display member being integrally formed or connected to a rotatable ratchet member positioned in the cap and forming a part of the push-button mechanism.

3,510,978
FISH-ATTRACTING DEVICE
Forrest Lee Murdock, 2420 E. 24th St., Tulsa, Okla. 74114
Filed July 31, 1968, Ser. No. 749,152
Int. Cl. A01k *75/02, 97/04, 79/00*
U.S. Cl. 43—17.1 9 Claims



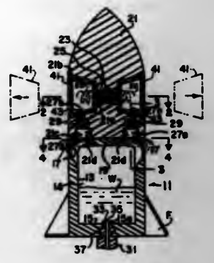
A fish-attracting device including a transparent container having holes therein permitting circulation of water therethrough, the container being adapted to include minnows, and having a removable lid, an electrically energizable light bulb supported to the interior of the lid, a cable extending from the lid and connected to the bulb, the container being adaptable to be lowered into a body of water, and a battery at the surface to which the cable is attached to illuminate the bulb and thereby the minnows therein for attracting fish.

3,510,979
ASSEMBLY KIT
Artur Fischer, Tumlingen, Kreis Freudenstadt, Germany
Filed Feb. 25, 1966, Ser. No. 530,063
Claims priority, application Germany, Mar. 2, 1965, F 45,401; Apr. 9, 1965, F 45,785; Dec. 25, 1965, F 47,765
Int. Cl. A63h *33/04*
U.S. Cl. 46—25 19 Claims



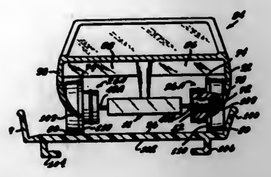
An assembly kit comprises two similar building blocks each having an open-ended passage. An elongated connecting member is provided whose end portions are receivable in these passages in tight frictional engagement to couple the blocks together and define an axis of rotation for them so that they may be angularly displaced with reference to one another.

3,510,980
PROPELLED TOY ARRANGEMENT AND METHOD
Reginald F. Pippin, Jr., 7806 Ruxway Road, Towson, Md. 21204
Filed Oct. 24, 1965, Ser. No. 504,299
Int. Cl. A63h *27/00*
U.S. Cl. 46—74 46 Claims



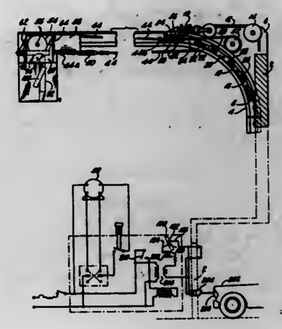
A propelled toy vehicle body in the form of a simulated rocket missile is propelled by fluid discharge from a pressurizable fluid chamber, the vehicle body carrying one or more satellite bodies which are releasably retained with the vehicle body during a portion of its travel. The pressurizable fluid chamber has a movable wall, the position of which controls the retention or release of the satellite bodies. The retained satellite bodies are retained within opposed transverse openings in the vehicle body by releasable retainers, including the movable wall and simultaneously or sequentially releasable detents which are moved by one or more movable portions of the movable wall as a function of the pressure in the pressurizable fluid chamber. Satellite separation is aided by either or both of centrifugal force through vehicle body rotation or stored spring energy. In one embodiment a parachute is released through movement of a movable wall of the pressurizable fluid chamber.

3,510,981
VEHICLE AND TRACK COMBINATION TOY
Harvey W. La Branche, Palos Verdes Peninsula, and Howard F. Newman, Los Angeles, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 777,284, Nov. 20, 1968. This application Feb. 6, 1969, Ser. No. 797,064
Int. Cl. A63h *11/10, 17/00*
U.S. Cl. 46—202 16 Claims



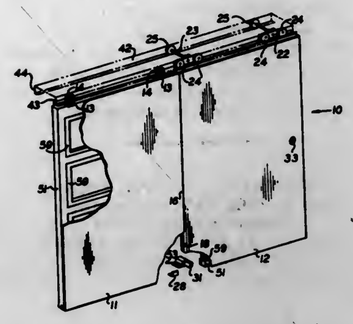
A low friction toy vehicle body and chassis with wheels rotatably and resiliently mounted on the chassis for unpowered operation on a track having vehicle-confining walls, wherein the body, chassis, wheels, resilient mounting means and walls are dimensioned and arranged to prevent contact of the body with the wheels or walls during normal operation of the vehicle on the track while permitting the wheels to bottom out on the body without damage to the resilient mounting means.

3,510,982
SAFETY TIMER
Frederick A. Purdy, 870 United Nations Plaza, New York, N.Y. 10017
Filed Sept. 26, 1968, Ser. No. 762,818
Int. Cl. E05f *15/20*; E05d *15/38*
U.S. Cl. 49—30 10 Claims



A safety timer for a motor operated door in which the motor for opening and closing the door is connected to an electrical circuit having means for reversing the motor, the safety timer including a tube having a first and second chamber, a conductive granular material in the tube, a pair of electrical conductors in the tube and connected to the electrical circuit of the door motor and means on the door for positioning one of the chambers of the safety timer tube above the other so that the granular material in the tube will flow by gravity from one chamber to the other.

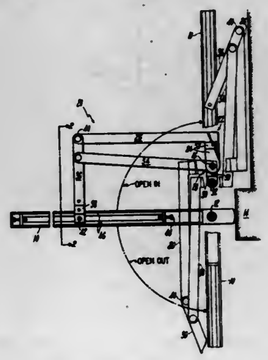
3,510,983
FLUSH CLOSING SLIDING DOORS
Charles Barabas, Highland Park, N.J., assignor to Bara Industries Corp., Highland Park, N.J., a corporation of Delaware
Filed Apr. 11, 1968, Ser. No. 720,563
Int. Cl. E05d *15/10*
U.S. Cl. 49—130 19 Claims



A door assembly wherein the doors are flush when in the closed position. The invention provides alternate mechanisms for moving the doors from the closed position to the open position. One of the mechanism's further advantages is that tracks on the floor are not required, providing a clear uncluttered floor space.

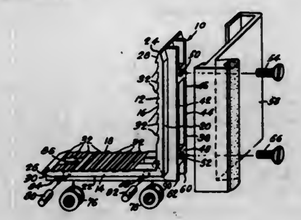
The door assembly utilizes novel apparatus and mechanisms including an overhead suspension mechanism, spring plunger mechanism and door guidance means which are also claimed.

3,510,984
CONTROL LINKAGE FOR BISWINGING DOOR
Francis J. Kalog, New Britain, and Frank T. Sighinolfi, Forestville, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Jan. 17, 1969, Ser. No. 792,017
Int. Cl. E05f *15/12*
U.S. Cl. 49—326 9 Claims



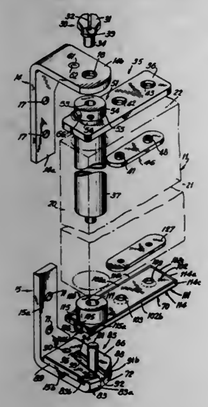
A freely reversible linkage for an operator mechanism offset from the pivot of a biswinging door continuously connects the door to the drive spindle of the operator. The linkage includes a crank generally parallel to the door when closed and having one end fixed to the spindle for rotation therewith. The crank is rotatably connected at its other end with a follower which is movably connected with a track on the door and is generally perpendicular to the door when closed. A control link, generally parallel to the door when closed, is rotatably attached at one end between the follower ends and at its other end to a pivot fixed offset from the spindle, to guide the follower along the track and control the movement of the linkage as the door is moved through 180° of swing.

3,510,985
CORNER GUSSET FOR WINDOW
Denis L. Smits, Duvernay, Ville de Laval, Quebec, Canada, assignor to Superseal Corporation, Douville St. Hyacinthe, Quebec, Canada, a corporation of Quebec
Filed Aug. 26, 1968, Ser. No. 755,112
Int. Cl. E05d *13/02*
U.S. Cl. 49—425 5 Claims



A corner gusset for window frames made of extruded plastic members, the inner surface of which has a series of serrations and the outer surface of which has longitudinally extending flanges which serve to reinforce the gusset and the window frame. A pair of roller assemblies are directly mounted on one of the arms of gusset.

3,510,986
SELF-CLOSING HINGED DOORS AND HINGES THEREFOR
Irving L. Berkowitz, Binghamton, N.Y., assignor to Kason Hardware Corporation, Binghamton, N.Y., a corporation of New York
Filed Oct. 1, 1968, Ser. No. 774,560
Int. Cl. E05f *1/12*
U.S. Cl. 49—386 16 Claims

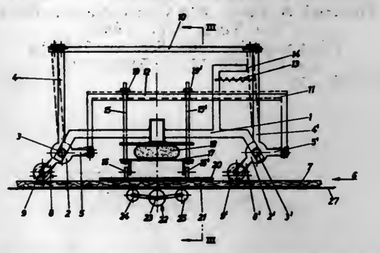


This construction permits mounting of upper and lower flange plates onto the door jamb; then mounting of all of other hardware or hinge assembly on the door; then setting the entire door and hinge assembly onto the door jamb and inserting top and bottom removable pivot pins. The door may be removed by first removing the pivot pins. As the door opens a spring is tensioned. when a dwell position is reached, the door is held open. As the door is gently pushed further toward opening position, a stop will limit the angle of opening the door. However, the door can be raised somewhat or pushed hard to open the door fully. By a simple gentle push of the door from the dwell position in a closing direction the door will pass from the dwell position and close by itself under spring pressure. Means is provided to adjust tension of the spring pressure. In one modification the dwell position is omitted. In another modification hardware is provided for two doors, one above the other including a common hinge means between the two doors. The door is a hollow shell with insulation therein.

Similar aligned holes are formed in the top and bottom walls of the hollow door to receive the hardware so that the door can be reversed for use as a left or right door.

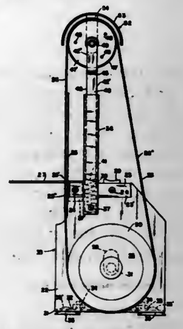
3,510,987
ABRADING MACHINE
Paul Ernst, Kandelstrasse 16, Eschelbronn, Germany
Filed Mar. 21, 1968, Ser. No. 714,952
Claims priority, application Germany, Mar. 22, 1967, F 33,655
Int. Cl. B24b *21/08*
U.S. Cl. 51—138 7 Claims

In an abrading machine wherein the abrading band is pressed against a work piece by a pressure beam, a carrier frame for the pressure beam including a pair of pivots mounted on the lateral ends of the frame for pivoting about an axis extending in the direction of movement of the endless abrading band, and upright, horizontal and oblique lever arms affixed to each pivot for pivoting in unison therewith, the oblique lever arm enclosing an acute angle with the conveyor which moves the work piece in the direction of its length into contact



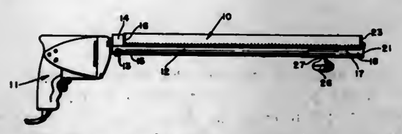
with the endless abrading band which moves in a direction transverse thereto.

3,510,988
SANDER DEVICE
Vern K. Mason, 2103 7th Ave. N., Grand Forks, N. Dak. 58201
Filed Aug. 12, 1966, Ser. No. 572,004
Int. Cl. B24b *21/00, 23/06, 25/00*
U.S. Cl. 51—148 5 Claims



Sanding device having an L-shaped plate means having a base leg and upright plate means, a motor mounted to the base leg of said plate means, a telescoping member slideably mounted to the upper portion of said plate means, a pulley rotatively mounted to the upper end of said telescoping member, a coil spring mounted between said upper portion of said upright leg means and said telescoping member and urging said telescoping member upward, said motor having a motor shaft passing through said upright plate means of said L-shaped plate means, a wheel mounted to said motor shaft, a sanding belt mounted over said pulley wheel, whereby upon powering said motor will rotate said sanding belt.

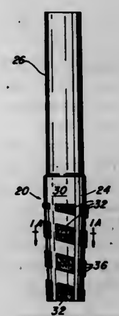
3,510,989
PORTABLE ABRASIVE TOOL
John R. Tolle, 7270 Thomas Drive, Cincinnati, Ohio 45243
Filed Apr. 21, 1967, Ser. No. 632,618
Int. Cl. B24b *23/00, 55/04*
U.S. Cl. 51—170 4 Claims



This disclosure relates to a portable abrasive tool for repairing automobile bodies consisting of a portable drill

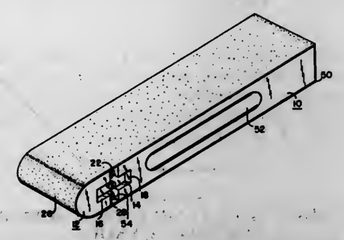
and a cylindrical member having an abrasive surface thereon with a guard and handle means for holding the device during use. Both ends of the cylinder member are supported and the device is relatively light-weight and functional thereby permitting easy polishing, grinding and sanding operations on automobile bodies which results in a reduction in the labor time required to provide a more perfect finished surface.

3,510,990
TAPERED REAMER
Julius P. Steindler, Chicago, Ill., assignor to Engis Equipment Company, Morton Grove, Ill., a corporation of Illinois
Filed Aug. 21, 1967, Ser. No. 662,122
Int. Cl. B24d *5/10*
U.S. Cl. 51—206 2 Claims



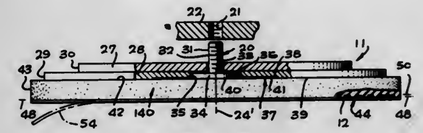
A tapered reamer partially coated with abrasive particles grouped to form on an outer conical working surface of the reamer spatially isolated islands constituting separate grinding zones, the islands being distributed circumferentially about the body of the reamer and overlapping axially therealong to provide an improved grinding and shaping tool.

3,510,991
SANDING BLOCK
Stuart F. Bowen, 5626 Vale Way, San Diego, Calif. 92115
Filed Apr. 1, 1968, Ser. No. 717,701
Int. Cl. B24d *15/00*
U.S. Cl. 51—372 9 Claims



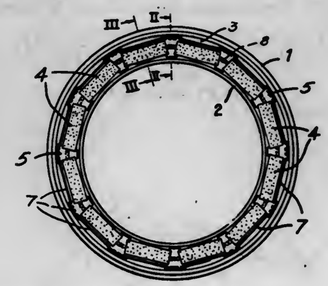
A sanding block for supporting a continuous loop sanding belt, which sanding block has first and second blocks positioned in the belt with adjacent ends of the block having aligned slots with inwardly inclined bottom surfaces in which opposing cam members are positioned for being moved inwardly and expanding the blocks in an outward longitudinal direction against the sanding belt making a rigid composite structure.

3,510,992
BACKING PAD FOR SANDING DISCS
Alma A. Hutchins, 49 N. Lotus Ave., Pasadena, Calif. 91107
Filed Aug. 18, 1967, Ser. No. 661,592
Int. Cl. B24d *17/00*
U.S. Cl. 51—378 17 Claims



A power sander pad including a rotatable backing plate carrying a circular cushion formed of a closed pore resiliently deformable elastomeric material to which a sanding disc is removably secured by adhesive, with the cushion having a large number of projections formed of the elastomeric material and bearing against the disc, and also having a large number of recesses formed in the elastomeric material between the projections.

3,510,993
SEGMENTAL GRINDING WHEEL
Arnold M. Cook, Holden, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Nov. 14, 1967, Ser. No. 682,933
Int. Cl. B24d *7/08*
U.S. Cl. 51—209 6 Claims

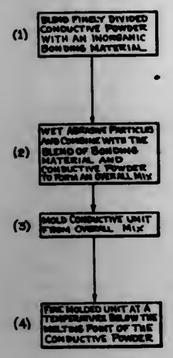


An abrasive grinding and/or polishing wheel comprising a circular series of detachable bonded abrasive segments with intermediate spacers, said spacers and/or segments secured to one side of a mounting ring which is itself adapted to be secured to the driving member of a grinding machine, and a series of bands positioned around the outwardly facing sides of the segments and spacers to hold the abutting edges of the segments and spacers together under compression.

3,510,994
METHOD OF MANUFACTURING AN ELECTROLYTIC GRINDING WHEEL
John J. Amero, Shrewsbury, and Ronald J. Gerry, Worcester, Mass., assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed May 18, 1967, Ser. No. 639,326
Int. Cl. B24d *3/34*
U.S. Cl. 51—295 4 Claims

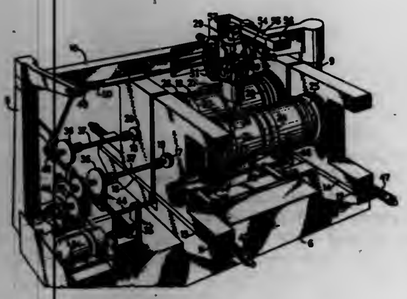
A method for making conductive grinding wheels for electrochemical grinding is disclosed. The wheel comprises abrasive grains bonded by a ceramic material having a maturing temperature below the melting tempera-

ture of a conductive metal powder incorporated in the mix used to form the wheel. A glass bond including lead oxide and boron oxide having a maturing temperature of



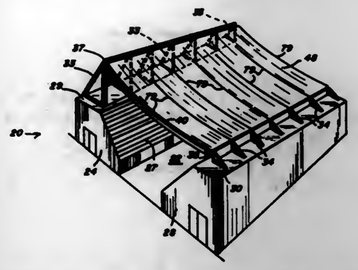
600 to 800° C. is disclosed. Silver is disclosed as a conductive metal, and from 4 to 9% silver content is suggested in the finished grinding tool.

3,510,995
METHOD FOR RECTIFYING OBJECTS SUCH AS DIES OF REDUCING ROLLING MACHINES
Raymond R. L. Michel, Flohimont Par Givet, France, assignor to Trefimetaux, Paris, France, a French body corporate
Filed Aug. 15, 1966, Ser. No. 572,458
Claims priority, application France, Feb. 16, 1966, 49,782
Int. Cl. B24b 5/16
U.S. Cl. 51—327 3 Claims



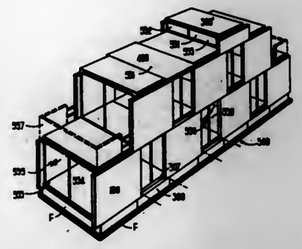
Method for rectifying dies of reducing rolling machines, comprising rectifying simultaneously the two dies which are intended to work together and are mounted on their shafts in their relative working positions, wherein the shafts are made to undergo a movement of rotation about their axes and a horizontal movement of translation in a direction perpendicular to said axes and the grinding wheel is made to undergo a movement of rotation about its axis and a planetary movement of rotation of varying radius about a vertical axis, these various movements being so combined and synchronized as to achieve simultaneously the rectification of the two grooves according a predetermined profile.

3,510,996
RETRACTABLE COVERING
Nicholas B. Popil, 6945 W. Pleasant Valley Road, Cleveland, Ohio 44129
Filed Mar. 17, 1966, Ser. No. 535,137
Int. Cl. E04b 7/16, 1/342; A47h 5/02
U.S. Cl. 52—64 4 Claims



Apparatus for covering a relatively large open area from inclement weather which large area is defined at least partially by vertical extending wall structure. The apparatus includes a cover member which has a first side portion fixedly connected to one portion of the wall structure and cable means are connected to the cover member at a second side portion. Motive transfer means are connected to the cable means and are movable in first and second directions to alternately move the second side portion of the cover member between open and closed positions. Motor drive means cooperate with the structure for moving the motive transfer means.

3,510,997
BUILDING SYSTEM OF PREFORMED UNITS
Eugene Ratych, 718 Cator Ave., Baltimore, Md. 21218
Filed Aug. 26, 1968, Ser. No. 755,275
Int. Cl. E04h 1/04, 9/06
U.S. Cl. 52—79 6 Claims

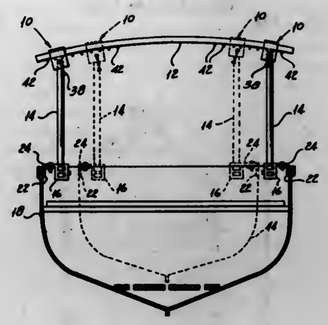


Precast, cored concrete building elements of room-size which are dimensioned, and pre-wired and ducted for convenient spaced assembly one to another to form buildings of any desired exterior dimensions, substantially ready, after glazing, for occupancy.

3,510,998
READILY ADJUSTABLE ARCH SUPPORT FOR BOAT CANOPY
Joseph A. Cianflone, Carbondale, Pa., assignor to Gentex Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 2, 1966, Ser. No. 531,205
Int. Cl. B63b 17/02
U.S. Cl. 52—86 1 Claim

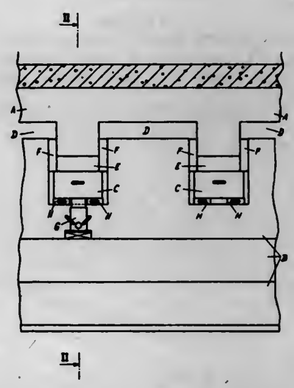
An adjustable framework for supporting a canopy above the gunwale of a boat in which stanchions mounted respectively on the port and starboard sides of the boat

extend to a fixed distance over the gunwale. A crosspiece having a bend along the length thereof, such as a curved arch, is slidably and adjustably received in clamps which are pivoted to the tops of the stanchions, thus to permit the same assembly to be used on boats



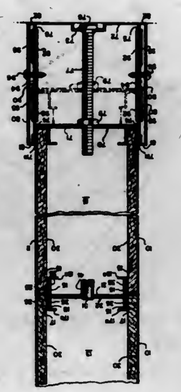
having different beam widths and to permit the assembly to be used at different locations along the length of the same boat. Alternatively, the structure might comprise curved telescoped arch sections adapted to be clamped to each other and having ends pivotally supported on the tops of the stanchions.

3,510,999
SHOCK ABSORPTION SYSTEM
Carl Hubacher and Emil Staudacher, both of Frohburgstrasse 85, Zurich, Switzerland
Filed Aug. 8, 1967, Ser. No. 659,220
Int. Cl. E04b 5/43; E02d 27/34; E04h 9/02
U.S. Cl. 52—99 3 Claims



Shock absorption system for a structure that has a foundation and a building supported thereon, has first and second damper elements positioned in a space that extends throughout between the foundation and the building. The first damper element can take up and dampen single shocks from any direction, while the second damper elements normally can take up and dampen horizontal forces of predetermined size, but collapse upon the receipt of seismic shocks.

3,511,000
INTERLOCKING HOLLOW BUILDING BLOCKS
Henry P. C. Kenk, 205 E. 63rd St., New York, N.Y. 10021
Filed Aug. 8, 1968, Ser. No. 751,166
Int. Cl. E04g 21/14; E04c 1/10
U.S. Cl. 52—122 10 Claims



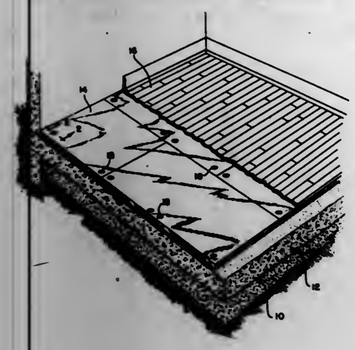
Hollow building blocks are provided for erecting interior walls, partitions, room-dividers, etc., without the use of mortar or similar bonding means. The blocks of each course are interconnected to one another and are interlocked with the blocks of the courses immediately therebelow and thereabove, by means of male and female locking components fitted into the open lower and upper ends, respectively, of the blocks. Each component of the locking means is of a length which is a multiple of that of the blocks, and is in the form of a relatively shallow channel. The base portion of the channel constituting the male component is provided with a series of longitudinally spaced solid studs, each extending axially at a right angle to the base and the base portion of the channel constituting the female component is provided with a series of similarly spaced open sleeves or bushings, each likewise extending axially at a right angle with respect to the base, for receiving and interlocking with one of the studs on a male component.

Means are also provided for installation at the bottom of walls or partitions in rooms whose heights exceed the aggregate height of the assembled courses of blocks by an amount somewhat less than the height of the individual blocks, to enable the assembly to be raised a sufficient distance for disposing the upper end thereof at the ceiling or within a channel member secured to the ceiling.

3,511,001
RESILIENT LEVELING MEANS FOR FLOORS
William R. Morgan, Jr., R.R. 2, P.O. Box 106G, Long Grove, Ill. 60047
Filed Mar. 14, 1968, Ser. No. 713,069
Int. Cl. E04f 15/22
U.S. Cl. 52—126 17 Claims

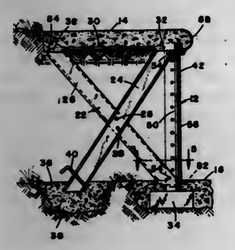
A floor construction of the type including supporting members located above a base and having a finished floor disposed on the supporting members. The invention relates to spacer means which are associated with the supporting members whereby the position of the supporting members relative to the base can be adjusted. The spacer means include a bolt, a sleeve, a threaded element and spring means associated with the bolt and located be-

tween the supporting members and the threaded element on the bolt. The bolt permits movement of the support



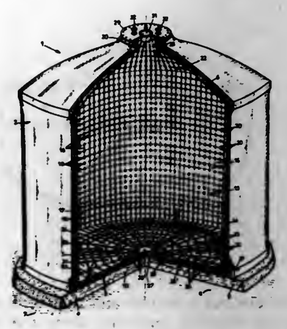
means relative to the base while the spring means provides a resilient cushion.

3,511,002
LINED SWIMMING POOL
George C. Fox, R.D. 3, Box 438, Dover, Pa. 17315
Filed May 13, 1968, Ser. No. 728,601
Int. Cl. E04h 3/18
U.S. Cl. 52—146 6 Claims



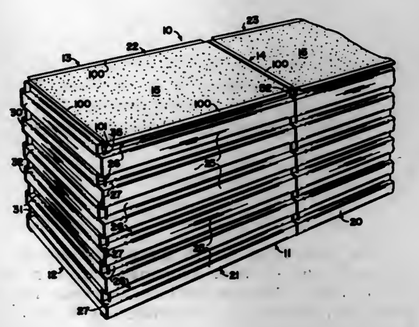
A swimming pool having sidewalls formed from sheets of relatively rigid material connected at the ends and extending around the entire perimeter of the pool, the sheet material preferably comprising metal and the inner surfaces thereof which face the interior of the pool being covered with lining sheets of non-corrosive metal coextensive in area with the sidewall sheets and all of said sheets having end flanges extending perpendicularly thereto and abutting each other for connection by bolts or rivets. The upper edges of the sidewall and lining sheets are held in overlying condition by channel means and the lower portions of the sheets are similarly held together by interlocking members extending through holes adjacent the lower edges of the sheets, the interlocking members being embedded in concrete when it is poured within the confines of the sidewalls upon the ground circumscribed thereby. Braces comprising X-shaped frames extend perpendicularly outward from the sidewalls and are connected thereto by flange means fixed to the sidewall sheets at transversely spaced locations, the braces at their upper ends supporting a deck extending rearwardly from a coping associated with the channel means which receive the upper edges of the sheets.

3,511,003
FIXED FLUID-TIGHT TANK OR THE LIKE AND METHOD OF CONSTRUCTING SAME
Jean Alleaume, Saint-Cloud, France, assignor to Technigaz, Paris, France, a French body corporate
Filed Sept. 15, 1966, Ser. No. 579,776
Claims priority, application France, Sept. 22, 1965, 32,309
Int. Cl. E04b 7/00
U.S. Cl. 52—198 23 Claims



A tank comprising: a cylindrical, vertical, self-supporting outer shell with a flat bottom resting on a basement; an impervious inner shell spaced from said outer tank and forming a flexible membrane provided with two perpendicularly intersecting sets of parallel corrugations; and one layer of rigid heat insulation attached to said outer shell and filling the intermediate space left between said shells and supporting the pressure of said inner shell bearing thereagainst; said inner shell being connected to said outer shell at discrete points by means of spaced fastening brackets secured to said outer shell and extending through said insulation.

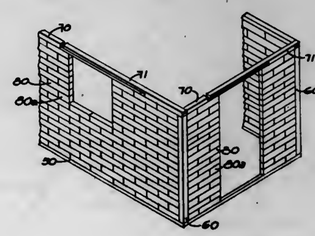
3,511,004
CORRUGATED SHEET METAL STRUCTURE
Albion K. Snellings, Canfield, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed Jan. 12, 1968, Ser. No. 697,504
Int. Cl. E04b 1/48; E04c 2/32
U.S. Cl. 52—270 15 Claims



A sheet metal structure comprised of a plurality of interconnected sheet metal wall members which define

a material receiving volume, each of the wall members being generally vertically disposed and including horizontally extending corrugations providing a plurality of aligned apertures adjacent end edges of the wall members. Adjacent wall members are interfitted so that the corrugations thereof overlie each other and the apertures in the corrugations are alignable for reception of an elongated pin extending vertically through apertures to connect the wall members together. In one embodiment of the invention wall members of the wall structure intersect at approximately right angles and one of the members carries a plurality of clips interfitting with corrugations of the other wall members and with the clips defining apertures alignable with apertures in the corrugations of the other mentioned members so that the wall members are connected together by a pin extending through the apertures in the corrugations and the clips.

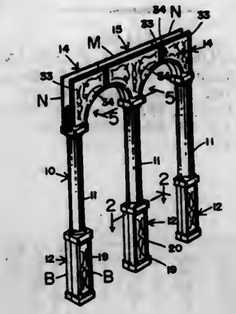
3,511,005
BUILDING CONSTRUCTION
Gordon MacMaster, Box 6, Cambridgeport, Vt. 05141
Filed Jan. 22, 1968, Ser. No. 699,467
Int. Cl. E04b 2/80; E04c 1/10
U.S. Cl. 52—293 1 Claim



A wall construction consisting of a frame within which are arranged blocks that are secured to the frame to form complete wall panels or closures. The frame and blocks are especially designed to be made from short lengths of wood which are preformed to specifications common to all walls to be built according to this system. The basic blocks are of uniform dimensions for full and half block sizes with tongues and grooves along the sides and ends that mate with adjoining blocks and frame members. The framework consists of a sill member, vertical posts at opposite ends of the sill member and a top plate assembly. The vertical posts and one part of the top-plate assembly can be made in uniform lengths for all structures employing this system, so that only the sill members and another part of the plate assembly need to be cut to order for the required wall dimensions in any particular building plan. The frame members are pinned or doweled at each corner and are provided with tongues or grooves for interlocking with the blocks.

3,511,006
ADJUSTABLE ROOM DIVIDERS
Robert S. Medow, 2051 NE. 160th St., North Miami Beach, Fla. 33162
Filed Oct. 14, 1968, Ser. No. 767,128
Int. Cl. E04b 1/32; E04c 3/36
U.S. Cl. 52—301 5 Claims

An adjustable room divider consisting of a pair of identical base members and of identical friezes mounted back-to-back, and a column telescopically mounted and extending between the pairs of base members and friezes, a fastening member for each of the base members and friezes engaging the column and a plurality of bolts extending through each of the base members and friezes securing the pair of base members and the



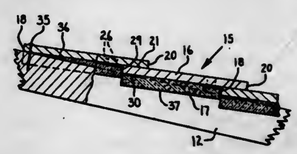
pair of friezes together simultaneously with securing the base members and friezes to the column.

3,511,007
STRUCTURAL SYSTEMS EMPLOYING FOAMING-IN-PLACE
Henry N. Babcock, The Babcock Bldg., Old Greenwich, Conn. 06870
Filed Mar. 5, 1964, Ser. No. 349,669
Int. Cl. B32b 5/20; E04b 1/64; E04c 5/20
U.S. Cl. 52—309 7 Claims



Breaker strips are provided in structural systems such as decks, floors, and roofs, which employ sprayed-in-place foam materials such as polyurethane, to accommodate the differences in coefficients of expansion-contraction, and in vibrations between the structural members and the foam material. The breaker strip extends from the sprayed surface into the layer of foam material and has a surface to which the foam material will not bond. Where the breaker strip is disposed to provide sloping mated surfaces of the foam, added strength against loads such as wind, etc., is gained.

3,511,008
ROOF AND WALL CONSTRUCTION
Colis Robert Grems, 7417 Anderson Road NW., and John Douglas Grems, 10803 Highway 99, both of Vancouver, Wash. 98660
Filed Nov. 14, 1968, Ser. No. 775,637
Int. Cl. E04d 1/22, 1/34
U.S. Cl. 52—309 5 Claims



A composite panel comprising a layer of soft and flexible thermal and acoustical insulation such as polyurethane foam laminated to the back of a strip of rigid material such as plywood. The panel is equipped with spring

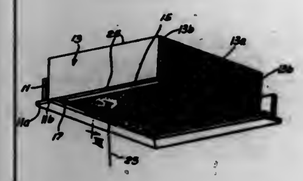
clips along its lower edge to engage the upper edge of an underlying panel, the clips providing gauges to insure uniform width of overlap.

3,511,009
COMPOSITE WALL PANELING
Thomas A. Sapp, 2005 Huron Parkway, Apt. 3, Ann Arbor, Mich. 48104
Filed Jan. 26, 1968, Ser. No. 700,758
Int. Cl. E04c 2/02, 2/70
U.S. Cl. 52—311 10 Claims



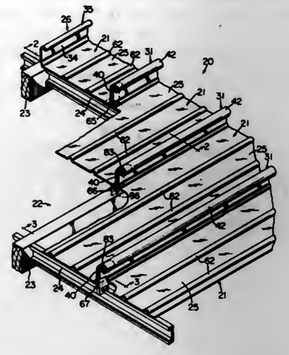
An interior side wall wherein a rigid backboard wall surface extends between a floor and ceiling, decorative background fabric or like material is fixed over the backboard wall surface, and a plurality of side-by-side panel frames extend substantially between the floor and ceiling and comprise decorative, rigid, open frames with top, bottom and side edge portions, bordering essentially vertical strips of the background material, and which are of such thickness that the background material is substantially recessed behind each frame and a three-dimensional effect is achieved.

3,511,010
TWO COMPONENT SEALING SYSTEM FOR PANELS WITH A SUPPORT
Walter Bruce Wood, Bridgeville, Pa., assignor, by mesne assignments, to American Air Filter Company, Inc., a corporation of Delaware
Filed Oct. 7, 1968, Ser. No. 765,520
Int. Cl. E04b 5/52
U.S. Cl. 52—393 7 Claims



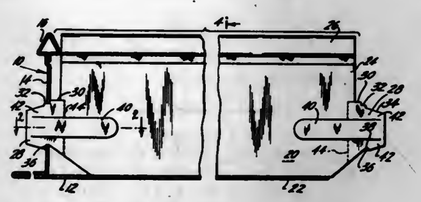
A panel for use with a support has a two component sealing means bonded to one of the surfaces of the panel. One component comprises a permanent sealing means extending along and bonded to the perimeter of one of the surfaces of the panel and the other component comprises a releasable sealing means extending along and engaging the permanent sealing means. The releasable sealing means has a first portion bonded to the permanent sealing means and a second portion bondable to the support with a means for releasing the first portion from the second portion of the releasable sealing means, rendering the panel movable from the support.

3,511,011
METAL PANEL AND BUILDING CONSTRUCTION USING SAME
Gus Straus, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Continuation-in-part of application Ser. No. 716,079, Mar 26, 1968. This application Dec. 3, 1968, Ser. No. 780,826
Int. Cl. E04d 3/362, 3/30
U.S. Cl. 52—478 22 Claims



This disclosure relates to a metal panel for roofing and sliding, for example, which is fastened to an associated substructure using concealed fasteners and has a central body and simple upstanding male and female fastening flanges extending in the same direction from opposite side edges of the central body. Each fastening flange has a planar main portion arranged transverse the central body and has an associated substantially semicylindrical terminal portion arranged outwardly of its associated planar portion.

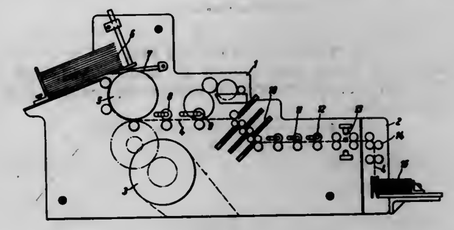
3,511,012
STRUCTURAL UNITS FOR FORMING GRIDS FOR SUSPENDED TILE CEILINGS
Eugene Brady, Ardsley, N.Y., assignor to Acoustical Ceiling Accessories Co., Inc.
Substitute for application Ser. No. 581,612, Sept. 23, 1966. This application Mar. 22, 1968, Ser. No. 720,433
Int. Cl. E04c 2/42, 5/52
U.S. Cl. 52—667 7 Claims



In a grid for a suspended tile ceiling, transverse runners of inverted T-shape, including a web and flanges normal thereto at one edge thereof and engageable by its ends in vertical slots formed in the web of correspondingly-shaped main runners, said ends comprising a tongue extending from each end edge of the web, said tongue of lesser height than the web and having a notch formed in its

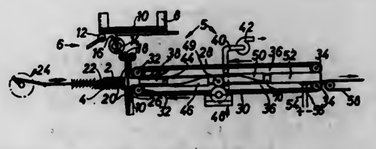
lower edge, adjacent the end of the web, adapted to engage over the edge of a slot, in a main runner web, and an embossment formed in the tongue and extending into the end of the web, said embossment spaced from the longitudinal edge of the tongue and tapering from and merging with the lead end thereof.

3,511,013
PROCESS AND MACHINE FOR THE AUTOMATIC PRODUCTION OF CLOSED, LETTER-LIKE OBJECTS FORMED BY MEANS OF ROLL-FOLDING
Bruno Pahlitzsch, Gneisenaustrasse 67, Berlin 61, Germany
Filed June 13, 1966, Ser. No. 557,248
Claims priority, application Germany, June 21, 1965, P 37,089
Int. Cl. B65b 61/02
U.S. Cl. 53—14 8 Claims



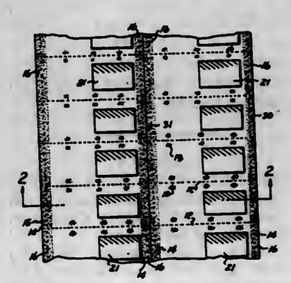
A method of and apparatus for the production of closed objects contained in flat envelopes, comprising the steps of withdrawing a succession of individual sheets from the bottom of a stack of precut, preprinted sheets, perforating each sheet to form a pair of lines thereon and applying an adhesive to lateral edges of the sheet parallel to the direction of movement thereof, folding the sheet transversally of the direction of movement to bring one portion of the sheet to overlie another portion thereof and join the lateral edges of the overlying portions, and thereafter stacking the sheets by diverting them transversely to the original direction of movement. Objects such as medical samples can be inserted in the envelope prior to the total sealing and stacking thereof. The adhesive may be water soluble and manifest evidence of color change upon contact with water to indicate any tampering with the sealed unit.

3,511,014
METHOD AND APPARATUS FOR PACKAGING BLOCK-SHAPED COMMODITIES
Horst Kochalski, Hamburg-Lohbrugge, Germany, assignor to Hauni-Werke Korber & Co. KG, Hamburg-Bergedorf, Germany
Filed May 18, 1967, Ser. No. 639,352
Claims priority, application Great Britain, May 31, 1966, 24,186/66
Int. Cl. B65b 11/16, 49/10
U.S. Cl. 53—24 17 Claims



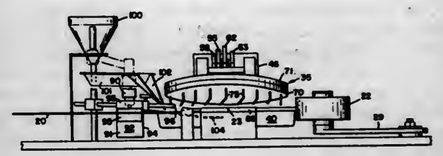
Packaging apparatus for blocks of arrayed cigarettes or like rod-shaped articles includes a pair of transporting conveyors having endless belts whose inner stringers define an elongated channel for U-shaped blanks which are obtained by draping sheets of wrapping material around the front, top and bottom sides of successive blocks prior to or during entry into the channel. The inner stringers engage the top and bottom panels of blanks by friction and advance them through the channel past a series of tucking, folding adhesive-applying, sealing and pressing units which are laterally adjacent to the channel. The speed at which the blanks enter the channel exceeds the speed of the stringers and such stringers consist of foraminous material so that the blanks can be attracted thereto by suction. The tucking units may comprise fixed cams or travelling belts.

3,511,015
METHOD OF MAKING DOUBLE PLY CONTINUOUS FORMS
Irving C. Beckman and Alex M. Beerbohm, Huntington Woods, Mich., assignors to 2 B System Corporation, Madison Heights, Mich.
Filed May 20, 1968, Ser. No. 730,485
Int. Cl. B65b 9/06
U.S. Cl. 53—28 2 Claims



A method for manufacturing a continuous burstable form severable into individual receivers for credit cards or the like.

3,511,016
SEED-TAPE MANUFACTURE
Burnie M. Craig, Pasadena, Calif., assignor to Soilserv, Inc., Salinas, Calif., a corporation of California
Filed Mar. 4, 1968, Ser. No. 710,014
Int. Cl. B65b 9/06
U.S. Cl. 53—28 43 Claims



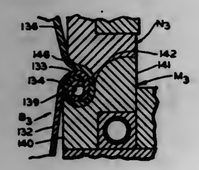
An annular seed-containing tray is rotated horizontally, while a rotating seed-pickup assembly above the tray is inclined from horizontal, its nozzles dipping into said tray to pick up seeds by vacuum. They rise from the tray to a high point where the vacuum is released and the seeds are dropped onto a moving tape. The tangential velocity of the nozzles is approximately the same as the linear velocity of the tape, and changes in velocity of the tape cause proportional changes in the velocities of the pickup assembly and tray. Spacing of seeds on the

tape is varied by varying the relative velocities of the tape and pickup assembly. The tray and pickup assembly rotate in the same direction and their relative speed is variable. Preferably, the tape is troughed before receiving seed and before that is moistened, as by sparsely spraying water on less than half the tape, all to one side of its center line. After dispensing the seed, the nozzles are blown out to keep them clean, while the tray is protected from the blowing. A level detector overlies the seeds in the tray and activates feeding means to supply the tray with more seeds when the level drops below a predetermined height. Also, an air jet is directed at each nozzle before it reaches the tape, for dislodging excess seeds that may have been picked up.

3,511,017
FOAMABLE CAPSULES
Leslie H. Breden, Ellicott City, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Mar. 1, 1968, Ser. No. 709,817
Int. Cl. B65b *55/20, 51/02*; B32b *5/18*
U.S. Cl. 53—33 2 Claims

Delicate articles are encapsulated in foam. Articles are covered with a film of polyvinyl chloride impregnated with ethylidene dichloride and then are heated to above 250° F. Foam, which completely encloses the article, is formed by heating. A foamed protective barrier resistant to water, moisture-vapor, gas, and having good thermal insulating properties results.

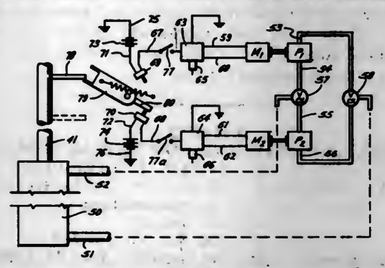
3,511,018
METHOD FOR SEALING TWO-PIECE CONTAINERS
Richard K. Shelby, Chicago, and Jay W. Rapp, Park Ridge, Ill., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of applications Ser. No. 508,412, Oct. 18, 1965, and Ser. No. 546,990, May 2, 1966. This application Dec. 20, 1966, Ser. No. 603,220
Int. Cl. B65b *7/28, 51/14*
U.S. Cl. 53—42 6 Claims



The method of sealing a cover member to a receptacle where the receptacle is provided with a groove to receive a flange on the cover member. The material forming the flange in the cover member and the groove on the receptacle is heated so that the flange can be reversely bent and extended into the groove so that the cover member becomes permanently sealed to the receptacle.

3,511,019
FIBER PRESS CONTROL
Joseph C. Neitzel, Dallas, and G. W. Dickson, Mesquite, Tex., assignors to Murray Company of Texas, Inc., Dallas, Tex., a corporation of Texas
Filed Oct. 11, 1967, Ser. No. 674,419
Int. Cl. B65b *1/24, 1/28, 61/24*
U.S. Cl. 53—52 2 Claims

A fiber press is provided in which the pressed material is enclosed within substantially impervious, telescoping box parts. In order to prevent trapping of air within the box parts during high-speed operation of the press, the inward movement of the follow block is automatically



delayed, e.g., either retarded or momentarily stopped, as the box parts approach their telescoping relationship to facilitate escape of the trapped air.

3,511,020
VACUUM BAG LIFTER
Kenneth A. Kraft and Donald E. Jahnke, Milwaukee, Wis., assignors to Hydrahone Equipment Division, Milwaukee, Wis.
Filed Feb. 5, 1968, Ser. No. 702,983
Int. Cl. B65b *31/06*
U.S. Cl. 53—112 14 Claims

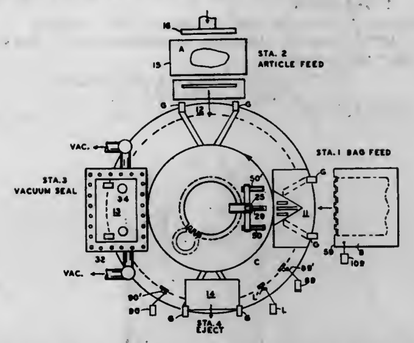


Bag evacuating apparatus of the type having a tubular handle or sleeve about which the neck of a bag to be evacuated is held so that, when the sleeve is evacuated, the bag and its contents will be evacuated. Valve means is provided in the sleeve to close the same and thereby prevent the dripping of moisture and the like along the sleeve after the vacuum has been removed therefrom. An inner evacuating tube shiftably mounted in the sleeve operates to extend outwardly therefrom and into a bag when the sleeve is shifted relative to the tube. Means is provided to maintain a relatively small amount of vacuum in the tube when the latter is disposed within the sleeve to prevent the accumulation of moisture at the outer end of the tube.

3,511,021
VACUUM PACKAGING MEANS
Floyd A. Lyon, Brookville, and Clement R. Konars, Glen Cove, N.Y., assignors to Halm Instrument Co., Inc., Glen Head, N.Y.
Filed Mar. 28, 1968, Ser. No. 716,927
Int. Cl. B65b *31/02*
U.S. Cl. 53—112 8 Claims

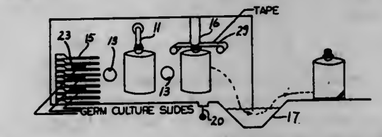
A vacuum packaging means for soft articles such as textiles. An indexing table having a plurality of bag holding positions, each with gripping jaws. Bags are fed to

the table at a first work location. At a second work location the bags are opened and an article inserted. At a



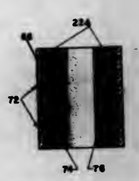
third work location, the bag is compressed, evacuated and sealed. At a fourth work location, the sealed, filled bag is ejected.

3,511,022
ASEPTIC FILLING APPARATUS
Roy D. Finley and James D. Flanigan, Greenville, Ill., and Eldred W. Bowen, Brentwood, Mo., assignors to Pet Incorporated, St. Louis, Mo., a corporation of Delaware
Continuation of application Ser. No. 738,743, May 1, 1968, which is a division of application Ser. No. 440,829, Mar. 18, 1965. This application May 29, 1969, Ser. No. 835,868
Int. Cl. B65b *31/02*
U.S. Cl. 53—112 8 Claims



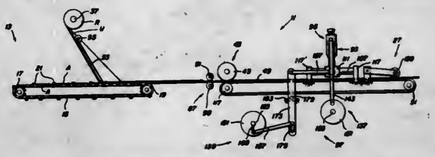
This disclosure relates to a process of and apparatus for aseptically filling a sterile disposable package with a sterile food product. This invention further relates to a flexible walled package containing a sterile food product, and to a process of aseptically filling the same, and removing a sample portion without opening the sealed package.

3,511,023
APPARATUS FOR PACKAGING MICROWAVE DIPOLES
Lloyd W. Schopp, Akron, and Carl E. Postel, Canton, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware
Filed Aug. 16, 1967, Ser. No. 661,127
Int. Cl. B65b *9/12, 27/10, 61/02*
U.S. Cl. 53—123 3 Claims



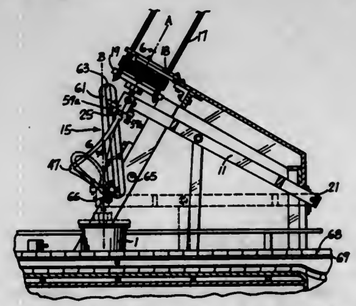
Apparatus for compacting a plurality of metallic slivers into a compact bundle and packaging the bundle in a suitable disposable container. The containers with the metallic slivers compacted inside are then cut to a specific length in order to form microwave dipoles.

3,511,024
MACHINE FOR WRAPPING ARTICLES
Robert O. Manspeaker and Mack J. Marbury, Memphis, Tenn.; said Manspeaker assignor to said Marbury, doing business as Marbury's Machine Works, Memphis, Tenn.
Filed Feb. 5, 1968, Ser. No. 707,009
Int. Cl. B65b *9/06*
U.S. Cl. 53—182 11 Claims



Machine for wrapping articles with wrapping material which includes rollers for pulling a continuous strip of the wrapping material from a roll thereof through the machine from adjacent the feed or entrance end thereof towards the discharge end. A forming mechanism is provided in the machine which engages the continuous strip to form the continuous strip into a continuous tube of material independent of the articles to be wrapped. A continuous conveyor provided with lugs, between which the articles to be wrapped are placed, feeds the articles into the tube of material. A sealing and cutting mechanism is provided which transversely seals and severs the tube in the spaces between the articles to form individually wrapped articles. Means is provided for causing the heated portion of the sealing means and the blade of the cutting means to move substantially linearly with the tube of material while the tube is being sealed and cut.

3,511,025
CAPPING APPARATUS
Richard A. Newport, % Benewah Creamery, E. 408 Sprague Ave., Spokane, Wash. 99202
Filed Apr. 14, 1967, Ser. No. 631,033
Int. Cl. B65b *7/28*
U.S. Cl. 53—307 9 Claims

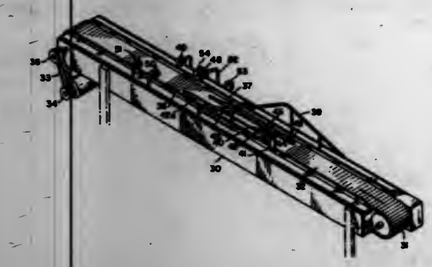


An apparatus for applying closures to receptacles, particularly designed for applying caps to cylindrical cartons. A vacuum device receives the caps from a magzine and places each cap on a carton centered by a conveying and positioning apparatus.

3,511,026
AUTOMATIC CARTON CLOSING APPARATUS
Alden E. Favro, Holcomb, and William B. Jackson, Canandaigua, N.Y., assignors to Mobil Oil Corporation, a corporation of New York
Filed May 31, 1968, Ser. No. 733,454
Int. Cl. B65b *7/26*
U.S. Cl. 53—376 16 Claims

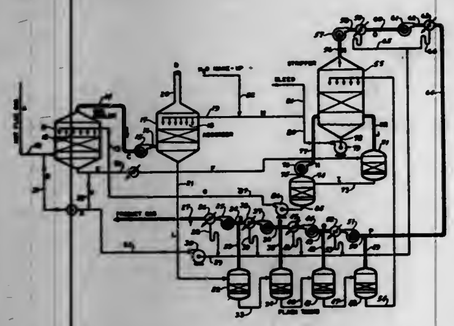
An apparatus for automatically closing and locking filled egg cartons. Apparatus includes conveyor adapted

to convey open cartons past a plurality of closing devices in a longitudinal horizontal travel path. Closing devices



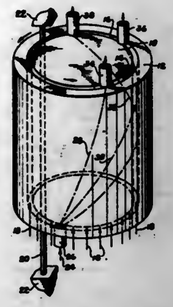
include means for incrementally closing carton cover and bottom locking flanges to provide closed and locked cartons continuously and at high production rates.

3,511,027
SULFUR DIOXIDE RECOVERY PROCESS
Edward S. Roberts, Ridgewood, N.Y., and Arnold Gunther, West Orange, and Casimir A. Rogacki, Waldwick, N.J., assignors to Treadwell Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 589,332, Oct. 25, 1966. This application Mar. 26, 1968, Ser. No. 724,664
Int. Cl. B01d *19/00*
U.S. Cl. 55—44 8 Claims



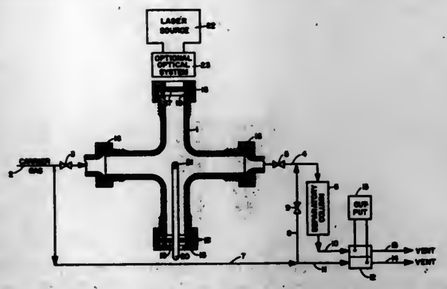
The invention is embodied in a process and an apparatus system wherein flue gas from combustion operations, i.e., power plants, incinerators, industrial installations, paper mills, ore roasters, etc., wherein sulfur appears in elemental or combined form in the fuel or material burned, is treated to remove the sulfur dioxide produced, the process being carried out to recover a very substantial part of the sulfur dioxide. The process includes the steps of cooling the gas substantially to ambient outdoor atmospheric temperature, i.e., 32° F. to 125° F., absorbing SO_2 in water at temperatuure in that range, and recovering from the water solution an enriched SO_2 product gas, useful as such, or useful for liquefaction and recovery of pure SO_2, the recovery being carried out at ambient temperature, so that overall the process may be said to be substantially isothermic. The apparatus aspect of the invention resides in the combination of units, cooler, absorber, stripper, flash apparatus and pumps, consituting means for recovering, pumping and handling the quantities of gas and water involved.

3,511,028
CONTINUOUS GAS-LIQUID CHROMATOGRAPHY METHOD UTILIZING ANNULAR OPEN COLUMNS
Charles Proffer Saylor, Adelphi, Md., assignor to the United States of America as represented by the Secretary of Commerce
Filed Jan. 15, 1969, Ser. No. 791,359
Int. Cl. B01d *15/08*
U.S. Cl. 55—67 8 Claims



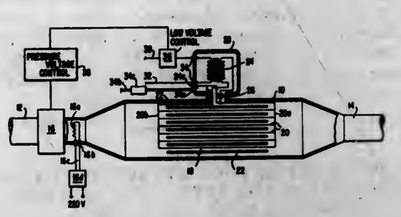
The method which comprises: flowing a carrier gas through an annular open (unpacked) column, at least one wall of which is coated with a separation liquid and rotated about its axis, while constraining the gas to flow substantially parallel to the axis of the column; introducing a gaseous mixture to be separated into the column inlet at a fixed point; and withdrawing the components of the mixture from the column outlet at angularly spaced fixed points. The constraining of the carrier gas to flow parallel to the column axis may be effected by providing at least one elongated thin gas barrier in the column, or by rotating the column walls at different angular velocities, including rotating the walls in opposite directions. The walls may be coated with different separation liquids to separate a gaseous mixture of three or more components which are difficult to separate with any single separation liquid.

3,511,029
METHOD AND APPARATUS FOR CHROMATOGRAPHY SAMPLE PREPARATION
Leo V. Azarraga and Orville F. Folmer, Jr., Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Continuation-in-part of application Ser. No. 766,220, Oct. 9, 1968. This application July 8, 1969, Ser. No. 842,819
Int. Cl. B01d *15/08*
U.S. Cl. 55—67 5 Claims



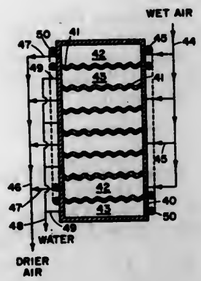
Solid and liquid samples are prepared for analysis by gas-liquid chromatography by laser-induced vaporization and/or molecular fragmentation.

3,511,030
METHODS AND APPARATUS FOR ELECTROSTATICALLY CLEANING HIGHLY COMPRESSED GASES
Herbert J. Hall, Skillman, Robert F. Brown, Piscataway Township, Myron Robinson, Highland Park, N.J., assignors to Research-Cottrell, Inc., Bridgewater Township, N.J., a corporation of New Jersey
Filed Feb. 6, 1967, Ser. No. 614,168
Int. Cl. B03c *3/00*
U.S. Cl. 55—129 6 Claims



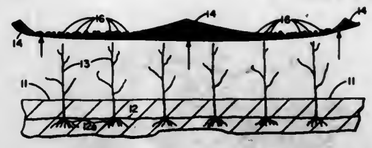
An apparatus for removal of fine suspended particles from highly compressed gases by electrostatic precipitation comprising fine discharge electrodes producing a negative corona to raise the sparkover voltage and critical relative density, heated discharge electrodes and flow constrictions for lowering the corona-starting voltage, the high-voltage power supply being disposed within the compressed gas volume, the negative corona discharge obtained being above the critical relative density of the system.

3,511,031
APPARATUS FOR REMOVING WATER VAPOR FROM GASES
John M. Ketteringham, Belmont, Mass., and Amos J. Leffler, Broomall, Pa., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 19, 1968, Ser. No. 714,266
Int. Cl. B01d *53/00*
U.S. Cl. 55—158 11 Claims



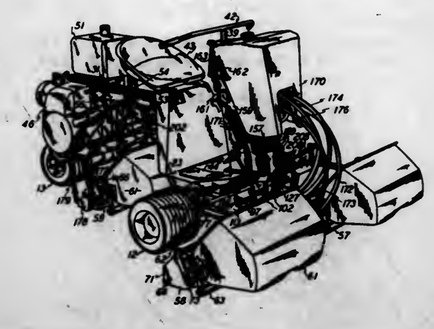
An apparatus for removing water vapor from a gaseous medium. The water-containing mixture is contacted with the inlet side of a microporous membrane having a partial pressure differential of water vapor across it. The water condenses on the walls of the capillaries in the microporous membrane and then essentially fills them to block passage of any gaseous components. As the water continues to condense, it flows from the outlet side of the membrane. At relatively high humidities at ambient temperatures, water can be taken out without any appreciable loss of the gaseous components. The apparatus is particularly well suited for use in a cabin of a space vehicle.

3,511,032
HARVESTING PROCESS
Kenneth A. Demuth, Burkettville, Maine 04540
Continuation-in-part of application Ser. No. 691,515, Dec. 18, 1967. This application Apr. 16, 1968, Ser. No. 725,571
Int. Cl. A01g *19/00*; A01d *11/00*
U.S. Cl. 56—1 4 Claims



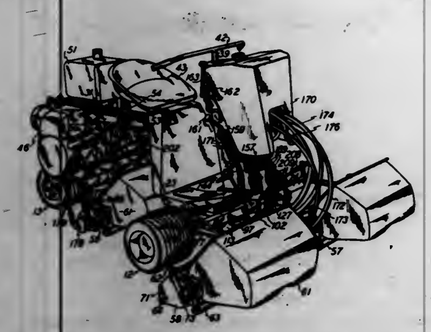
A process for harvesting is described wherein a weather-resistant net is placed on a growing area at the beginning of a growth cycle. The mesh of the net is chosen to be slightly larger than the normal stem diameter. Accordingly, stems grow through the net and bear fruit. Lifting the net strips the fruit from the stems to provide a rapid inexpensive method of harvesting. The process is particularly useful for rhizome plants, such as blueberries, but can also be used for weak root system plants such as tomatoes by placing a holding net below the weather-resistant net.

3,511,033
GANG LAWN MOWING MACHINE
Raymond K. Strasel, Winthrop Harbor, Ill., assignor to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 478,049, Aug. 9, 1965. This application Oct. 18, 1968, Ser. No. 768,648
The portion of the term of the patent subsequent to Feb. 25, 1986, has been disclaimed
Int. Cl. A01d *75/30*
U.S. Cl. 56—7 26 Claims



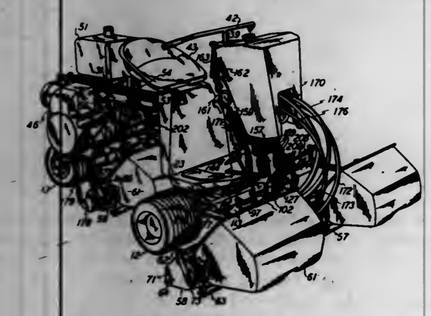
A gang lawn mowing machine having a tractor with a plurality of mowers articularly mounted on the tractor for raising and lowering the mowers and for moving the mowers through steering angles. A prime mover is included in the tractor and hydraulic pumps and motors are operable through the prime mover and power the tractor wheels and the mowers. Also, a hydraulic cylinder is included in the tractor for raising and lowering the mowers on the tractor.

3,511,034
ARTICULATE CONNECTION FOR A LAWN MOWER ON A TRACTOR
Raymond K. Strasel, Winthrop Harbor, Ill., assignor to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 478,049, Aug. 9, 1965. This application Oct. 18, 1968, Ser. No. 768,649
Int. Cl. A01d 75/30
U.S. Cl. 56—7 19 Claims



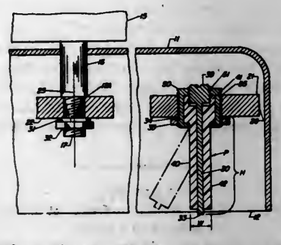
A tractor having a lawn mower articularly connected to the tractor. Attachment means exist between the tractor and the mower, and lift means on the tractor provides for raising and lowering the mower. The attachment means presents a rotative connection for the mower to be steered relative to the tractor, and its also presents a pivot axis across the mower for articulation of the mower on the ground. A lost-motion connection between the tractor and the mower is effective to permit the mower to articularly ride on the ground and it engages the mower for lifting the mower when the lift means is operated. Alignment means are provided between the tractor and the mower for aligning the mower with the tractor when the mower is in the raised position.

3,511,035
LIFT MEANS FOR TRACTOR-MOUNTED LAWN MOWERS
Raymond K. Strasel, Winthrop Harbor, Ill., assignor to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 478,049, Aug. 9, 1965. This application Oct. 18, 1968, Ser. No. 768,650
Int. Cl. A01d 75/30
U.S. Cl. 56—7 14 Claims



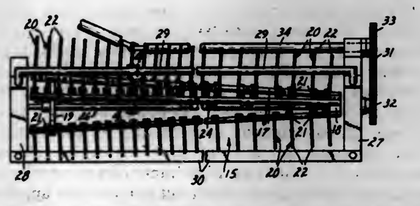
A lift means on a tractor and having a lift arm pivotally mounted on the tractor and with the lift arm having a mower supported on the extending end of the arm. The lift means is normally free so that the mower can move up and down in response to undulations on the ground during the mowing process, and the lift means has a set or over-center position for securely holding the lift arm and the mower in the raised or transport position. The unit is shown with a plurality of mowers, with each having its own lift arm, and with some of the mowers being rearwardly mounted on the tractor with respect to the other mowers. Connecting means then extend between the mowers so that the forwardly mounted mowers and the rearwardly mounted mowers can be raised and lowered at different times, if desired. Further, adjustment means are provided for governing the difference in the time between the raising and lowering mentioned. Still further, the raising and lowering is relative to the forward speed of the tractor so that the mowers can be accurately controlled.

3,511,036
LAWN RAKING TOOL ATTACHMENT FOR ROTARY BLADE TYPE LAWN MOWERS
Robert A. Julian, 2401 S. 47th St., Omaha, Nebr. 68106
Filed Sept. 6, 1968, Ser. No. 757,940
Int. Cl. A01d 51/00
U.S. Cl. 56—27 5 Claims



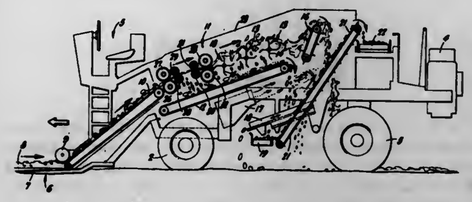
This invention relates to a lawn raking tool attachment for powered lawn mowers of the type comprising a substantially horizontal plant growth rotary cutting blade that is removably attached to the vertical powered rotatable shaft of the lawn mower. The lawn raking tool of this invention is removably attached to the powered rotatable shaft of the lawn mower in analogous fashion to the removable attachment of the prior art rotary cutting blade, said lawn raking tool attachment comprising an elongate horizontal bar and a plurality of downwardly-extending vertically-adjustable specially constructed prongs spaced at special locations with respect to each other and to the elongate bar.

3,511,037
CONED ROTOR FOR MECHANICAL BEAN PICKER
Thomas Howard Paulson, Clayton, Wis., assignor to Pixall Corporation, Clear Lake, Wis., a corporation of Wisconsin
Filed Jan. 5, 1968, Ser. No. 696,078
Int. Cl. A01d 45/22
U.S. Cl. 56—130 4 Claims



A generally conical gathering rotor for a mobile bean picking machine and disposed on a normally horizontal axis extending longitudinally of the direction of machine travel, the rotor tapering forwardly and having a core and a plurality of circumferentially and longitudinally spaced forwarding sloping tines extending generally radially outwardly from the core. The tines each describe a cone of movement responsive to rotation of the rotor, and are adapted to move laterally and upwardly through the bean plants to pick the pods from the plant.

3,511,038
CUCUMBER HARVESTER
Lauren W. Gates and Fredrick L. Hill, Rio Vista, Calif., assignors to Blackwelder Manufacturing Company, Rio Vista, Calif., a corporation of California
Filed Sept. 5, 1967, Ser. No. 665,508
Int. Cl. A01d 45/00, 27/00
U.S. Cl. 56—327 9 Claims



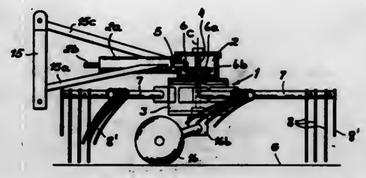
A self-propelled mechanical harvester for vine-grown row crops, especially cucumbers harvested in bulk for processing as pickles; the harvester including, as an essential component, a power driven roll assembly—through which the vines feed—operative to detach the cucumbers from such vines.

3,511,039
METHOD AND APPARATUS FOR CATCHING FRUIT
Russell D. Gould, San Jose, and John E. Richter, Santa Clara, Calif. (both of P.O. Box 26, Milpitas, Calif. 95035)
Filed Dec. 5, 1966, Ser. No. 599,132
Int. Cl. A01g 19/00
U.S. Cl. 56—329 12 Claims



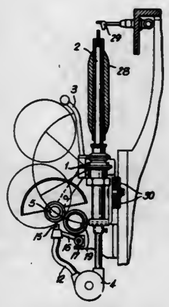
A tree shaker including an elongate mobile frame having a fruit conveyor for collecting fruit and delivering it to a collection box at one end thereof. An inflatable air cushion is fastened to the frame on one side and adapted to be extended under a tree where it is partially inflated. A roll is mounted above the frame and is connected to the remote side of the air cushion by ropes so that the air cushion can be reeled in and rolled up in compact form on the roll. Simultaneously, air within the cushion is expelled through vent flaps and fruit is shifted to the frame conveyor for collection.

3,511,040
ROTARY RAKE
Josef Pürrer and Eberhard Wolf, Gottmadingen, Germany, assignors to Maschinenfabrik Fahr AG, Constance, Germany, a corporation of Germany
Filed Apr. 2, 1969, Ser. No. 812,709
Claims priority, application Germany, Apr. 3, 1968, 1,757,123
Int. Cl. A01d 79/00
U.S. Cl. 56—370 10 Claims



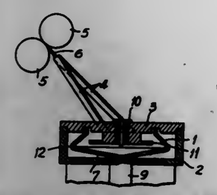
A rotary rake drawn by a tractor or other prime mover and having a plurality of arms mounted on a rotatable body. The arms are inclined forwardly of a radius at their junction with the rotatable body in the direction of rotation to limit centrifugal spreading of the crop as the arms rotate. The arms carry rake tines at least the outer one of which projects forwardly of the remaining tines. During rotation of the rake, the tines are swung upwardly through about 90° to clear the ground and release the raked crop material in a swath.

3,511,041
SPINNING AND TWISTING DEVICE
Petr Konstantinovich Korikovsky, Nagatinskaya ul. 32, kv. 61, Moscow, U.S.S.R.; and Semen Dmitrievich Laushkin, Ul. Komsomolskaya 328, kv. 36; Viktor Vasilievich Sorokin, Priborostroitelnaya ul. 12, kv. 69; and Jury Semenovich Kulichkov, Priborostroitelnaya ul. 12, kv. 71, all of Orel, U.S.S.R.
Filed Dec. 21, 1967, Ser. No. 692,454
Int. Cl. D01h 13/00
U.S. Cl. 57—34 7 Claims



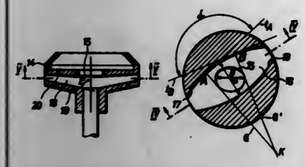
A spinning and twisting device is provided which can be employed on machines for obtaining twisted thread by the combined spinning and twisting method, the device being a sub-assembly combined in one unit and mounted on a bracket and including a hollow spindle, a brake for said spindle, a tensioning mechanism and a receiving and winding arrangement. The device is provided with a pneumatic system for effecting a threading-up operation, the system being constituted by the channel of the hollow spindle, a tube coupling the tensioning mechanism with the channel of the spindle, a hollow flexible hose in front of a traverse guide and a jacket for the tensioning mechanism.

3,511,042
SPINDLELESS SPINNING APPARATUS
Chary Anna-Seldov, Ulitsa Televidenia 22, korpus 1, kv. 58; Lev Ivanovich Oukin, Ulitsa 14, korpus 4, kv. 20; Alexandr Sergeevich Zhukov, Ulitsa 32, korpus 3, kv. 71; Alexandr Fedoseevich Zadoya, Ulitsa Gasheka 11, kv. 54; and Ivan Alekseevich Samoilov, Ulitsa Vavilova 58, korpus 1, kv. 18, all of Moscow, U.S.S.R.
Filed Apr. 11, 1968, Ser. No. 720,624
Int. Cl. D01h 7/02
U.S. Cl. 57—58.89 1 Claim



A device is provided for effecting spindleless yarn spinning and is characterized by conveying slivers of fiber along at least two separate paths through canals leading to a twisting and forming region constituted by a rotating annular member positioned adjacent a separator. The slivers are introduced together into the annular member and they are twisted and combined therein to form the produced yarn. The latter is removed from the annular member through a separator in a direction opposite that in which the slivers were introduced.

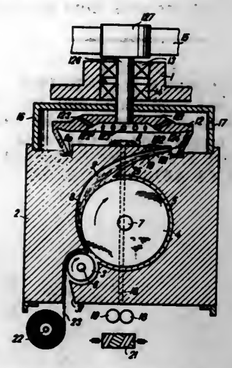
3,511,043
OPEN END SPINNING DEVICE
Adolf Schlüssel and Max Graf, Winterthur, Switzerland, assignors to Rieter Machine Works, Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed Sept. 23, 1968, Ser. No. 761,425
Claims priority, application Switzerland, Sept. 27, 1967, 13,592/67
Int. Cl. D01h 7/00
U.S. Cl. 57—58.89 10 Claims



The rotor is constructed with a cross-duct below the fiber collecting surface which communicates radially with the exterior of the rotor. The cross-duct is wider across the rotor center than the opening communicating the cross-duct with the fiber collecting surface and is of decreasing cross-sectional area towards the rotor periphery.

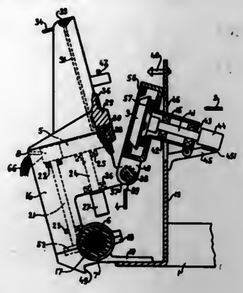
3,511,044
METHOD OF AND APPARATUS FOR RINGLESS SPINNING OF FIBERS
Josef Stary, Usti nad Orlici, Czechoslovakia, assignor to Vyzkumny Ustav Bavlnarsky, Usti nad Orlici, Czechoslovakia
Filed Jan. 16, 1969, Ser. No. 791,749
Claims priority, application Czechoslovakia, Jan. 19, 1968, 426/68
Int. Cl. D01h 1/12, 7/00
U.S. Cl. 57—58.91 12 Claims

A rotary spinning chamber has an internal circumferential spinning surface and an open axial side. A stationary cover extends into the open side closing the same and is provided with a passage bounded by a wall portion separating it from the interior of the chamber and having an outlet end directed at and adjacent to the spinning surface. Feed means feeds a stream of fibers into the passage for advancement therethrough and issue from the outlet for centrifugal deposition on the spinning surface.



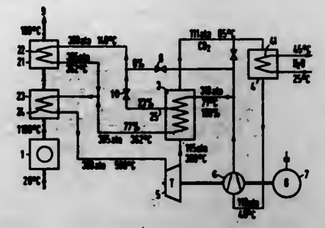
The wall portion is provided with one or more apertures through which air from the interior of the spinning chamber may enter the passage inwardly of the outlet end thereof to thereby establish an air cushion between the wall portion and the stream of fibers advancing towards the outlet end.

3,511,045
SPINNING APPARATUS HAVING A SERVICING POSITION
Ladislav Bures, Jaroslav Rajnoha, and Jiri Nemec, Orlici, Czechoslovakia, assignors to Elitex Zavody Textilniho Strojirenstvi Generalin Reditelstvi, Liberce, Czechoslovakia
Filed Jan. 21, 1969, Ser. No. 792,718
Claims priority, application Czechoslovakia, Jan. 22, 1968, 478/68
Int. Cl. D01h 1/12, 7/00, 13/26
U.S. Cl. 57—58.91 16 Claims



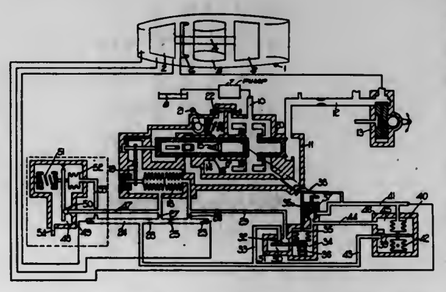
A row of spinning units is mounted along a frame and driven by common drive means. Each spinning unit includes first and second casings, and first and second spinning means in said first and second casings. The first casings are mounted on the second casings for movement with the first spinning means between a servicing position and an operative position, and the second casings are mounted on the frame for movement with the second spinning means between a servicing position and an operative position. The first and second casings can be simultaneously moved to the servicing positions in which the first and second spinning means are accessible for servicing, or to operative positions in which the first and second spinning means cooperate to spin yarn of a sliver.

3,511,046
GAS TURBINE POWER PLANT
Hans-Peter Schabert, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Nov. 1, 1968, Ser. No. 772,640
Claims priority, application Germany, Nov. 2, 1967, P 1,601,659
Int. Cl. F01k 25/00, 3/18
U.S. Cl. 60—36 11 Claims



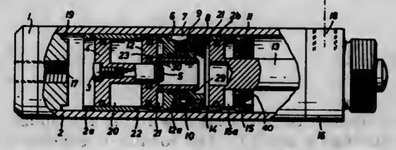
Gas turbine power plant fired by fossil fuel has a circulatory system including a boiler for heating a working medium with combustion gas of the fired fuel, a gas turbine connected to the boiler and operated by the heated working medium, a recuperative heat exchanger having a high-pressure side connected to the boiler and a low-pressure side connected to the discharge end of the gas turbine for utilizing heat from spent working medium to heat working medium contained in the high-pressure side, cooler means connected to the low-pressure side of the recuperative heat exchanger for cooling the spent working medium, compressor means connected between the cooler means and the high-pressure side of the recuperative heat exchanger for compressing the cooled working medium, the working medium having a mean specific heat in the high-pressure side of the recuperative heat exchanger at least 5% higher than that of the spent working medium in the low-pressure side of the recuperative heat exchanger and means for conducting out of the recuperative heat exchanger a branch flow of the working medium from the high-pressure side of the recuperative heat exchanger into heat-exchanging contact with the combustion gas.

3,511,047
FUEL CONTROL SYSTEMS FOR GAS TURBINE ENGINES
Thomas Charles Yates, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed June 6, 1968, Ser. No. 734,936
Int. Cl. F02c 9/08, 3/06
U.S. Cl. 60—39.28 5 Claims



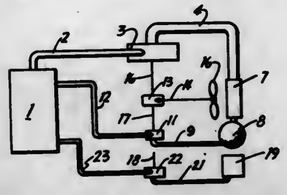
A fuel control system for a gas turbine engine having a flexible device which is responsive to two pressures obtained from the engine compressor stage to control the supply of fuel reaching the engine and a device which is responsive to a further pressure obtained from a further stage of the engine compressor, said device also being responsive to the position of a manually set member, and being arranged to actuate a valve, in a passage affording communication between the passages through which higher and lower pressures are supplied to the flexible device to modify the ratio of these pressures which is exerted upon the flexible device.

3,511,048
HYDROPNEUMATIC CLAMPING CYLINDER
Josef Nemetz, 14 Rochusplatz, 6503 Wiesbaden-Kastel, Germany
Filed May 28, 1968, Ser. No. 732,584
Claims priority, application Germany, June 8, 1967, N 30,666
Int. Cl. F15b 15/26; F01b 1/02
U.S. Cl. 60—54.5 11 Claims



A pneumatically operated clamping cylinder includes an internal axially slidable assembly which includes at least two independent relatively axially movable elements which, in turn, operate a radially outwardly movable locking element to hold the clamping element in place.

3,511,049
MOTIVE FLUID COMPOSITION
John P. Norton, St. Louis, and Saxon Cole, Shrewsbury, Mo., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Oct. 7, 1968, Ser. No. 765,537
Int. Cl. F01k 25/00; C09k 3/00
U.S. Cl. 60—36 6 Claims

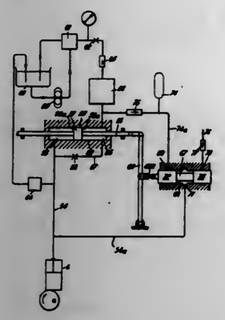


A vaporizable-condensible motive fluid composition including selected portions by weight of trichlorotrifluoroethane and trichlorofluoromethane where selected minor portions of a lubricant can be added. The composition freezes at an extremely low temperature and is vaporized in a selected high temperature range to be alternately vaporized and condensed in a closed fluid flow circuit.

3,511,050
TRANSDUCER FOR CONVERTING FLUID PRESSURE OSCILLATIONS INTO MECHANICAL OSCILLATIONS
John Taberner, Department of Mechanical Engineering, The University, Birmingham 15, England
Original application Jan. 3, 1966, Ser. No. 518,462. Divided and this application Sept. 13, 1968, Ser. No. 802,299
Int. Cl. F15b 7/00
U.S. Cl. 60—54.5 12 Claims

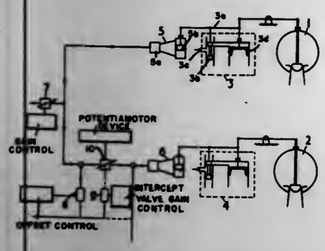
A transducer for converting fluid pressure oscillations into mechanical oscillators includes a relatively movable

piston and cylinder, the opposed faces of the piston bounding first and second pressurized fluid-containing chambers in the cylinder. Relative oscillating movement of the cylinder and piston is controlled by a valve which,



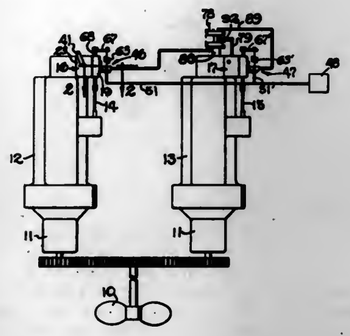
when opened, permits fluid flow to the appropriate chamber through a conduit. The conduit is connected to the other chamber through a flow regulator which maintains the algebraic mean pressure in the conduit greater than that in the other chamber.

3,511,051
SPEED GOVERNING SYSTEMS FOR STEAM TURBINES
John Mackenzie Mitchell, Newcastle-upon-Tyne, England, assignor to C. A. Parsons & Company Limited, Newcastle-upon-Tyne, England, a British company
Filed Nov. 2, 1967, Ser. No. 680,073
Claims priority, application Great Britain, Nov. 4, 1966, 49,453/66
Int. Cl. F01k 7/16
U.S. Cl. 60—73 4 Claims



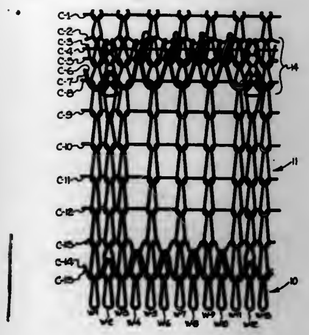
A speed governing system for a steam turbine plant in which a valve controlling the admission of steam to a high pressure turbine, for example a governor valve, and a valve controlling the admission of steam to a lower pressure turbine, for example an intercept valve control steam flow from a reheater to an intermediate pressure turbine, are controlled such that between full load and a predetermined part load, say half load, the openings of the two valves are matched by the governing system and then below the predetermined part load, the opening of the second valve is held fixed at the part load opening while the first valve opening continues to vary with load. On shedding of load, both move toward the closed position simultaneously when the load has fallen to a value where the first valve is almost closed.

3,511,052
LOAD DIVIDING CONTROL FOR MULTIPLE ENGINE DRIVE
Sidney L. Gillespie, Rockford, Ill., assignor to Woodward Governor Company, Rockford, Ill., a corporation of Illinois
Filed Apr. 25, 1968, Ser. No. 723,983
Int. Cl. F01b 21/00; F02b 37/00; G01b 3/04
U.S. Cl. 60—97 8 Claims



Master and slave engines for driving a common output shaft are equipped with isochronous speed governors each having a transmitter deriving a pneumatic pressure signal corresponding to the fuel rod posititon of the governor. A differential device compares the two signals and the resulting pressure difference is exerted on the speed sensor of the slave governor to change the speed setting and thereby cause that governor to adjust its fuel rod to essentially the same position as that of the master governor, the prevailing load thus being divided equally between the two engines.

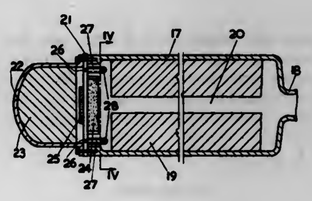
3,511,053
CROCHET-TYPE EDGE FOR SOCK
William H. Blizzard, Mount Airy, N.C., assignor to Smart-Tops, Inc., Hickory, N.C., a corporation of North Carolina
Filed Jan. 8, 1968, Ser. No. 696,252
Int. Cl. D04b 9/46
U.S. Cl. 66—172 3 Claims



An ornamental cuff for use on infants' socks which includes a cuff portion of plain rib knit fabric and a crochet-type edge portion which has spaced walewise

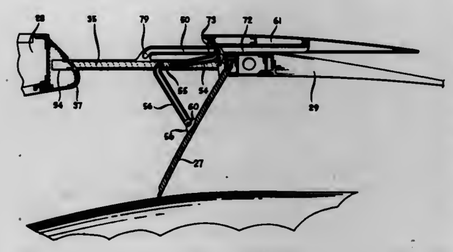
extending relatively open fabric areas connected by walewise extending relatively dense fabric areas and simulating crochet fabric. The ornamental cuff is knit on a circular rib knitting machine and the crochet portion is knit by initially forming stitch loops on all dial and cylinder needles, and then casting off the stitch loops formed on spaced apart groups of cylinder needles before the next knitting cycle.

3,511,054
METHOD OF ROCKET PROPULSION USING AUXILIARY GAS STREAM TO STABILIZE IRREGULAR BURNING
Joshua Swithenbank, Hathersage, George Fred Parkhurst Trubridge, Droitwich Spa, England; said George F. P. Trubridge assignor to Imperial Metal Industries (Kynoch) Limited, Birmingham, England, a corporation of Great Britain
Filed Apr. 17, 1967, Ser. No. 631,451
Claims priority, application Great Britain, Apr. 20, 1966, 17,317/66
Int. Cl. F23r 1/14
U.S. Cl. 60—220 7 Claims



A rocket motor having a propellant combustion chamber which is characterized in an even number of gas injector means equiangularly spaced around a circle in and concentric with a combustion chamber upstream of the combustion volume, each injector having two orifices to discharge opposed auxiliary gas streams tangential to the circle.

3,511,055
THRUST REVERSER
Richard H. Timms, San Diego, Calif., assignor to Rohr Corporation, Chula Vista, Calif., a corporation of California
Filed May 29, 1968, Ser. No. 733,118
Int. Cl. F02k 1/00, 3/02; B64c 15/04
U.S. Cl. 60—229 9 Claims



A thrust reverser arrangement for fan-type jet propulsion engines including a ring of flow reversing cascades which are uncovered when a sleeve section is translated rearwardly on a roller and rail support to a deployed position. During the terminal translational movement of the sleeve section, peripherally disposed blocker doors are rotated into position in the fan duct in such a manner as to divert fan air through the flow reversing cascades. The cascades are located within a center portion of the fan cowling which further includes a forward and aft portion. The operation of the blocker doors is arranged so that the cascades are open and communicating with the bypass duct before the blocker doors reach their deployed positions thereby preventing back pressuring of the engine. All actuators and linkages for achieving the noted operation are supported and contained within the center cowl portion. In order to provide ready access to the jet engine for maintenance purposes, the entire center portion is split into two semi-circular sections and provided with hinges along one common interface.

3,511,056
TRASH DISPOSAL SYSTEM AND APPARATUS
Alverne A. Jones, 10670 W. 47th Place, and Jack L. Reasoner, 6119 Otis St., both of Wheatridge, Colo. 80033
Filed Feb. 9, 1968, Ser. No. 704,484
Int. Cl. E02d 15/00
U.S. Cl. 61—35 12 Claims



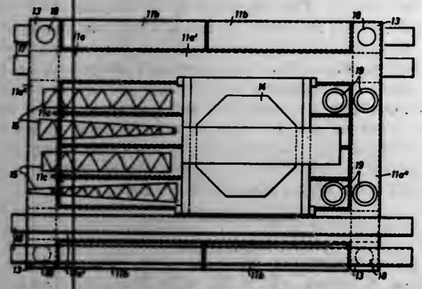
A method for the disposal of trash and mechanisms therefor, the method being inclusive of the steps of excavating soil at a disposal site to provide a trench or depression extending below the initial ground surface, elevating the removed soil to a place above the initial ground surface with a portion of said soil being intermixed with trash before the trash and soil intermixture is redeposited in layers in the dug depression, compacting the intermixed trash and soil materials in said depression through use of apparatus supported at least at the initial ground level elevation and having compactor elements for extension therebelow. The redeposition and compaction operations are continued until the dug depression is at least refilled to an elevation corresponding to the initial ground level, and thereafter the remainder of the removed soil is redistributed to provide a cover for the intermixed deposit and to establish a new ground elevation higher than the initial ground level. Water may be added to the intermixture to improve the compaction characteristics.

In an embodiment of the invention mechanisms inclusive of trench diggers and soil elevating and conveyor apparatus are utilized together with a mobile, platform-mounted compactor unit which provides downwardly extendable ram components for the compaction of intermixed materials in the dug depression. The compactor elements are retractable to facilitate the overground movement of said compactor whereby all units of the utilized apparatus may be moved to new operational sites as required.

3,511,057
ERECTION AND CONSTRUCTION OF MULTISPAN BRIDGES AND PIERS
Bruno Suter, Hubertushone, Germany, assignor to Strabag Bau-AG., a corporation of Germany
Filed Oct. 14, 1968, Ser. No. 767,179
Int. Cl. E02b 17/00
U.S. Cl. 61—46.5 9 Claims

An apparatus for and a method of erecting multiple-span bridges or piers wherein the foundations and piles are laid from a supporting structure which floats to a prearranged area and while mounted on auxiliary sup-

ports the piles are constructed for each span, each new span becoming a supporting structure which rests on piles that have already been installed and auxiliary sup-



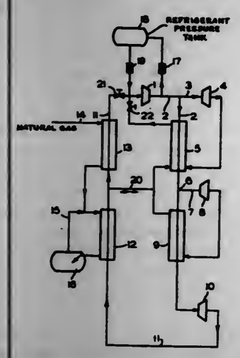
ports which are displaceable along the bridge, by means of construction plant arranged on the supporting structure such as lifting gear, pile drivers and so on.

3,511,058

LIQUEFACTION OF NATURAL GAS FOR PEAK DEMANDS USING SPLIT-STREAM REFRIGERATION

Rudolf Becker, Munich-Solln, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany

Filed May 23, 1967, Ser. No. 640,671
Claims priority, application Germany, May 27, 1966, L 53,722
Int. Cl. F25j *1/00*
U.S. Cl. 62—9 9 Claims



The liquefaction of natural gas wherein refrigerant gas is compressed in a circulation compressor and divided into a first and at least one other partial stream, the first partial stream being cooled by heat exchange with expanded other partial stream and then passed in heat exchange relationship to the natural gas. The expansion of the other partial stream is conducted with the production of external work, and the expanded gas is eventually recycled to the intake of the circulation compressor.

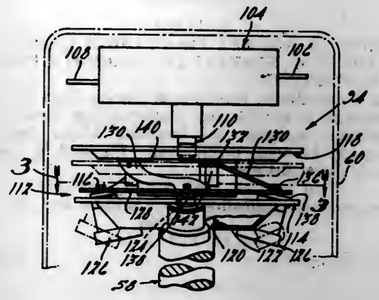
3,511,059

AUGER ICE MAKER WITH FREEZE-UP CONTROL

Walter H. Boenisch, Albert Lea, Minn., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan

Filed Mar. 28, 1968, Ser. No. 716,961
Int. Cl. F25c *1/14*
U.S. Cl. 62—138 7 Claims

An ice making machine including an ice forming chamber; a refrigeration system for producing ice within the chamber; a dispensing mechanism for transferring ice from the chamber to an associated storage bin or the like; a control system comprising an electrical circuit for selectively transmitting electrical power to the refrigeration system and the dispensing mechanism, and control means for selectively opening and closing the aforesaid circuit in response to preselected movement



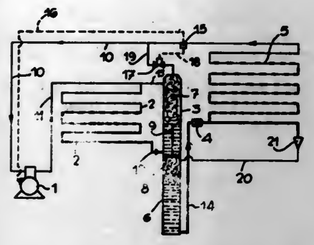
of the dispensing mechanism within the ice forming chamber, whereby the refrigeration system will be automatically deenergized in the event the dispensing mechanism tends to become frozen within the ice forming chamber, thus alleviating the freezing conditions within the chamber until proper operation of the dispensing mechanism is resumed.

3,511,060

DEFROSTING DEVICE FOR A REFRIGERATING MACHINE

Herman Fredrik Wilhelm Bödcher, Blackatorp-Killeberg, Sweden

Filed July 1, 1968, Ser. No. 741,531
Claims priority, application Belgium, July 7, 1967, 701,075; Sept. 11, 1967, 703,705
Int. Cl. F25d *21/02*
U.S. Cl. 62—140 5 Claims



A device for defrosting the evaporator of a compression refrigerating machine comprising a defrosting reservoir with its upper part containing constantly gaseous refrigerant fluid and connected, on the one hand, to the upper part of the evaporator by a defrosting pipe provided with a defrosting valve open only during the defrosting period, during which the compressor is stopped, and, on the other hand, constantly to the upper part of the condenser, and with its remaining part containing constantly liquid refrigerant fluid and connected, on the one hand, to the lower part of the evaporator by a delivery pipe for the refrigerant liquid provided with an expansion device and by a return pipe for this liquid provided with a check-valve, and, on the other hand, constantly to the lower part of the condenser.

3,511,061

SEALING SLEEVE MADE FROM ELASTIC MATERIAL ESPECIALLY FOR DRIVING JOINTS IN MOTOR VEHICLES

Manfred H. Burckhardt, Waiblingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Mar. 8, 1968, Ser. No. 711,752
Claims priority, application Germany, Mar. 9, 1967, D 52,480
Int. Cl. F16d *3/84*
U.S. Cl. 64—32 21 Claims



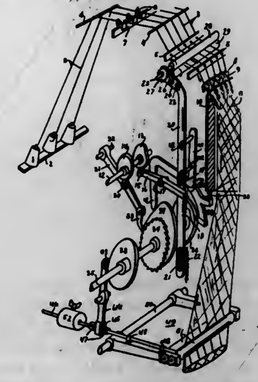
A sealing sleeve made from elastic material, particularly for drive joints in motor vehicles, in which a collar of smaller diameter serves for the securing at the shaft part and a collar of larger diameter for the securing at the joint part, and in which the body of the sleeve consists of at least two diaphragm parts which are connected with each other and with the collar parts by spacing sections; the diaphragm parts thereby extend essentially perpendicularly to the axis and their inclination to such perpendicular should not exceed 20°.

3,511,062

METHOD OF KNITTING TUBULAR ARTICLES

Federico Sanfeliu Noguès, Calle Deputacion 68, Barcelona, Spain

Filed Mar. 22, 1967, Ser. No. 625,078
Claims priority, application Spain, Mar. 22, 1966, 324,881; Mar. 24, 1966, 325,189
Int. Cl. D04b *25/02*
U.S. Cl. 66—81 2 Claims



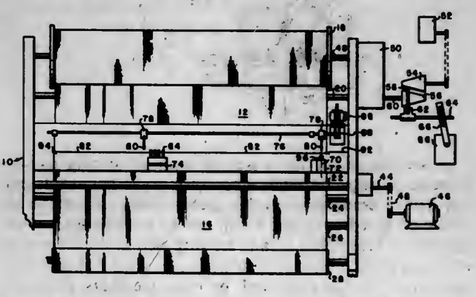
A method of manufacturing fabric articles of tubular configuration by warp knitting with a row of needles and a coacting row of loopers while feeding to each needle and looper yarn from a creel under conditions of controlled tension. The loopers and needles are actuated so that at least part of the yarns which form chains of loops or which are tied thereby are periodically displaced first to one side and then to the other side of a reference needle through a given number of positions or past a given number of needles, this number being variable, and the operating conditions under which the warp knitting is carried out are changed during loop formation so as to produce a variation in the transverse dimensions of the tubular article. The row of needles is circular, and the yarn is fed from the creel to the needles and loopers at a variable feed tension in accordance with a predetermined program so as to produce variations in the diameter of the tubular article along the length thereof. The transverse dimensions of the tubular article may be controlled by correspondingly regulating the length of yarn which is fed to the knitting elements and taken up thereby during loop formation. Also, the extent of displacement of the loops is varied during loop formation, and in addition the tension with which the knitted tubular article is withdrawn from the machine is varied, so that by utilizing any one or a combination of these expedients, it is possible to control the transverse dimensions of the article providing the latter with a variable diameter along the length thereof.

3,511,063

KNITTING MACHINE IMPROVEMENT

Charles R. Masters, Pickens, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

Filed Apr. 24, 1967, Ser. No. 633,210
Int. Cl. D04b *27/22*
U.S. Cl. 66—86 12 Claims



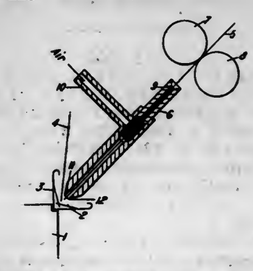
Method and apparatus to automatically adjust the speed of the warp beam of a fabric producing machine by comparing a length of yarn being supplied to the machine to a standard length and automatically adjusting the speed of the warp beam if the compared length of yarn is shorter than the standard.

3,511,064

MANUFACTURE OF SLUB EFFECT FABRICS

John Major and Berwyn Cedric Thomas, Pontypool, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

Filed Jan. 31, 1968, Ser. No. 701,902
Claims priority, application Great Britain, Feb. 13, 1967, 6,768/67
Int. Cl. D04b *15/48*
U.S. Cl. 66—125 10 Claims



A slub effect fabric is obtained by knitting in an extra yarn during the manufacture of warp knit fabric and ar-

ranging that this yarn be broken and repeatedly reintroduced to the needles according to a random pattern arrangement.

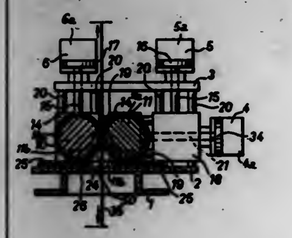
ERRATUM

For Class 66—172 see:
Patent No. 3,511,053

3,511,065
SEALING DEVICE

Hans Peter, deceased, late of Liestal, Switzerland, by Manfred Veit, administrator, Liestal, Switzerland, assignor to Konrad Peter Aktiengesellschaft, Liestal, Switzerland, a corporation of Switzerland

Filed May 10, 1968, Ser. No. 728,370
Claims priority, application Switzerland, May 11, 1967, 6,649/67
Int. Cl. F26b *13/00*; D06f *39/00*
U.S. Cl. 68—5 12 Claims



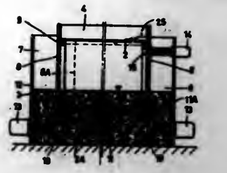
A sealing device for a web of material during its continuous passage through a pressure container, said sealing device comprising roller means which are rotatably mounted at a frame and which can be pressed against one another. These roller means are disposed at opposite sides of the web of material. Furthermore, such roller means are sealed, on the one hand, by plate members which cooperate with the end faces of said roller means, and, on the other hand, by means which bear with pressure against the outer surface of the roller means. The roller means can be urged directly or indirectly against support means which are fixedly secured to the frame means by utilizing the action of pressurized fluid medium actuated piston means. Thus, when the roller means are urged directly against the support means, the latter define the aforementioned bearing means, and when the roller means are urged indirectly against the support means there are further provided at least two additional rollers. Pressurized fluid medium actuated piston means serve to urge the roller means towards the fixedly secured support means, and at least one additional pressurized fluid medium actuated piston means serve to urge the roller means against one another. The pressurized fluid medium actuated piston means are utilized to selectively space the roller means from the support means.

3,511,066
PROCESS AND APPARATUS FOR THE WET-TREATMENT OF LIQUID-PERMEABLE MATERIALS

Hans Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignor to Vepa A.G., Basel, Switzerland

Filed July 31, 1967, Ser. No. 657,250
Claims priority, application Germany, July 30, 1966, V 31,623; Aug. 31, 1966, V 31,829
Int. Cl. D06f *29/00*
U.S. Cl. 68—18 24 Claims

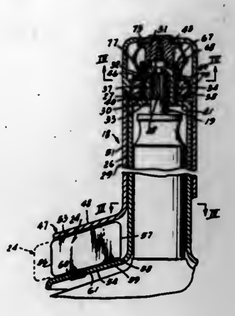
The present disclosure relates to process and apparatus for the wet-treatment of liquid-permeable materials. The apparatus of the present disclosure comprises a liquid container containing a treatment bath, a conveying means at least partially immerged in said treatment bath, said conveying means communicating at its faces with at least one liquid-collecting compartment of said liquid container, inlet means for introducing the material to be treated to the conveying means, pump means for conveying the treatment liquid from the liquid-collecting compartment to the treatment bath and outlet means for removing the material from the apparatus. According to the present process, the material to be treated is penetrated by the treatment liquid as a result of the level difference of the liquid outside the conveying means and the liquid inside the conveying means.



3,511,067
VARIABLE VANE AGITATOR WITH SELF-COMPENSATING AND RESETTING MEANS

David A. Matzen, St. Joseph, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware

Filed July 3, 1968, Ser. No. 742,212
Int. Cl. D06f *17/08, 17/10, 23/04*
U.S. Cl. 68—23.7 14 Claims

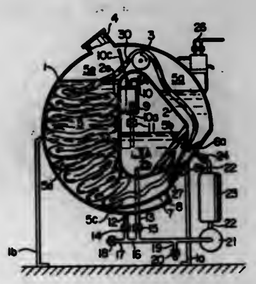


A washing machine having an agitator assembly for agitating the laundered material therein. The agitator assembly is oscillated by a drive shaft at low speed during a wash cycle and is rotated by the drive shaft at high speed in only one direction of rotation during a spin cycle. The agitator assembly includes an agitator shell and a plurality of radially movable agitation vanes carried by the agitator shell for joint rotation and operatively connected to the drive shaft for radial movement in response to angular displacement of the drive shaft and the agitator shell from a relatively neutral position. A helical spring connects the drive shaft and the agitator shell so that during the wash cycle when the drive shaft turns in one direction of rotation the agitator shell is angularly displaced from the neutral position relative to the drive shaft by an angle which corresponds to the size of the load of laundered material and to the turn-resisting force produced thereby to which the agitator shell is subjected. During rotation of the drive shaft in the other direction of rotation the agitator shell is maintained in its displaced position by a one-way clutch mechanism providing joint rotation of the drive shaft and the agitator shell. A centrifugal-force producing weighted member mounted on the clutch mechanism disengages the clutch mechanism during the spin cycle to enable the agitator shell and the drive shaft to return to the relatively neutral position thereof.

3,511,068
DYE MACHINE

Osamu Fujii, Toyonaka-shi, Osaka, Japan, assignor to Hisaka Works, Ltd., Osaka, Japan, a company of Japan

Filed May 29, 1968, Ser. No. 733,132
Claims priority, application Japan, Mar. 14, 1968, 43/16,188; Mar. 28, 1968, 43/19,724
Int. Cl. D06f *17/02*
U.S. Cl. 68—177 14 Claims

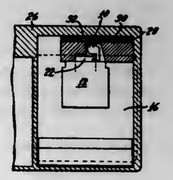


In a dye machine, a circular bath is provided and includes at least one drive roll and a constrictive canal portion to circulate the fabric in the circular bath. A pressure control device, a device for circulating a portion of the treating liquor, means for controlling level of the treating liquor, and means for preventing cavitation of the circulating device are attached to the machine.

3,511,069
LOCK MECHANISMS

Ewing Lawrence, Jr., Ponte Vedra Beach, Fla., assignor to S L and F Enterprises, Incorporated, Jacksonville, Fla., a corporation of Florida

Filed Mar. 26, 1968, Ser. No. 716,099
Int. Cl. E05b *63/00*
U.S. Cl. 70—1.5 20 Claims

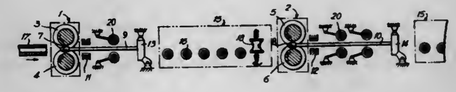


A key operated lock including a lock bolt having an outwardly opening notch within the side thereof and dogging means continually urged and movable into and out of engagement within the notch when the notch and dogging means are in alignment. Means are provided for maintaining the dogging means inoperative when the lock bolt is fully extended, and the dogging means are responsive to and movable into engagement within the notch upon a predetermined retracting movement of the lock bolt from its fully extended position. The dogging means moves into the notch after a predetermined delay from the initial movement of the lock bolt from its fully extended position toward its retracted position. The lock bolt is freely retractable without the dogging means moving into the notch upon movement of the lock bolt beyond the predetermined retracting movement in less time than the predetermined delay of the dogging means.

3,511,070
TUBE-ROLLING MILL

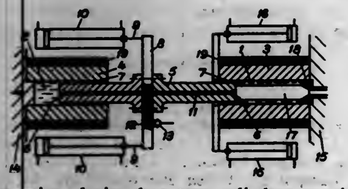
Alexandr Ivanovich Tselikov, Ulitsa Cherayakhovskogo 4, kv. 127, Moscow, U.S.S.R.; and Alexandr Borisovich Vernik, Prospekt Lenina 30/13, kv. 54; Vasily Makarovich Yampolsky, Ulitsa Pervomaiskaya 24, kv. 21; Iosif Lvovich Zayats, Ulitsa Zhukyabina 3, kv. 99; Igor Konstantinovich Tarlakovsky, Prospekt Lenina 16, kv. 30; Petr Mikhailovich Fisagin, Ulitsa Zhukabina 10, kv. 21; and Anatoly Alexandrovich Kovtushenko, Prospekt Lenina 20, kv. 20, all of Elektrostal, Moskovskoi oblast, U.S.S.R.; and Evgeny Alexandrovich Zhukevich-Stosha, Prospekt Mira 43, kv. 5; Vadim Anatolievich Verderevsky, Volgogradsky prospekt 171, kv. 35; Gazis Kntuzovich Seifulin, Zelenodolskaya ulitsa 27, korpus 6, kv. 32; Arkady Iosifovich Grinshpun, Ulitsa Skaturskaya 39, kv. 88; and Valery Georgievich Balakin, Ulitsa Moskalmovskaya 25, kv. 77, all of Moscow, U.S.S.R.; and Zelman Abelevich Sominsky, Ulitsa K. Marxa 5, kv. 3; and Matvei Borisovich Bisk, Ulitsa Baxova 7, kv. 7, both of Kamensk-Uralsk, U.S.S.R.; and Jury Vasilievich Petrov, Ulitsa Pobedy 10, kv. 54; and Zinovy Semenovich Volshonok, Ulitsa Sovetskaya 11/2, kv. 54, both of Elektrostal, Moskovskoi oblast, U.S.S.R.; and Evgeny Andreevich Volchkov, Domozhirovskaya Ulitsa 3, kv. 53, Noginsk, Moskovskoi oblast, U.S.S.R.; and Vladimir Pavlovich Anisiforov, Ulitsa Sharikopodshipnikovskaya 2, kv. 98; and Rudolf Markovich Shpigelman, Ulitsa Junykh Lenintsev. 107, korpus 13, kv. 40, both of Moscow, U.S.S.R.

Filed July 31, 1967, Ser. No. 657,275
Claims priority, application U.S.S.R., Aug. 1, 1966, 1,095,636
Int. Cl. B21b *17/04*
U.S. Cl. 72—209 2 Claims



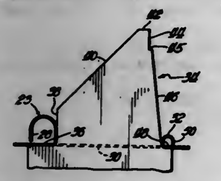
A tube-rolling mill comprises at least two coaxially disposed roll stands, in each of which there is provided a mandrel between a pair of rolls and a mandrel bar located behind the rolls and connected to each mandrel, there being fixing devices arranged in a line behind each roll stand for alternatively clamping each mandrel bar at its front and rear ends and rollers for moving a tube along the mandrel bars while their front ends are held in the respective fixing devices. A feeding device for receiving the whole tube is located between the roll stands to enable independent feed of the tubes into the rolls of the subsequent stand so that simultaneous rolling can be provided in both said roll stands. The feeding device comprises a roller table, whose length exceeds the length of the tube to be delivered thereto from the preceding roll stand, and at least one pair of push-rollers for the positive feeding of said tube into said subsequent roll stand.

3,511,071
PRESSURE MEANS FOR HYDROSTATIC EXTRUSION
Aimo Ilkheimo, Stig Johnson, and Torstein Landa, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Oct. 23, 1967, Ser. No. 677,335
Int. Cl. B21c *23/00, 23/21*
U.S. Cl. 72—253 7 Claims



An extrusion device has two cylinders moving towards each other one of which mates with a die; a piston member has two surfaces of equal areas one in each of the cylinders. Auxiliary cylinder and piston pressure means are provided which are connected to the piston means at a point between the two cylinders. The piston means has a longitudinal passage therein connecting the interiors of the two cylinders and to which pressure fluid can be supplied. Piston means is also provided for moving the cylinder which mates with the die away from the die.

3,511,072
SHEET METAL PUNCH
Edward P. Oddy, Detroit, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Oct. 24, 1965, Ser. No. 504,915, now Patent No. 3,437,134. Divided and this application June 14, 1968, Ser. No. 796,243
Int. Cl. B21d *31/02*; B21c *3/02*
U.S. Cl. 72—326 1 Claim

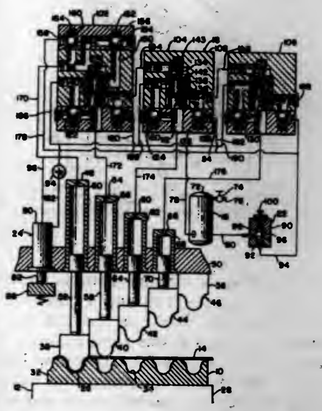


A sheet metal punch of rectangular cross-section adapted to form both spacer and flow deflector projections from a fin element of a heat exchanger with a single stamping operation.

3,511,073
HYDRAULIC DIE CONTROL STRUCTURE
Floyd M. Williamson, Detroit, Mich., assignor to Di-Dro Engineering Company, Detroit, Mich., a corporation of Michigan
Filed Sept. 20, 1965, Ser. No. 488,674
Int. Cl. B21d *13/02*
U.S. Cl. 72—384 11 Claims

Structure for and a method of forming a corrugated member in a single press operation. The structure includes a plurality of separate die parts for forming separate corrugations in a workpiece secured to a press and means operably associated with the die parts and press for actuating the die parts in sequence to form separate corrugations in the workpiece in sequence outwardly from a first formed corrugation therein. Separate hydraulic cushions are provided in contact with each of the die parts and means are included for preloading each of the hydraulic cushions immediately before the die part engaged therewith forms a corrugation in the workpiece and for releasing pressure on the hydraulic cushion engaged with a die part immediately adjacent the die part next to a die part by which the next corrugation is to be formed.

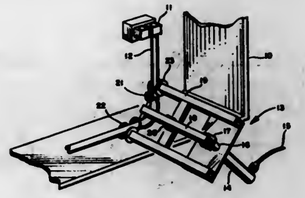
The method of producing a corrugated die formed member disclosed includes forming a first corrugation in a workpiece by means of a first die part, maintaining the pressure on the first die part while forming a second corrugation adjacent the first corrugation in the workpiece immediately adjacent the first corrugation, maintaining pressure on the second part after the second corrugation is produced and producing subsequent corrugations in the workpiece by separate die parts sequentially while maintaining pressure on the die part immediately adjacent the corrugation being formed. The method further includes the steps of releasing the pressure on the die part which formed the corrugation immediately adjacent the corrugation next to a corrugation to be formed and preloading each of the die parts prior to forming a corrugation therewith in response to movement of the die part forming the immediately preceding corrugation when the immediately preceding corrugation has been fully formed.



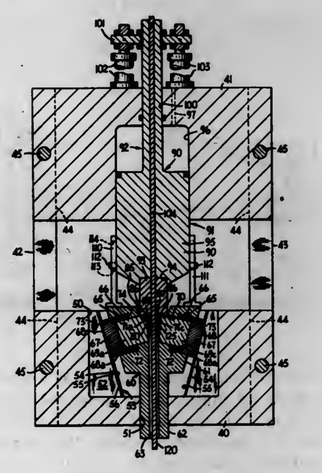
Unique valve structure is also disclosed for forming a corrugated member in accordance with the method and by the structure of the invention, including a valve block having a first low pressure hydraulic fluid inlet passage, a second hydraulic fluid passage, a check valve operable between the first and second passages for permitting fluid flow only in the direction of the second passage from the first passage, a third preload hydraulic fluid inlet passage, a spool valve positioned between the second and third passages responsive to pressure in the second passage for providing communication between the first and third passages, a fourth preload hydraulic fluid outlet passage, said spool valve also being responsive to the pressure in the second passage for providing communication between the second passage and the fourth passage, a fifth high pressure hydraulic fluid outlet passage and a check valve between the fourth and fifth passages permitting fluid flow only in the direction of the fifth passage from the fourth passage.

3,511,074
WIRE BENDER
Silas Ray Crees, 1170 Sarno Road, Eau Gallie, Fla. 32935
Filed May 9, 1968, Ser. No. 727,773
Int. Cl. B21d *7/00*
U.S. Cl. 72—389 6 Claims

A wire bending apparatus for bending electrical cable, or the like, in narrow confines such as panel boxes. A hydraulically actuated lever is fulcrumed on a frame and has a wire guide on one end thereof for bending an electrical cable placed across two rollers connected to the frame on either side of the wire guide.

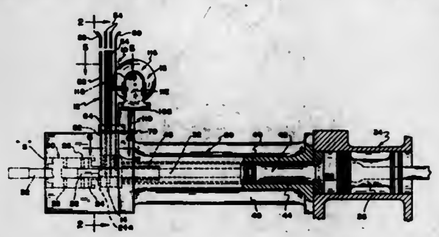


3,511,075
METALWORKING METHOD OF SECURING A SLEEVE TO A CORE
F. George Boggio, Glen Rock, N.J., and Nathan M. Kramarow, Flushing, N.Y., assignors to Barogenics, Inc., a corporation of New York
Filed Oct. 11, 1966, Ser. No. 585,806
Int. Cl. B21j *7/14*
U.S. Cl. 72—402 13 Claims



Apparatus particularly suited for securing sleeves to a core and comprising a hydraulic cylinder in which is mounted a movable piston. The piston has a forward ram section and coaxial rearward stem section of smaller diameter than the ram section. The ram section has a front end separate from the cylinder and a back end slidably received in the cylinder. The stem section extends rearwardly from the ram section through an aperture formed in the back end of the cylinder and beyond the back end to the outside of the cylinder. The piston has an axial bore formed therein which extends through the ram section and the stem section to provide an axial passage completely through the piston. Seal means are disposed around the stem section to seal the passage of the stem section through the aperture and prevent leakage of hydraulic fluid from the interior of the cylinder to the outside thereof.

3,511,076
FEEDING DEVICE
Milton W. Kapke, Golden, Colo., assignor, by mesne assignments, to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of California
Filed Dec. 18, 1967, Ser. No. 691,390
Int. Cl. B21j *13/10*
U.S. Cl. 72—420 15 Claims



A device for use in feeding cup-shaped blanks and the like to a forming apparatus such as an apparatus comprised of a reciprocal ram aligned with and advanceable through one or more forming dies, wherein the device includes an improved resilient and movable wiper element for contacting and advancing a blank toward a position where it can be readily engaged by the ram and thereafter advanced by the ram through one or more forming dies.

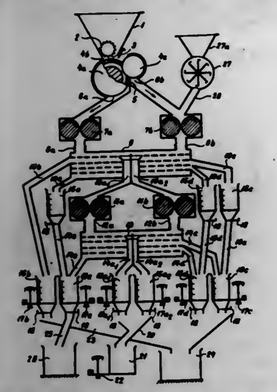
3,511,077
CALIBRATION OF INSTRUMENTS
John Rawcliffe, Pendelbury, England, assignor to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Apr. 12, 1968, Ser. No. 720,989
Claims priority, application Great Britain, Apr. 15, 1967, 17,417/67
Int. Cl. G01d *18/00*
U.S. Cl. 73—1 13 Claims

Apparatus and process, for automation of the calibration of measuring instruments in which a reading is given by the relative movement of a pointer and scale. Photoelectric means are provided for detecting the reading of the measuring instrument. Servo controlling means, which may embody a computer, control the application and recording of an accurately measurable stimulus to the instrument, and the detection and recording of the corresponding instrument reading produced by the stimulus.

3,511,078
PROCESS AND APPARATUS FOR THE DETERMINATION OF THE GRINDABILITY OF CEREALS
Pál Rajkai, Dunakeszi, Hungary, assignor to Labor Muszeripari Muvek, Esztergom, Hungary
Filed Nov. 24, 1967, Ser. No. 685,368
Int. Cl. G01n *3/56, 19/00, 33/10*
U.S. Cl. 73—7 2 Claims

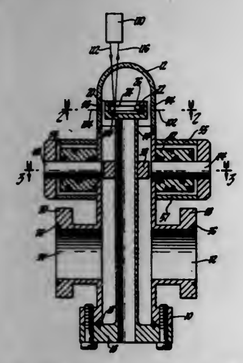
A method and apparatus for exactly determining the grinding value of wheat and other cereals, the grains are

cut in three parts and these parts are crushed and ground separately. The various parts are separated by sieves some of the fractions being additionally ground and sieved.



The density of the final fractions is measured and the resulting data can be utilized as an indication of the grindability of the grain.

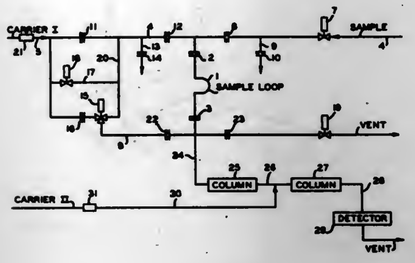
3,511,079
METHOD AND APPARATUS FOR TESTING BEARINGS
C. Walton Musser, Palos Verdes Estates, Calif., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 602,645
Int. Cl. G01n *3/56*
U.S. Cl. 73—9 11 Claims



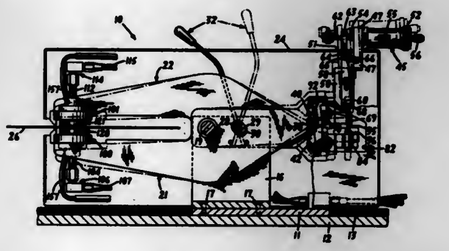
1. Bearing test apparatus comprising a flexible member having one end fixed and the other end provided with means for supporting an outer race of a bearing, and drive means for imparting a controlled circular gyratory motion to said outer race.

3,511,080
VALVELESS SYSTEM FOR TRANSFERRING SAMPLE FROM SAMPLE LOOP THROUGH COLUMN TO DETECTOR
Lewis B. Roof, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,507
Int. Cl. G01n *31/08, 1/10*
U.S. Cl. 73—23.1 3 Claims

In a chromatographic analysis system having in series a sample loop, chromatographic column and a detector, the improvement comprising eliminating any valve between the loop and the detector. This results in greater accuracy by eliminating flow upsets and variations in flow to the chromatographic column and to the detector downstream of the column, due to moving parts or moving gas streams necessary in the prior art in the operation of a valve between the loop and the column.



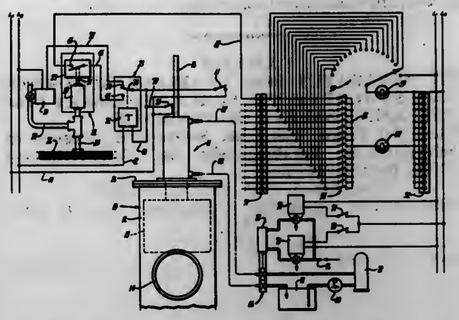
3,511,081
GAGING METHOD AND APPARATUS
John H. Worthen, Providence, and Charles A. Whitney, Warwick, R.I., assignors to Federal Products Corporation, Providence, R.I., a corporation of Rhode Island
Filed Aug. 28, 1967, Ser. No. 663,793
Int. Cl. G01b *13/08*
U.S. Cl. 73—37.5 23 Claims



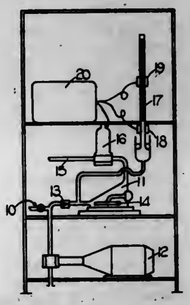
A system for locating a gage jaw at a predetermined distance from an object to be measured by urging the gage jaw away from the object with a first force which is proportional to the distance between the gage jaw and the object, and urging the gage jaw toward the object with a second force which balances the first force when the gage jaw is spaced at the predetermined distance from the object.

3,511,082
LEAK DETECTING APPARATUS FOR VALVES
Francis M. Lathrop and Vernon R. Reaves, Houston, Tex., assignors to M & J Valve Company, Houston, Tex., a corporation of Delaware
Filed May 7, 1968, Ser. No. 727,296
Int. Cl. G01m *3/04*
U.S. Cl. 73—46 5 Claims

Leak detecting apparatus for use with valves of the type having sealing means surrounding the inlet and outlet flow passages. A vent valve connects with the closed body space of the valve and is operated to vent the body space to atmosphere. A pressure responsive means also connects with the closed body space and is sensitive to any build-up of pressure in the body following venting. The vent valve and the pressure sensitive means are co-related with timing means and means on the main valve whereby when the main valve is closed an automatic cycle is initiated in which the vent valve is opened for a predetermined period of time and then closed and the pressure sensitive means connected with an indicating device to indicate a build-up of pressure due to valve leakage.



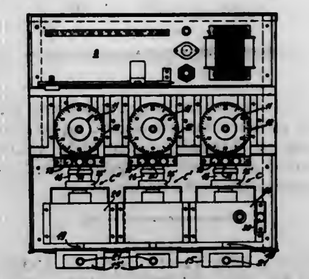
3,511,083
MEASUREMENT OF THE WATER CONTENT OF AN OIL BATH
Martyn John Reay, Birmingham, and Norman Frank Smith, Solihull, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed July 16, 1968, Ser. No. 745,178
Int. Cl. C01n *33/28*
U.S. Cl. 73—61.1 1 Claim



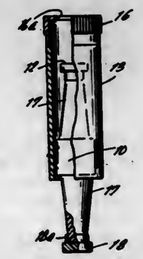
In order to measure the water content of an oil bath, a chamber is filled with the oil, which is then heated to a first elevated temperature, excess oil being allowed to escape from the chamber through a valve. The valve is then closed and the oil is heated to a second higher elevated temperature, the oil this time being allowed to expand into an expansion pipe the level in which indicates the water content.

3,511,084
METHOD FOR MEASURING THE COAGULATION TIME OF ORGANIC SUBSTANCES (AND ALBUMINOID LIQUIDS), SUCH AS BLOOD, AND APPARATUS FOR CARRYING OUT SUCH A METHOD
Guido Vicario, Piazza Giulio Cesare 14, Milan, Italy
Filed Sept. 22, 1967, Ser. No. 669,804
Int. Cl. G01n *33/16*
U.S. Cl. 73—64.1 12 Claims

A method for measuring the coagulation time of albuminoid substances and liquids, such as blood, characterized by utilizing the intercepting property of a light beam on a photoelectric cell from liquid state blood (with respect to a light beam which is to periodically pass through it); the test-tube being at a horizontal position during the firing of said beam, and at a vertical position for the remaining cycle period, which will continue until, on clot being achieved, the blood remains on the bottom of the test-tube and the light beam by passing therethrough will cause the apparatus to be stopped and provide a signal for the exact time taken for coagulation.



3,511,085
DISPOSABLE TIP APPLANATION TONOMETER
Adolph Posner, New York, and Richard Inglima, Brooklyn, N.Y., assignors to I.G.R. Corporation, New York, N.Y., a corporation of New York
Filed Feb. 3, 1967, Ser. No. 613,829
Int. Cl. A61b *9/00*
U.S. Cl. 73—80 5 Claims

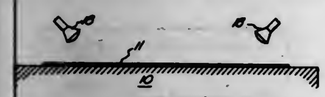


A single or double ended tonometer is constructed which comprises a hub portion and at least one axially aligned shaft extending from the end portion and having a tapered end, a removable and disposable end plate which is constructed to fit over the tapered end portion of each at least one shaft, said hub portion, said at least one shaft and associated end plate being of fixed, known weight. Said tonometer received within a cylindrical container.

3,511,086
NONDESTRUCTIVE TESTING WITH LIQUID CRYSTALS
Wayne Woodmansee, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 596,712
Int. Cl. G01n *25/18, 25/72*
U.S. Cl. 73—104 3 Claims

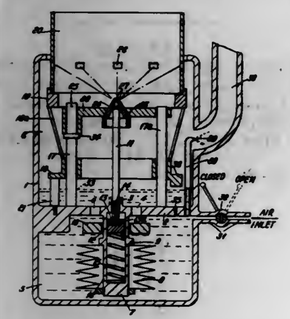
Method for defining discontinuities in a substrate by applying a layer of cholesteric liquid crystal material in thermally responsive relationship to the substrate and then thermally cycling the substrate to temperature range suf-

ficient to cause selective light scattering by the cholesteric liquid crystal material producing color patterns indicative of the discontinuities in the substrate. The cholesteric liquid crystal material may be incorporated on a plastic film or sandwiched between two or more layers of film,



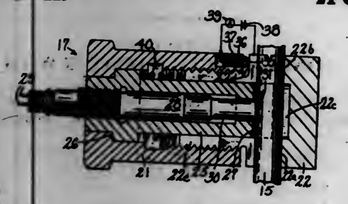
one layer of which may be opaque to increase the visibility of the color patterns. The cholesteric liquid crystal material may also be thermally cycled to its cholesteric-isotropic transition temperature to render permanent indication of discontinuities in the substrate.

3,511,087
APPARATUS FOR TESTING FUEL INJECTION NOZZLES OF COMPRESSION IGNITION ENGINES
Reginald S. Emerson and Cecil I. Taylor, both of Tingewick Road, Buckingham, Buckinghamshire, England
Filed May 20, 1968, Ser. No. 730,410
Int. Cl. G01m *15/00*
U.S. Cl. 73—119 **6 Claims**



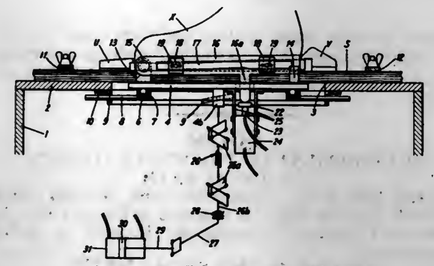
Apparatus for testing the fuel injection nozzles of compression ignition engines so as to check the inclination of the inclined spray hole or holes in the nozzles, the apparatus having nozzle-holding means which hold a nozzle to be tested so that the nozzle sprays liquid upwards on to a vertically-adjustable target which thus gives a visual indication of the inclination of the nozzle spray hole or holes.

3,511,088
PRESSURE TRANSDUCER AND TIMING SYSTEM
Preston R. Weaver, Rocky Hill, Conn., assignor to UMC Electronics Company, North Haven, Conn., a corporation of Delaware
Filed Aug. 2, 1968, Ser. No. 749,662
Int. Cl. G01m *15/00*
U.S. Cl. 73—119 **21 Claims**



A transducer arrangement for detecting fluid pressure in a line and yielding a signal varying with the pressure-time characteristic of the fluid. The transducer may be incorporated in a timing system for internal combustion engines of the fuel injection type to allow accurate timing thereof and resultant minimizing of noxious exhaust gases, and resultant economy of operation.

3,511,089
TEST APPARATUS FOR ENABLING ACCURATE ADJUSTMENT OF THE FORCE NECESSARY FOR RELEASING SAFETY SKI BINDINGS
Michel Del Pedro, Lausanne, Switzerland, assignor to Schweizerische Beratungsstelle fur Unfallverhutung (BfU), Bern, Switzerland
Filed Jan. 3, 1968, Ser. No. 695,457
Claims priority, application Switzerland, Jan. 11, 1967, 355/67
Int. Cl. G01l *5/03*
U.S. Cl. 73—133 **16 Claims**



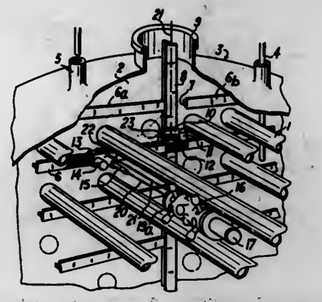
A test apparatus for enabling accurate adjustment of the force necessary for releasing safety ski bindings which includes at least one support means defining a surface lying in a horizontal plane and mounted to be free to move in all horizontal directions. Means are associated with such support means for securing thereto a ski boot held by such bindings to a ski and means are provided for exerting an adjustable and measurable pure torque on the support means while leaving the latter free to move in all horizontal directions.

3,511,090
FLUENT MATERIAL LEVEL SENSOR
Albert D. Ehrenfried and Norton T. Pierce, Concord, Louis Mager, Sudbury, and Floyd E. Halstead, Maynard, Mass., assignors to Metritape, Inc., West Concord, Mass., a corporation of Massachusetts
Filed June 25, 1968, Ser. No. 739,868
Int. Cl. G01f *23/18*
U.S. Cl. 73—301 **21 Claims**



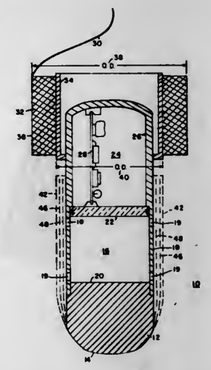
A sensor for providing substantially continuous measurement of the level of fluent materials such as grain powder etc. The sensor is a variable resistance element normally spaced from and wound around an elongated conductive plate and protected by a composite jacket. The sensor is positioned vertically within a tank or bin so that the fluent material presses the resistance element against the conductive plate. The level is measured by measuring the resistance of the sensor.

3,511,091
DEVICE FOR MONITORING PARALLEL TUBULAR ELEMENTS
Paul Thome, Saint-Cloud, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed June 9, 1966, Ser. No. 556,440
Claims priority, application France, June 24, 1965, 22,183; May 3, 1966, 60,131
Int. Cl. G01k *1/14*
U.S. Cl. 73—343 **9 Claims**



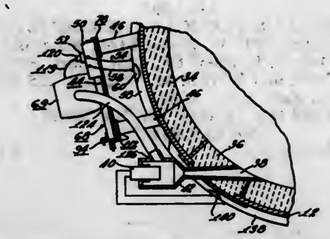
Tubular elements in a cluster are monitored by probes mounted on a moving trolley rolling on two adjacent tubular elements. A self-contained driving mechanism moves the trolley. A series of rails at right angles to each other are disposed in a plane at right angles to the tubular elements and carry units for transferring the trolley between any two adjacent tubular elements within the tube cluster.

3,511,092
BATHYTHERMOGRAPHIC PROBE FOR UNIFORM DESCENT RATE
Roger I. Saunders, Hollis, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Oct. 14, 1968, Ser. No. 767,418
Int. Cl. G01k *13/00*
U.S. Cl. 73—344 **3 Claims**



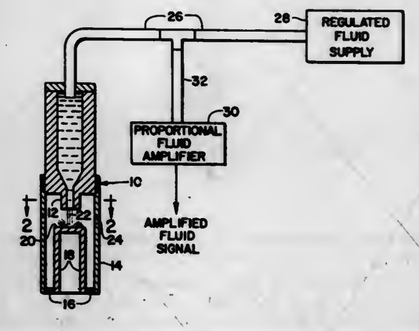
A probe, adaptable for sensing a property of a fluid relative to a given dimension, whose buoyancy varies as a function of wire carried and payed out by the probe as it travels along that dimension. Means are provided for varying the velocity of the probe by varying the drag force on it as a function of the wire payed out to compensate for the variation in velocity of the probe caused by the variation in buoyancy thereof as the wire is payed out.

3,511,093
QUICK MOUNTING BRACKET FOR PYROMETER AIR BLOWER ON KILN TEMPERATURE TRANSDUCER
Eugene B. Cook, West Allis, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 28, 1967, Ser. No. 694,331
Int. Cl. G01k *1/14*
U.S. Cl. 73—351 **6 Claims**



A detachable mounting arrangement for the air blower and blower motor associated with a radiation pyrometer mounted on a rotary kiln. A platform is fixedly mounted on the outer surface of the kiln shell. The air blower and blower motor are mounted on a detachable support which is so constructed that one end of the detachable support can be hooked over one edge of the fixed platform while the opposite end of the detachable support can be latched over the corresponding edge of the platform. The detachable support and the attached air blower and blower motor may be installed on or removed from the fixed platform while the kiln is rotating.

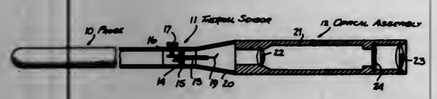
3,511,094
FLUID OPERATED TEMPERATURE SENSING ELEMENT
Herbert M. Eckerlin, Raleigh, N.C., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed May 17, 1968, Ser. No. 730,009
Int. Cl. G01k *5/62*
U.S. Cl. 73—363.3 **9 Claims**



A cylindrically shaped housing constructed of a material having a low coefficient of thermal expansion attached to a nozzle from which a fluid stream is emitted to flow along the interior of the housing and impinge upon the end surface of a member constructed of a material having a high coefficient of thermal expansion.

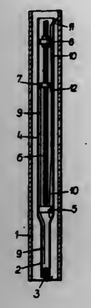
The differential thermal expansion between the housing and the member produces changes in the distance separating the nozzle and the end surface of the member which corresponds to temperature changes in the medium being sensed. Changes in the separation distance produce corresponding changes in fluid back-pressure within the nozzle which can be detected and amplified by conventional fluidic devices in order to determine the temperature.

3,511,095
BIMETALLIC CLINICAL THERMOMETER
John T. Grissom, 901 W. Forest Blvd., Knoxville, Tenn. 37921; Dale R. Koehler, 601 Dale Court, River Vale, N.J. 07675; and Bernard M. Teschner, 255 Fort Hill Road, Scarsdale, N.Y. 10583
Filed July 31, 1968, Ser. No. 749,193
Int. Cl. G01k 5/70
U.S. Cl. 73—363.5 6 Claims



A clinical thermometer constituted by a thermal probe insertable in a body orifice, the probe being thermally coupled to a bimetallic strip which is caused to deflect to an extent determined by probe temperature, the deflection being optically magnified and observable on an indicator scale.

3,511,096
GLASS CONTACT THERMOMETER
Moritz Kurt Juchheim, 13–31 Moltkestrasse, Fulda, Germany
Filed Apr. 12, 1968, Ser. No. 720,996
Int. Cl. G01k 1/02, 5/04
U.S. Cl. 73—371 15 Claims



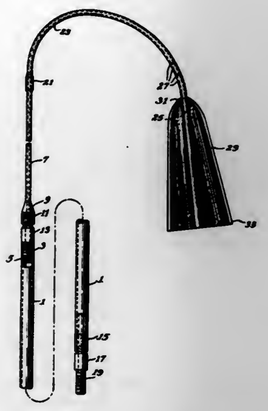
This disclosure provides a glass contact thermometer for sensing the level of a column of mercury in a capillary tube to control and/or limit temperature. The thermometer includes a glass tube that is mounted on top of the capillary tube. A lead screw is rotatably mounted within the glass tube and is supported at the lower end thereof by a support means. A traveling nut is located on the lead screw to move longitudinally with respect thereto. A contact wire extends from the upper end to the lower end of the glass tube. A connection means is provided to effect sliding contact between the traveling nut and the contact wire. An electrical contact member extends from the traveling nut into the capillary tube to sense the level of the mercury therein.

3,511,097
EXERCISE APPARATUS
Gilbert Corwin, 2403 Elmwood Drive, Westlake, Ohio 44145
Filed Sept. 29, 1967, Ser. No. 671,853
Int. Cl. G01l 5/02
U.S. Cl. 73—379 26 Claims



The apparatus comprises a bicycle-like device, which is pedalled by a person using the apparatus. Pedalling rotates the armature of a generator, and the output of the generator energizes electronic circuitry. Means are provided in the circuitry for indicating the rate at which food calories are being expended, as well as means for indicating the total number of food calories expended as an exercise period progresses. The electronic circuitry includes two current integrators with means for re-cycling the integrators to provide the two output indications.

3,511,098
STATIC PRESSURE SENSING DEVICE
Herman A. Reichert, Michigan City, Ind., assignor to Dwyer Instruments, Inc., a corporation of Indiana
Continuation-in-part of application Ser. No. 727,882, May 9, 1968. This application Nov. 13, 1968, Ser. No. 775,257
Int. Cl. G01l 7/00
U.S. Cl. 73—388 6 Claims



Static pressure in a gas stream flowing through a duct can be more accurately measured by attaching a universal joint connection member, such as a piece of thin flexible tubing having small, clean, burr-free holes adjacent its free end to act as pressure sensing pickup points, to the

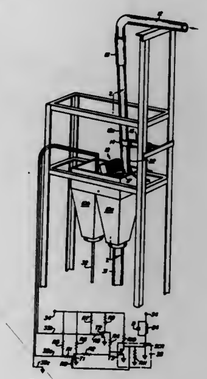
end of a piece of rigid tubing, fastening to the free end of the flexible tubing, vanes, fins or other device which will cause the free flexible tubing end to trail out and align itself with the gas stream, and inserting the flexible tubing into the duct in which gas pressure is to be measured. Inaccurate signals which are caused by turbulence are thereby eliminated. In the preferred embodiment the device for causing the tubing to trail out is made of light weight material which can be deformed or compressed to a fraction of its normal size and recover its normal size and shape upon release of compression, such as flexible foamed polyurethane suitably formed or shaped with vanes or fins. This enables the sensing end of the device to be inserted and withdrawn through a very small hole in the duct.

3,511,099
REPLACEABLE TIP GAS SAMPLING PROBE
Philip T. Harsha, Tullahoma, Tenn., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 5, 1968, Ser. No. 757,630
Int. Cl. G01n 1/26
U.S. Cl. 73—421.5 3 Claims



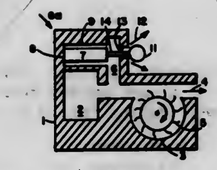
A gas sampling probe has coolant tubes and gas conduits that extend through hollow interior into a rake type of aerodynamic tip readily separable from a main support. A sleeve and split spacers complement the tip and main support at a location for access to couplings of the tubes and conduits. The sleeve and spacers are removed to get to the couplings that make it possible to change the tip which deteriorates in the gas stream probed for evaluating sonic and supersonic combustion engine performance.

3,511,100
MATERIAL-SCREENING SAMPLER
Roger L. Vaughn, Hurley, and John F. Baum, Silver City, N. Mex., assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
Filed Nov. 18, 1968, Ser. No. 776,322
Int. Cl. G01n 1/20
U.S. Cl. 73—423 7 Claims



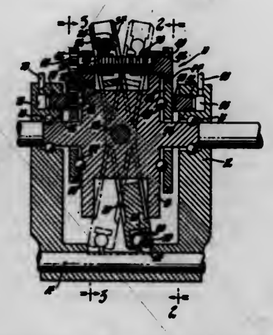
Apparatus for periodically sampling a flowing stream of material. The apparatus screens out trash and other tramp material from the stream during the taking of the samples, and automatically cleans the screen following the taking of each sample. The screen is pivotally attached to the discharge end of a conduit, which supplies the stream of material and is shifted from side to side to discharge alternately into a sample receiver and a reject receiver. The screen is so mounted as to be tilted away from the discharged material and to have its travel abruptly stopped over the reject receiver, thereby dislodging and dumping tramp material caught by the screen.

3,511,101
GAS DRIVEN GYROSCOPE SPEED CONTROL
Rudolph S. Petersen, Brookline, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Aug. 19, 1966, Ser. No. 573,644
Int. Cl. G01c 19/12
U.S. Cl. 74—5.7 5 Claims



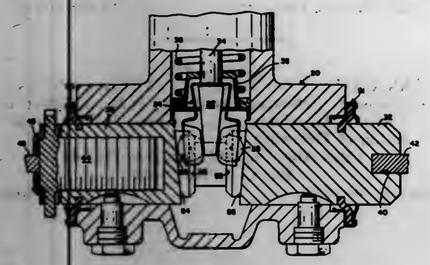
A device for controlling the flow of fluid in dependence upon the fluid temperature and more particularly, to a device of the aforesaid type for a use in a fluid driven gyroscope wherein the fluid flow regulation, which is dependent upon the fluid temperature is operative to control the speed of the gyroscope. The device comprises a body of selected material having a relatively high thermal coefficient of expansion which is thermally coupled to the fluid and which controls the amount of fluid flow.

3,511,102
VARIABLE STROKE SWASH PLATE MECHANISM AND ADJUSTING MEANS THEREFOR
Roy H. Brandes, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 9, 1968, Ser. No. 743,480
Int. Cl. F16b 33/10; F02b 75/04; F01b 13/04
U.S. Cl. 74—60 3 Claims



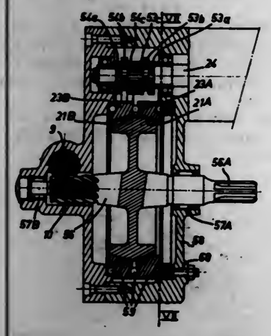
In a preferred embodiment, a hot gas engine includes a swash plate mechanism which is adjustable for varying the stroke of the engine pistons. Adjustment of the swash plate is accomplished by an adjusting screw actuated by gear means which are engaged by one of two hydraulic clutches to rotate the adjusting screw in a stroke lengthening or stroke shortening direction, as desired.

3,511,103
BRAKE MECHANISM
Frank T. Cox, Jr., Ashtabula, Ohio, assignor, by mesne assignments, to Rockwell-Standard Company, Pittsburgh, Pa., a corporation of Delaware
Filed July 9, 1968, Ser. No. 743,462
Int. Cl. F16d 51/00
U.S. Cl. 74—110 6 Claims



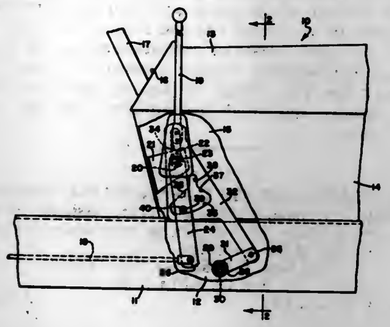
A wedge-operated brake in which cylindrical rollers loosely supported in a cage are interposed between a power-operated wedge and the ends of the brake shoes.

3,511,104
POWER STEERING MECHANISM HAVING SENSITIVE CONTROLS
Jean Piat, La Varene, France, assignor of ninety percent to Micapte, Paris, France, a joint-stock company of France, and ten percent to Etablissements Piat, Montreuil-sous-Bois, Seine-St.-Denis, France, a limited-liability company of France
Filed Apr. 9, 1968, Ser. No. 719,941
Claims priority, application France, Apr. 13, 1967, 102,655; Aug. 18, 1967, 118,350
Int. Cl. B62d 5/02; F16h 35/00
U.S. Cl. 74—388 5 Claims



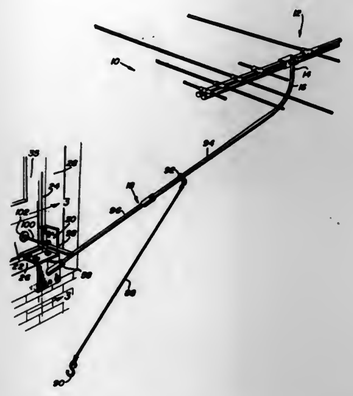
A sensitive control, more particularly adapted to the production of assisted steering systems for automobile vehicles or servo-control systems for machine-tools such as presses, in which any rotation of the steering-wheel of the vehicle or of the control handle of the machine-tool is assisted by the action of a motor driving at constant speed, but in opposite directions, two clutch-driving elements. A mechanism further converts the movement of rotation of the control-wheel to a movement of translation, in one direction or the other, depending on the direction of rotation of the wheel, of a sliding plate serving as a driven clutch element so as to bring it selectively into contact with one or the other of the driving elements of the clutch, said plate being coupled by a kinematic chain with a direct actuation member of the steering of the vehicle or the control of the machine-tool.

3,511,105
HYDROSTATIC TRANSMISSION DRIVE PUMP SWASH PLATE CONTROL
Vern Earl Matter, Horicon, Wis., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 2, 1968, Ser. No. 741,921
Int. Cl. G05g 11/00
U.S. Cl. 74—481 5 Claims



A speed control return cam is linked to the brake or clutch pedal of a tractor having a hydrostatic transmission. The return cam is provided with a pair of upwardly converging cam surfaces which will contact a cam follower on the speed control lever when the return cam is moved downwardly by depression of the pedal. After the cam follower has been contacted by one of the cam surfaces, additional depression of the pedal will cause the cam follower to be moved to a position in the apex of the upwardly converging cam surfaces and to move the speed control lever to a neutral position from either a forward or reverse position.

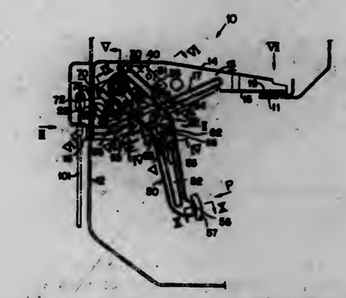
3,511,106
ANTENNA MOUNT WITH ROTATING CONTROL
Thomas Deeby, 28509 Safie Drive, New Baltimore, Mich. 48047
Filed June 25, 1968, Ser. No. 739,888
Int. Cl. F16c 1/10
U.S. Cl. 74—501 13 Claims



A directional signal receiving antenna is mounted externally of a building by a window support having an adjustable corner bracket and an inclined rod through which

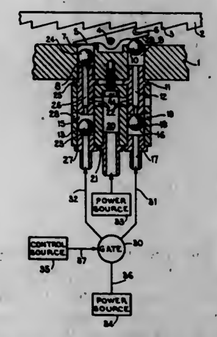
flexible shafting extends for remotely controlled adjustment of the antenna. A guide tube projects from the rod for directing the flexible shafting horizontally toward the window opening just above a bracket mounted socket receiving the lower end of the rod.

3,511,107
PARKING BRAKE CONTROL DEVICES
Katuji Yasiro, Yokohama-shi, Japan, assignor to Otsuka-koki Kabushiki Gaisha, Yokohama-shi, Kanagawa-ken, Japan
Filed Feb. 16, 1968, Ser. No. 706,077
Int. Cl. G05g 1/14
U.S. Cl. 74—512 4 Claims



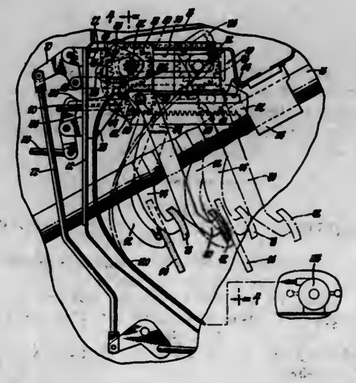
A parking brake control device for motor vehicles comprises a pedal arm adapted to be depressed with foot, a bell-crank lever adapted to be turned by the pedal arm to transmit the braking force, and a pawl pivotally mounted on said bell-crank lever for engagement with and disengagement from a series of stationary teeth. Depression of the pedal arm causes the pawl to engage the teeth to hold the bell-crank lever in braking position and next depression of the pedal arm causes the pawl to be disengaged from the teeth to permit the bell-crank lever to return to brake releasing position.

3,511,108
MOTION ARRESTING DEVICES
Raymond Walter Meldrum, Harpenden, England, assignor to International Computers and Tabulators Limited, London, England, a British company
Filed June 11, 1968, Ser. No. 736,156
Claims priority, application Great Britain, June 13, 1967, 27,116/67
Int. Cl. G05g 5/06
U.S. Cl. 74—529 4 Claims



A motion arresting device wherein a movable projection carrying member has its line of motion obstructed by a pivotable member carrying a projection engaging surface. Fluid sources and control means alternately pivot the engaging member into an engaged position and retracted position to arrest and allow motion of the projection carrying member, respectively. Application of fluid pressure to a ball freely movable in a guide channel causes pivoting of the engaging member into the path of the movable member, thereby arresting its motion. By switching fluid pressure to another freely movable ball and guide arrangement, the engaging member is pivoted so as to retract the projection engaging surface from the path of the projection carrying member, thereby allowing motion of the same.

3,511,109
ADJUSTABLE CONTROL PEDALS
Akira Tanaka, Northridge, Calif., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 14, 1968, Ser. No. 767,138
Int. Cl. G05g 5/12
U.S. Cl. 74—560 3 Claims

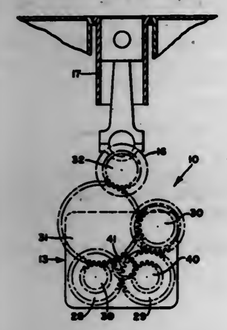


An arrangement of control pedals for the clutch, service brake and throttle mechanisms of an automotive vehicle in which the several pedal members are adjustable as a unit fore and aft relative to the operator's seat in a linear path to various relationships with respect to non-adjustable control members connected to the control mechanisms. The adjusting mechanism includes a first toothed pinion gear mounted rotatably on each pedal member and meshed with a toothed rack on the body and further with a second pinion member meshed with a toothed rack on the respective control member whereby selected rotation of a common shaft carrying the various body engaged pinions causes fore and aft movement of the pinions with the pedal members over the stationary racks to a selected position within the vehicle. Control forces applied to any of the pedal members when the shaft is held stationary pivots the pedal member about the shaft to oscillate the second pinion about the first and shift the control member to actuate the mechanism.

3,511,110
ENGINE BALANCER
Wayne Bruce Grieve, Dubuque, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 22, 1968, Ser. No. 746,464
Int. Cl. F16f 15/22, 15/26
U.S. Cl. 74—604 9 Claims

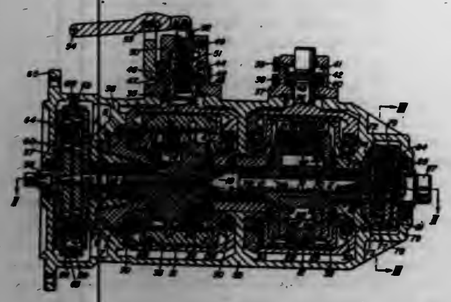
An engine balancer which balances both primary and secondary inertia forces for each cylinder of an in-line engine. Two primary weight shafts are mounted parallel

to the crankshaft, located equal distances from the center line of the cylinders, and are driven in opposite directions at crankshaft speed. These primary weight shafts are bored out and have secondary weight shafts



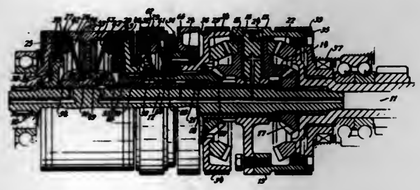
revolving within them at twice crankshaft speed. The secondary weight shafts are driven in the same direction as the primary weight shafts in which they turn, thus keeping the rubbing velocity of the secondary weight shafts down to crankshaft speed effect.

3,511,111
HYDROSTATIC-MECHANIC TRANSMISSIONS, PUMPS, MOTORS
Karl Eickmann, 2420 Isshiki, Hayama-machi, Kanagawa-ken, Japan
Filed Dec. 6, 1967, Ser. No. 688,564
Claims priority, application Germany, Dec. 10, 1966, E 33,018
Int. Cl. F16h *47/04*; F16d *33/02*; F16b *1/10*
U.S. Cl. 74—687 7 Claims



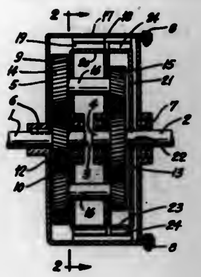
A variable transmission comprises an input shaft connected by a differential transmission with a central connecting shaft and with the shaft of a pump which is connected with a hydrostatic motor and forms with the same a hydrostatic transmission. The shaft of the motor, and the end of the central connecting shaft, are connected with an overrunning clutch means which couples either the motor shaft of the connecting shaft with the output shaft of the variable transmission. The pump and the motor are independently adjustable to vary the displacement volume thereof whereby the torque of the input shaft is transmitted either through the hydrostatic pump-motor transmission, or through a mechanical transmission including the central connecting shaft which passes through the centers of the pump rotor and motor rotor.

3,511,112
POWER TRANSMISSION MECHANISM PROVIDING CHANGES OF GEAR RATIO
John F. Power and Frederick E. Ellis, Warwickshire, England, assignors to Automotive Products Company Limited, Warwickshire, England
Filed Apr. 11, 1968, Ser. No. 720,621
Int. Cl. F16h *57/10*
U.S. Cl. 74—757 8 Claims



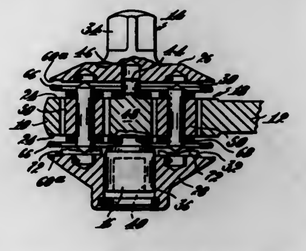
In a power transmission mechanism comprising bevel pinion clusters mounted on a carrier with their axes in planes radial to the axis of the carrier, two driving bevel gears and one driven bevel gear meshing with the bevel pinions, and means for holding the carrier and one of the driving bevel gears against rotation to serve as reaction members for the gear train, means are provided for coupling the input shaft directly to the cluster carrier whilst the driving bevel gear is held, to provide an overdrive ratio.

3,511,113
HYDRAULIC TRANSMISSION
Emile Rheault, 6478 Chauvin St., Montreal, Quebec, Canada
Filed June 26, 1968, Ser. No. 740,339
Claims priority, application Canada, Apr. 2, 1968, 16,564
Int. Cl. F16h *3/58*; F16d *31/00*
U.S. Cl. 74—794 10 Claims



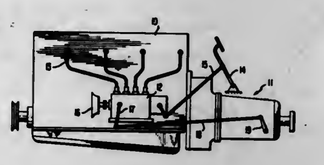
The present invention relates to a hydraulic transmission and, more particularly, to a variable velocity ratio gearing connecting a driving and a driven shaft, in which the velocity ratio is automatically changed by variation of the speed of the driving shaft or by variation of the load on the driven shaft, said gearing comprising planetary gears carried by a cage submitted to the braking effect of a liquid.

3,511,114
TORQUE WRENCH
Lawrence S. Schnepel, 250 Goodman Hill Road, Sudbury, Mass. 01776
Filed Apr. 23, 1968, Ser. No. 723,415
Int. Cl. F16h *1/32*
U.S. Cl. 74—801 8 Claims



A torque wrench comprising a holder supporting an input and output shaft with multiplying gearing therebetween characterized in that the component parts of the wrench are designed to have rolling contact throughout thereby to minimize the effect of friction and hence increase the efficiency of transmission.

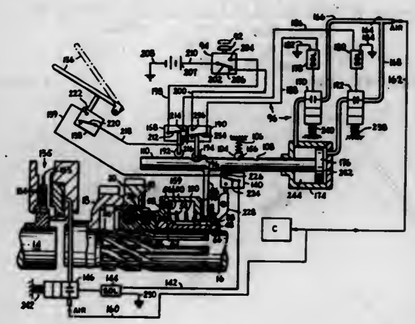
3,511,115
INSTALLATION FOR THE CONTROL OF AUTOMATIC TRANSMISSIONS OF MOTOR VEHICLES
Hans-Joachim M. Forster, Stuttgart-Riedenberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Feb. 29, 1968, Ser. No. 709,370
Claims priority, application Germany, Mar. 3, 1967, D 52,430
Int. Cl. F02d *1/12*; B60k *21/00*
U.S. Cl. 74—861 4 Claims



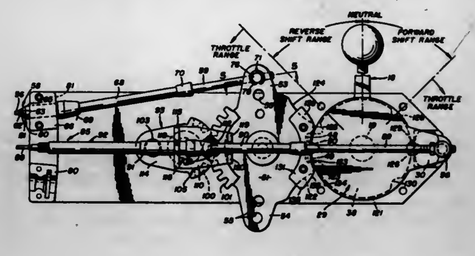
An installation for the control of automatically shifted motor vehicle transmissions in which the shifting pulses are controlled, among other factors, in dependence on the torque of the driving engine and in which the position of the control rack of the injection pump serves as the measure for the torque of an injection-type internal combustion engine.

3,511,116
SELF-SHIFTING TRANSMISSION
Irvin G. Detra, Mertztown, Pa., assignor to Mack Trucks, Inc., Allentown, Pa., a corporation of New York
Filed Aug. 27, 1968, Ser. No. 755,558
Int. Cl. B60k *21/00*; F16h *5/56*; F16d *21/04*
U.S. Cl. 74—866 6 Claims

A self-shifting transmission has a rotatable input shaft and a rotatable output shaft. The output shaft is formed with axial threads, keys, or splines and, along a portion thereof, with helical threads or grooves cut into the axial splines. The input shaft drives a high-ratio gear and a low-ratio gear. A shift member rotatable with the output shaft is formed with helical threads engaging the helical grooves of the output shaft, so that torque therebetween tends to shift the shift member helically along the output shaft. Drive lock teeth and coast lock teeth are formed on the shift member. A drive lock is engageable with the drive lock teeth, and a coast lock is engageable with the coast lock teeth. The drive and coast locks are movable axially along the output shaft for engagement with and disengagement from the shift member. When engaged with the shift member, they transmit, respectively, drive torque from the shift member to the output shaft and coast torque from the output shaft to the shift member. The transmission is shifted under conditions established by electropneumatic apparatus under the control of an operator.



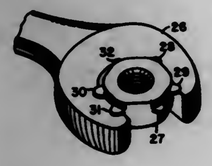
3,511,117
SINGLE LEVER CONTROL UNIT
John F. Morse, Hudson, Ohio, assignor, by mesne assignments, to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Aug. 27, 1968, Ser. No. 755,575
Int. Cl. G05g *9/08*; B63h *21/26*; B60k *29/00*
U.S. Cl. 74—876 11 Claims



A single lever control unit for sequentially operating a transmission and throttle and, selectively, for operating the throttle independently of the transmission. During actuation of the transmission it is most desirable that a throttle dwell be maintained, this irrespective of whether the throttle is of the push-to-open or pull-to-open variety and irrespective of the fact that a 45° shift range is provided for the control lever and the transmission actuation member of the unit. This is accomplished by connecting that end of the push-pull throttle control cable casing at the unit to a positioner block movably mounted within the unit. The core of the throttle control cable is attached to a rotatable throttle actuation member, and the positioner block translates the cable casing generally parallel with the connection of the throttle control cable

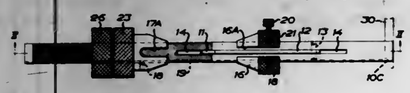
core to the throttle actuation member during the transmission shift in order to preclude relative movement between the core and casing and thereby provide throttle dwell.

3,511,118
HEAD CONFIGURATION FOR A THREADED FASTENING MEMBER
Vernon R. Mitchell, 437 Lake Michigan Drive NW., Grand Rapids, Mich. 49504
Filed May 6, 1968, Ser. No. 726,841
Int. Cl. B25b *13/02*
U.S. Cl. 81—119 1 Claim



A threaded fastener with a polygonal periphery, having abutments extending outward from the junctions of the peripheral faces.

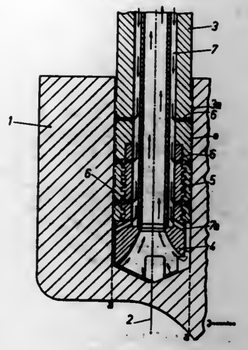
3,511,119
MANUALLY OPERABLE BORING TOOLS
Odd Werner Hielm, Eldsberga, and Gustaf Adolf Dahl, Halmstad, Sweden, assignors to AB Toolfix, Halmstad, Sweden
Filed Feb. 7, 1968, Ser. No. 703,574
Int. Cl. B23b *29/04*
U.S. Cl. 77—57 4 Claims



A manually operable boring tool consisting of a boring bar provided with a cutting member and a pair of centering cones and partially threaded to be fed longitudinally through a bore by rotation in releasable thread engagement with a nut assembly associated with one of the cones, and sliding through the other cone which is provided with friction means to produce reaction forces holding the cones firmly set in the respective ends of the bore.

3,511,120
GUN DRILL
Alfred Käser, Rieden-Nussbaumen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Dec. 12, 1966, Ser. No. 601,027
Claims priority, application Switzerland, Dec. 29, 1965, 18,012/65
Int. Cl. B23b *51/06*
U.S. Cl. 77—68 2 Claims

A deep hole drill comprises a drilling tool attached to the end of a drill shank, and a part of the shank immediately adjacent the drilling tool is constructed as an oil-pressurized bearing. For this purpose the pressurized oil is supplied by way of axially and circumferentially spaced radial passageways in the body of the drill shank to the surface of the shank part. Pressurized oil is also supplied directly to the drilling tool for cooling and flushing purposes, and the entire amount of the oil is returned to the surface of the drill hole through an axially extending passageway within the drill shank.

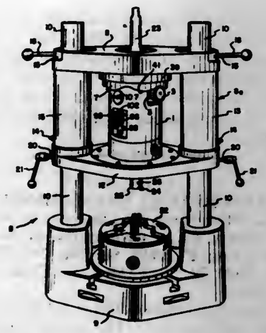


ERRATA

For Class 81—119 see:
Patent No. 3,511,118

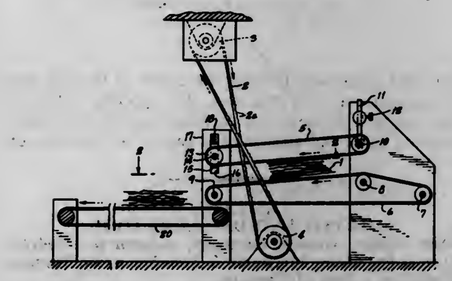
For Class 124—7 see:
Patent No. 3,511,225

3,511,121
APPARATUS FOR THE SHAPING OF INTERNAL AND EXTERNAL SURFACES DURING A MACHINING OPERATION
Albert Meyer and Franz Ferri, Trimbach, near Olten Solothurn, Switzerland, assignors to Vika A.G., Solothurn, Switzerland
Continuation-in-part of application Ser. No. 554,221, May 31, 1966. This application Dec. 7, 1966, Ser. No. 599,835
Int. Cl. B23b *3/28*
U.S. Cl. 82—19 10 Claims



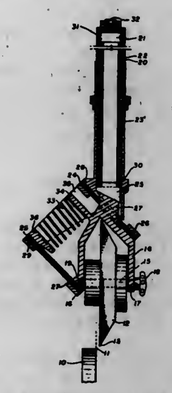
This invention relates to apparatus for shaping internal and external surfaces of a workpiece by means of a tool mounted in the rotary tool support of a drill head controlled by a pattern or cam.

3,511,122
LEAVES AND APPARATUS FOR CUTTING STACKED TOBACCO LEAVES
Joseph H. Sherrill and Jesse R. Pinkham, Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
Filed July 12, 1967, Ser. No. 652,778
Int. Cl. B26d *1/50, 7/06*
U.S. Cl. 83—155 3 Claims



Methods and apparatus for stacking tobacco leaves and cutting the stacks of leaves. Leaves in stack may be randomly oriented, and such stacks are moved through a row of parallel blades to cut the leaves into random strips. Alternatively, the stack may be arranged as a cube or cylinder, with leaves oriented so that like ends (either stems or tips) define outer surface of cube or cylinder. Such oriented stacks are cut by a single blade or by two parallel blades, cuts being made parallel to outer surfaces of cubic stacks or concentric with outer surfaces of cylindrical stacks. Such cuts separate like ends from other parts of leaves. Separated ends are carried away from cutting station by one conveyor means and other parts by another conveyor means.

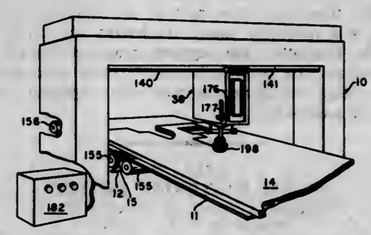
3,511,123
TOP MOUNTING FOR ROTARY SLITTERS
William George S. Smith, P.O. Box 10, Topsail, Corner Brook, Newfoundland, Canada
Filed Nov. 20, 1967, Ser. No. 684,342
Claims priority, application Great Britain, Feb. 7, 1967, 5,854/67
Int. Cl. B26d *1/24*
U.S. Cl. 83—482 5 Claims



A mounting for paired rotary cutters in which provision is made for movement of one of the cutters diagonally of its axis away from its adjacent cutter, and for precise loading of the movable cutter against its adjacent cutter, whereby loading of the cutters against each other may be precisely regulated and whereby radial clearance between the cutters may be provided to allow threading of a web between the cutters.

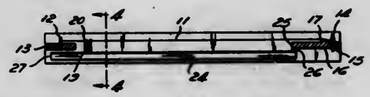
This invention relates to an improved mounting for the idling cutter in rotary shear cutters of the type used for cutting webs of sheet material such as paper.

3,511,124
MATERIAL CUTTING MACHINE HAVING RECIPROCATING CUTTING BLADE WITH TWO AXES OF ROTATION
Edward C. Bruns, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed May 6, 1968, Ser. No. 726,658
Int. Cl. B26d *5/02, 5/30, 7/00*
U.S. Cl. 83—522 14 Claims



A material cutting machine has a reciprocating and vertically disposed cutting blade adapted to cut material, which is disposed in a horizontal plane. The cutting blade is adapted to be lifted from cutting engagement with the material being cut. The machine has means to rotate the cutting blade to change the heading of the cutting edge. The machine also has means to change the axis of rotation of the cutting blade in accordance with whether the cutting blade is in engagement with the material being cut or lifted from engagement with the material being cut.

3,511,125
MUSICAL INSTRUMENT SOUNDBOARD SYSTEM
Howard K. Graves, 6633 Somerset Drive, Cleveland, Ohio 44141
Continuation-in-part of applications Ser. No. 501,661, Oct. 22, 1965, and Ser. No. 528,908, Feb. 21, 1966. This application Mar. 27, 1967, Ser. No. 626,295
Int. Cl. G10c *3/06*
U.S. Cl. 84—192 3 Claims



A stringed musical instrument comprising a soundboard system which includes a frame, strings, a bridge, and a soundboard. A soundboard system with stiffness at the bridge which is essentially that of the strings. A soundboard which has an integral rigidizing contour. A soundboard that has an edge portion extending transversely of the strings tightly coupled to the frame and an opposed edge portion loosely coupled. The bridge extends along the loosely coupled edge.

3,511,126
CYLINDRICAL RETAINING PIN OF SUBSTANTIALLY RIGID CONSTRUCTION
Loyal O. Watts, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Original application Dec. 6, 1967, Ser. No. 688,474. Divided and this application Oct. 18, 1968, Ser. No. 794,441
Int. Cl. F16b *19/02, 21/14*
U.S. Cl. 85—8.3 3 Claims



A cylindrical retaining pin of the type having two elongated pin segments with resilient spreader means interposed therebetween. One pin segment forms substantially more than one half of the rigid cross-section of the pin assembly along its length for greater pin strength. The other pin segment may be formed from sheet metal. The two pin segments have generally normal surfaces which are in positively opposing relation in the pin assembly.

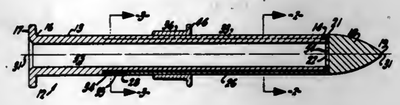
3,511,127
METAL FASTENING DEVICE
Emanuel Gisondi, 11 Ernest Drive, Scarsdale, N.Y. 10583
Filed Feb. 3, 1969, Ser. No. 796,006
Int. Cl. F16b *15/06*
U.S. Cl. 85—11 2 Claims



A metal fastening device made from a flat steel blank in the form of an elongated strip comprising a shank portion with metal-holding and wedging means along both marginal edges thereof, and a fastener head formed on the shank as the blank is bent back and forward on itself over the shank.

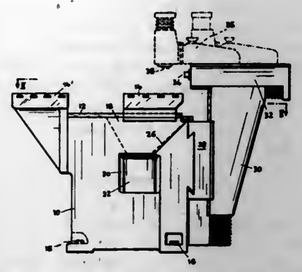
3,511,128
WALLBOARD ANCHOR NAIL
Lowell E. Garrison, 4860 Hope Lane, Sacramento, Calif. 95821
Filed Mar. 10, 1969, Ser. No. 805,469
Int. Cl. F16b *15/04*
U.S. Cl. 85—23 4 Claims

An elongated, centrally hollowed nail-like structure includes a forwardly extending pointed nose and a flattened base. The peripheral outer walls of the nail device are deeply striated to receive in each striation a tensioned spring wire extending rearwardly from the nose. The after ends of the spring wires are tensioned to flare outwardly and are restrained from doing so by a collar normally encompassing the tensioned, after ends of the spring wires. As the nail is driven into a wallboard, the collar engages the adjacent wall or other surface and is halted as the nail continues to be driven, thereby uncovering the flared portion of the spring wires and allowing the wires to flare outwardly as the nether face of the wallboard is cleared. An elongated impact member can subsequently



be inserted lengthwise through the center of the nail and into engagement with the nose. By applying sufficient force, the nose is separated, carrying with it the attendant spring wires and allowing the nail to be taken out of the wall.

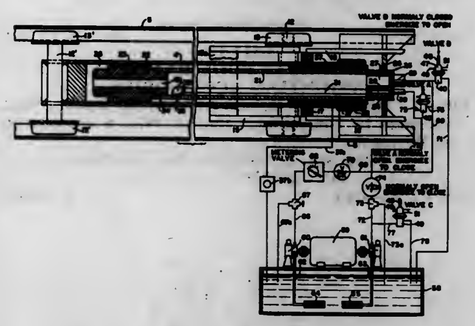
3,511,129
MILLING AND DRILLING TOOL
Johann Müller, Munich, Germany, assignor to Friedrich Deckel Prazisions Mechanik & Maschinenbau, Munich, Germany, a firm of Germany
Filed Mar. 20, 1968, Ser. No. 714,499
Claims priority, application Austria, Mar. 24, 1967, A 2,881/67
Int. Cl. B23c *1/02;* B23d *7/08;* B24b *41/02*
U.S. Cl. 90—14 6 Claims



A milling and drilling tool with a stationary bench carrying horizontal guides for a slide on a vertical side face. The slide is horizontally displaceable on the guides and a support for a spindle socket is guided in the slide in a vertically displaceable manner, while the spindle socket carrying a horizontal and a vertical spindle is displaceable at right angles to the above-mentioned vertical face. The bench is provided with an attachment or a body portion which extends perpendicularly outwardly from the center of the vertical surface opposite the spindles, so that the bench has a T-shape in top plan; and a clamping table for the workpiece is movably guided on the top of this body portion in the direction of the spindle axis.

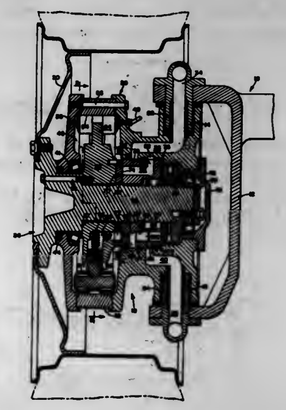
3,511,130
DIFFERENTIAL RECIPROCATING HYDRAULIC MOTOR
Francis B. Fishburne, Asheville, N.C. (% Fishburne Equipment Co. Inc., P.O. Box 338, Arden, N.C. 28704)
Filed Apr. 25, 1967, Ser. No. 633,587
Int. Cl. F15b *13/04, 15/17*
U.S. Cl. 91—31 11 Claims

The reciprocating motor is capable of many uses, but is described as used for pushing kiln cars through a kiln for burning brick. Two hydraulically independent pumps, driven by a common electric motor are employed. One of these pumps delivers motive fluid through a metering valve simultaneously to both sides of the differential piston to produce a slow, uniform working stroke. Means are provided, including the other pump and a manually controlled valve, for supplying motive fluid at a higher rate, independent of said metering valve, to both sides of said piston, to produce a relatively fast forward stroke



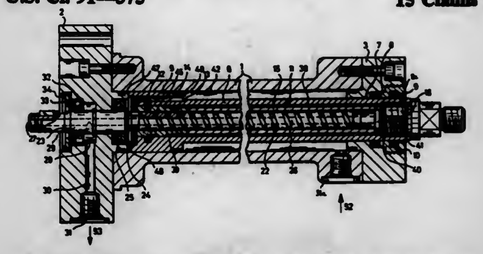
when desired. Means are also provided, including said second pump and suitable remote controlled valve means independent of said metering valve, for producing a rapid return stroke to the starting position of the parts. The remote controlled valve means may be actuated either manually, or automatically at the end of each working stroke to produce the rapid return stroke.

3,511,131
HYDRAULIC MOTOR
James Henry Kress, Cedar Falls, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,482
Int. Cl. F01b *15/00*
U.S. Cl. 91—176 11 Claims



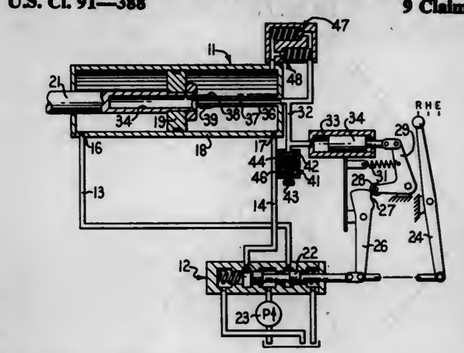
A hydraulic vehicle wheel motor has a housing attached to the vehicle frame and an axial shaft attached to the wheel and journaled in the housing. The shaft carries a hub having a number of radial cylinders in which pistons reciprocate in response to alternate pressurization and exhaust of the cylinder, the outer ends of the piston carrying roller-type cam followers which engage a generally sinusoidal cam surface on the inner periphery of the housing to rotate the shaft as the pistons reciprocate. Fluid pressure is supplied to the rotating hub through a radial valve face opposite a stationary valve manifold which is biased against the hub valve face.

3,511,132
HYDRAULIC POWER AMPLIFIER
Holger Krohn, Wombach, and Rainer Bartholomäus, Lohr am Main, Germany, assignors to G. L. Rexroth G.m.b.H., Lohr am Main, Germany
Filed Nov. 7, 1968, Ser. No. 773,990
Claims priority, application Germany, Nov. 18, 1967, 1,650,521
Int. Cl. F15b *9/10, 15/17*
U.S. Cl. 91—375 15 Claims



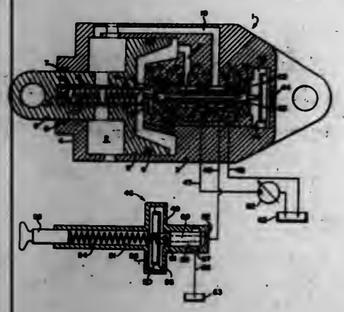
A hydraulic power amplifier wherein a double-acting cylinder accommodates a reciprocable hollow differential piston dividing its interior into a first chamber which is connected with a source of pressurized hydraulic fluid and a second chamber. A rotary control plunger is installed in the piston and has a helical peripheral groove which is in permanent communication with the second chamber and can be placed into communication with a first port of the piston to thereby establish a flow of fluid between the two chambers so that the fluid displaces the piston in a direction to reduce the volume of the first chamber and the piston rod of the piston transmits motion to one or more driven devices. A second port of the piston can be placed into communication with the groove in response to appropriate angular displacement of the plunger and such second port then connects the second chamber with an outlet of the cylinder to permit escape of fluid from the second chamber with attendant movement of the piston in opposite direction.

3,511,133
POSITION CONTROL FOR HYDRAULIC JACKS
Ralph R. Day, Aurora, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Mar. 6, 1968, Ser. No. 710,874
Int. Cl. F15b *13/16;* F01b *31/00*
U.S. Cl. 91—388 9 Claims



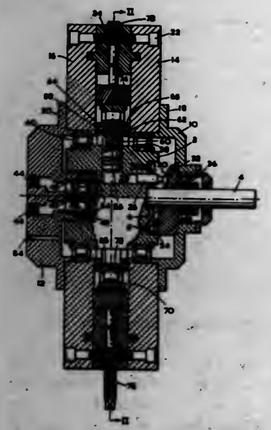
In three embodiments of a hydraulic jack operated by a detented control valve, its rod and cylinder interact to internally form a chamber of varying volume as the rod approaches a selected operating limit within the cylinder. Fluid from the chamber is communicated to and acts upon a spring-loaded slave cylinder to release the detented control valve when sufficient fluid pressure is provided by decreasing volume of the chamber.

3,511,134
POSITION-RESPONSIVE CONTROL SYSTEM FOR HYDRAULIC ACTUATORS
Richard Arthur Wittren, Cedar Falls, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,933
Int. Cl. F15b *13/16*
U.S. Cl. 91—387 11 Claims



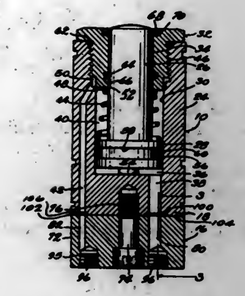
A control system for a hydraulic actuator in which a spool valve controls the supply of fluid to and exhaust of fluid from the actuator. Fluid pressure in a control circuit exerts a force on the spool valve to urge it in one direction while a feedback mechanism in the form of a spring provides an opposite force. When the two forces are equal, the valve settles in its neutral position. A pressure regulating valve which is manually operated controls the pressure in the control circuit. Any change in pressure in the control circuit moves the spool valve from its neutral position causing movement of the actuator rod until the force exerted by the feedback mechanism moves the spool valve back to its neutral position.

3,511,135
VARIABLE SPEED HYDRAULIC MOTORS
George Ifo and John Peter Jackson, Netherton, England, assignors to The English Electric Company, Limited, London, England, a British company
Filed Oct. 22, 1968, Ser. No. 769,558
Claims priority, application Great Britain, Oct. 25, 1967, 48,494/67
Int. Cl. F01b *3/00, 15/00*
U.S. Cl. 91—483 6 Claims



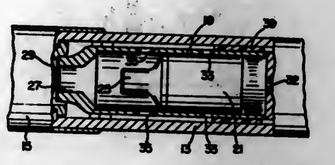
This invention is concerned with a variable-speed hydraulic motor having axial and radial pistons arranged in pairs with intercommunicating cylinders. In the preferred arrangement the axial pistons co-operate with a stationary swashplate of fixed inclination, while the radial pistons co-operate with a surrounding circular eccentric cam of which the eccentricity can be varied to vary the motor speed.

3,511,136
CYLINDRICAL BODY RAMS WITH MOUNTING ACCESSORIES
Vitas T. Thomas and Robert A. Lovdahl, Racine, Wis., assignors to Tomco, Inc., Racine, Wis., a corporation of Wisconsin
Filed Apr. 8, 1968, Ser. No. 719,633
Int. Cl. F01b *29/08, 31/00*
U.S. Cl. 92—161 5 Claims



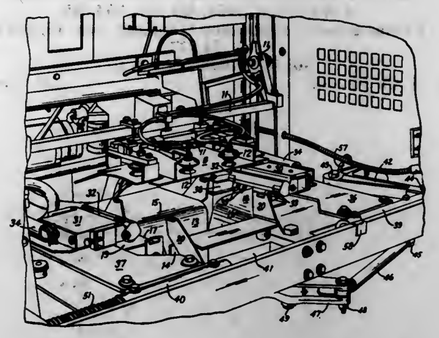
Disclosed herein is a hydraulic ram assembly including a hydraulic ram which is adapted to be mounted in various mounting brackets and connected to various feeder members with the hydraulic ram having unobstructed fluid flow passages that terminate on a common wall of the ram, and adapted to be actuated by spring return or with air or liquid working fluid for double action, or both.

3,511,137
COMPOSITE ARTICLE AND METHOD OF MANUFACTURE
Stanley K. Smith, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Aug. 13, 1968, Ser. No. 752,305
Int. Cl. F01b *11/02*; F21b *3/00*; F16k *5/00*
U.S. Cl. 92—171 7 Claims



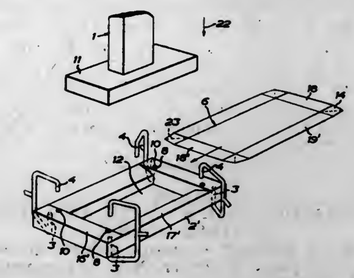
There are disclosed herein fluid operated devices each of which includes a stationary cylinder within a casing and having a fluid operated member movably disposed therein. In one embodiment, the movable member is a reciprocal piston adapted to strike a tool bit while in the other, the movable member is a rotor having a plurality of vanes thereon. In both embodiments, fluid is delivered to and discharged from the cylinder by way of passages formed between the casing and cylinder.

3,511,138
BOX ERECTING DEVICES FOR REDUCING THE EFFECT OF STRINGING OUT OF ADHESIVES
Thomas R. Baker, Los Altos, Calif., assignor to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 20, 1967, Ser. No. 632,291
Int. Cl. B31b *1/44*
U.S. Cl. 93—51 2 Claims



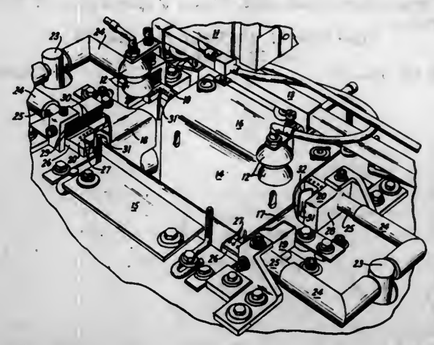
In an adhesive applicator of the type in which a nozzle deposits a bead or line of adhesive on paperboard and the like, uncontrolled deposition of a thread of adhesive strung out from the nozzle is avoided by depositing such strung-out adhesive on the previously deposited bead or line of adhesive.

3,511,139
METHOD AND APPARATUS FOR ERECTING CARTON BLANKS
Åke Evald Edkvist, Kaglinge, Lockarp, Sweden, assignor to Palson Corporation AB, Malmo, Sweden
Filed Mar. 9, 1967, Ser. No. 621,871
Claims priority, application Sweden, Mar. 14, 1966, 3,343/66
Int. Cl. B31b *1/44, 1/28, 5/26*
U.S. Cl. 93—51 2 Claims



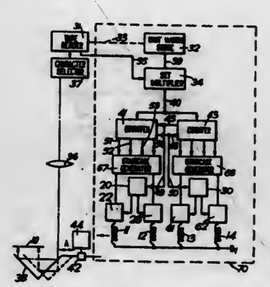
Method and apparatus for forming a cardboard container provided with a coating which becomes tacky by heating, in which a planar container blank having foldable sidewall panels and interconnecting areas is subjected to hot air jets on said interconnecting areas, whereupon said sidewall panels are folded and said interconnecting areas are moved into contact with each other and cooled so that the tacky coating solidifies and fixes the container.

3,511,140
DEVICE FOR FORMING AND HEAT BONDING GUSSET CORNERS OF A FOLDING BOX BLANK BEARING A THERMOPLASTIC COATING
Sigurd J. Hoyrup, Monta Vista, Calif., assignor to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed July 1, 1968, Ser. No. 741,616
Int. Cl. B31b *1/44*
U.S. Cl. 93—51 6 Claims



The gusset corner portions of a box blank bearing a preapplied thermoplastic coating are heated, while the blank is still in its flat state, by jets of compressed heated air applied from opposite surfaces. A higher coating temperature is produced on one surface than on the opposite surface, thereby reducing the stiffness of the corner portion preparatory to the folding of the gusset corners. The higher coating temperature is achieved by nozzles directed against the undersurface from which the blank is closely spaced by elements which also assist in the folding of the gusset diagonals. The relatively cooler side of the blank comes to lie against the surface of a plunger which forces the blank through a folding die to fold and bond the corner gusset panels in a known manner.

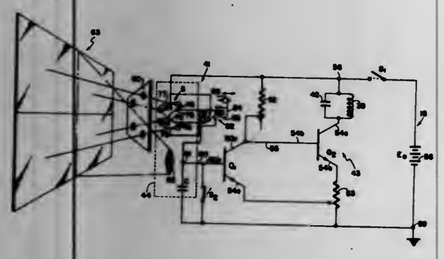
3,511,141
PHOTOCOMPOSER MOTOR CONTROL APPARATUS
Howard Raymond Baylis, East Grinstead, and Josef Maria Herbert Tiefenthal, Reigate, Surrey, England, assignors to The Monotype Corporation Limited, London, England, a British company
Filed Mar. 6, 1967, Ser. No. 620,881
Claims priority, application Great Britain, Mar. 10, 1966, 10,651/66
Int. Cl. B41b *21/36*
U.S. Cl. 95—4.5 7 Claims



Photocomposing apparatus in which the movement of a mirror pair spaces the image of a master character relative to the film. An electric motor having an output

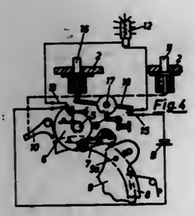
member rotatable in steps move the mirror pair in stepwise fashion. The current through the field coils of the motor are varied in discrete steps between a maximum and a minimum value so that the resultant magnetic field and hence the rotor rotate in discrete angular steps.

3,511,142
EXPOSURE CONTROL MEANS
Conrad H. Biber, Needham, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 21, 1967, Ser. No. 624,774
Int. Cl. G01j 1/52
U.S. Cl. 95—10 14 Claims



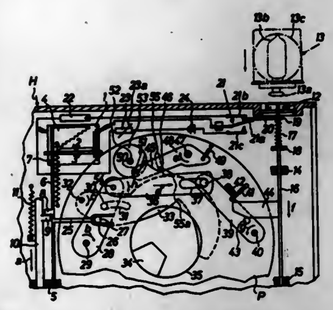
An exposure control system incorporating a light sensing circuit having four photocells each of which is oriented upon a camera to witness a discrete portion of a scene to be photographed. Under ambient scene lighting conditions, the cells are series-parallel connected to cause their combined output to be responsive to darker light levels within the scene. Converting means such as a switch bank or an assembly of lenses selectively positioned over each photocell is provided to convert the circuit to operation with flash illumination wherein the combined output of the cells is responsive to the brighter portion of the scene.

3,511,143
PHOTOGRAPHIC CAMERA HAVING AN ELECTRONIC TIMING DEVICE AND AN EXPOSURE SIGNAL MEANS
Waldemar T. Rentschler, Calmbach, Black Forest, Germany, assignor to Prontor-Werk Alfred Gauthier, G.m.b.H., Calmbach, Black Forest, Germany, a corporation of Germany
Filed June 6, 1967, Ser. No. 644,766
Int. Cl. G03b 7/08
U.S. Cl. 95—10 15 Claims



A photographic camera having a shutter system controllable as a function of lighting conditions by a timing device working on an electronic basis with the aid of a photo resistor. A signal light is arranged on the camera to light up automatically at the end of the exposure process. The signal light is switched on by means of a contact switch actuated by the part of the camera which causes the shutter system to close after having been fully open.

3,511,144
PHOTOGRAPHIC CAMERA WITH ILLUMINATING ARRANGEMENT
Christian Götze, Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Feb. 8, 1968, Ser. No. 704,009
Claims priority, application Germany, Feb. 16, 1967, A 54,927
Int. Cl. G03b 7/16, 9/02
U.S. Cl. 95—10 20 Claims



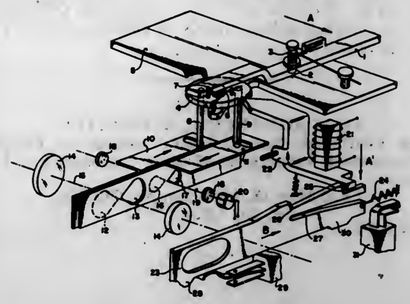
A photographic camera wherein the exposure time and the aperture size are adjusted by the components of a quadric crank chain. A first component controls the aperture size and is movable by the scanner for the needle of an exposure meter which is in circuit with a photoelectric cell when the camera is set for operation in daylight. The first component adjusts the position of a second component which controls the exposure time by adjusting a delay mechanism of the shutter. A third component of the crank chain determines the initial position of the second component in response to attachment of a multiple flash bulb holder to thus select the exposure time for operation in artificial light.

The focussing means of the camera can determine the aperture size when the camera is set for operation in artificial light, either by adjusting the resistance of a variable resistor which is connected in circuit with the exposure meter as a substitute for the photoelectric cell when the multiple flash bulb holder is attached to the camera, or by limiting the extent of adjustment of the first component by way of an arresting lever which can stop the second component. The first component is pivotally connected with the second component, and the second component is coupled with the third component by means of a pin-and-slot connection.

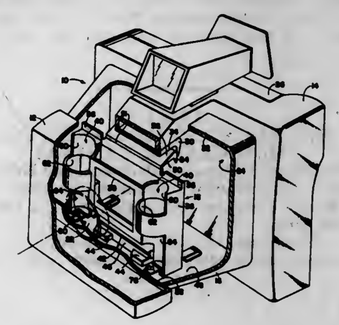
3,511,145
PHOTOGRAPHIC CAMERA WITH AN EXPOSURE CONTROL DEVICE
Wolfgang Ort, Stuttgart, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 8, 1968, Ser. No. 719,489
Claims priority, application Germany, May 30, 1967, K 62,414
Int. Cl. G03b 7/08, 9/02; G01j 1/46
U.S. Cl. 95—10 4 Claims

A photographic camera comprising an exposure control device dependent on the object brightness. The exposure control device is provided with two oppositely displaceable diaphragm sliders which are operated by two pin-slot connections via one each control rod, the two rods being secured to a disk at an equal distance from its center, so

that the rotary motion of the disk is transformed into parallel, oppositely directed movements of the sliders. This is achieved by using a single relay which is controlled by the change of the resistance value of a photoresistance via electronic amplifying systems and mechanical transmission structure.



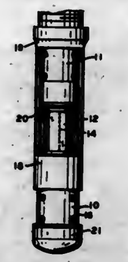
3,511,146
PHOTOGRAPHIC CAMERA
Patrick L. Fiselli, Sudbury, and Walter R. Lyon, West Roxbury, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed June 6, 1967, Ser. No. 643,915
Int. Cl. G03b 17/02
U.S. Cl. 95—11 8 Claims



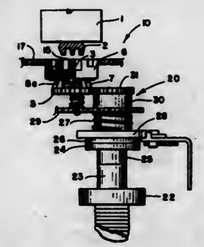
A photographic camera usable with electrically operated equipment and including a battery support mounted within the camera body. The support is disposed adjacent a forward portion of the camera body and locatable in a first postion for placing a pair of batteries in electrical connection with electrically operated equipment. The battery support is pivotable away from the first position to provide ready access to the batteries when the camera is not in use.

3,511,147
APPARATUS FOR TAKING PHOTOGRAPHS OF CLOSED CAVITIES IN A BODY
John Falenks, Red Hook, N.Y., assignor to Diversified Medical Corporation, Scarsdale, N.Y., a corporation of Delaware
Filed June 16, 1967, Ser. No. 649,071
Int. Cl. G03b 19/06
U.S. Cl. 95—11 2 Claims

In an apparatus for taking photographs of closed cavities and provided with a tube having spaced exposure openings, an impressed film support consisting of a mandrel with longitudinally extending corners which are arranged to enter grooves in the tube, and a closure member for the tube. The mandrel has concave areas between each pair of corners, and a single film extending around the mandrel with its opposed ends meeting in abutting relation at one of the corners and provided with crease lines receiving the remaining corners. The mandrel is proportioned so as to form a snug fit in the grooves with the film wrapped therearound.



3,511,148
FLASH MECHANISM
Horst Simon, Feilbach, near Stuttgart, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 12, 1967, Ser. No. 652,875
Claims priority, application Germany, Aug. 5, 1966, K 55,202
Int. Cl. G03b 19/00
U.S. Cl. 95—11 8 Claims

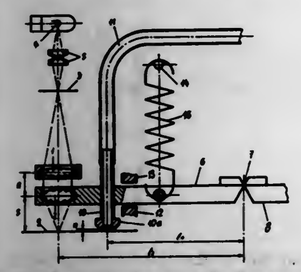


A flash unit having a socket and mechanism by which flash bulbs of a multilamp attachment are advanced to an operative position through a rotary drive mechanism. The unit also functions with an adapter as a mount for conventional non-rotary flash bulbs. The unit has a coupling member located between the rotary drive mechanism and the rotary flash socket for disconnecting the drive mechanism from the socket in response to insertion of a non-rotary adapter into the socket. The non-rotary adapter has a central extension thereon which engages a pin element of the coupling member to disconnect the drive mechanism from the socket upon insertion of the adapter into the socket.

3,511,149
DEVICE FOR PLOTTING OF OBJECT POINTS, LINES AND SYMBOLS ON A PHOTOGRAPHIC LAYER
Karl Blattner, Rain 698, Kuttigen, Switzerland, and Roland Picard, Sonnmattstrasse 923, Rombach, Switzerland
Filed May 6, 1968, Ser. No. 726,899
Claims priority, application Switzerland, May 9, 1967, 6,582/67
Int. Cl. G03b 29/00
U.S. Cl. 95—12 10 Claims

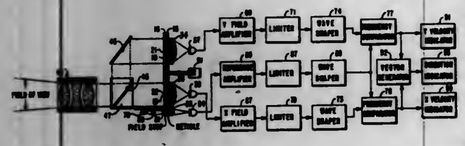
A device for plotting points, lines, and symbols on a photographic layer including an operating carriage which

moves in a plane not parallel to the photographic layer. Carried by the operating carriage is a photographic objective in two parts, one part being secured to the carriage adjacent a light source and the other being mounted on a vertically adjustable member. Light from the source



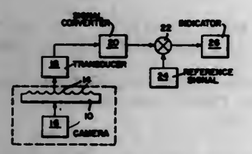
is relayed by the first objective to a diaphragm or stencil having an aperture therein through which light passes and is focused on the photographic layer by the adjustable objective. The vertically adjustable member is cushioned partially by pressurized air supplied to a nozzle attached thereto and partially by a spring member.

3,511,150
IMAGE MOTION DEVICES
Theodore R. Whitney and George F. Aroyan, Woodland Hills, Calif., assignors to Theodore R. Whitney, doing business as Pacific Infrared Systems Company
Filed Jan. 13, 1966, Ser. No. 520,460
Int. Cl. G03b 29/00
U.S. Cl. 95—12.5 7 Claims



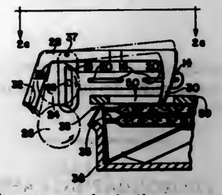
The device is one for measuring image motion, as for an aerial camera or navigational systems. It measures image motion in two orthogonal directions as a frequency shift from a fixed carrier frequency. It comprises a rotating reticle having one or more involute patterns in front of which is positioned a mask having two slots at right angles to one another, through which the moving image beam from the landscape passes to go through the rotating reticle and to a photocell located behind each slot in the mask.

3,511,151
VELOCITY MEASURING SYSTEM
Murray J. Hillman, West Covina, Calif., assignor to Hycon Mfg. Company, Monrovia, Calif.
Filed Oct. 31, 1966, Ser. No. 596,038
Int. Cl. G03b 29/00
U.S. Cl. 95—12.5 10 Claims



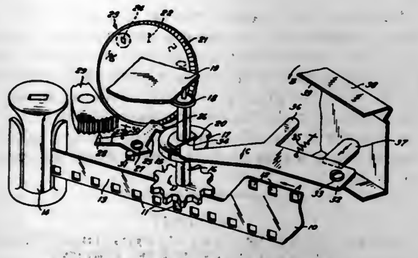
A method and apparatus for measuring the actual velocity of a movable member and the error between actual velocity and desired velocity of the member, in which the image motion compensation system of a camera is tested. A film has a magnetizable strip applied thereto and a clock track is accurately recorded in the strip. The film is loaded in the camera and a pick up head reads the clock track as the film is moved. The actual frequency read can be converted into velocity and after calibration, compared with standard signals to enable a measure of error in velocity.

3,511,152
FILM ADVANCING APPARATUS
Irving Erlichman, Natick, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 18, 1968, Ser. No. 713,766
Int. Cl. G03b 17/52
U.S. Cl. 95—13 16 Claims



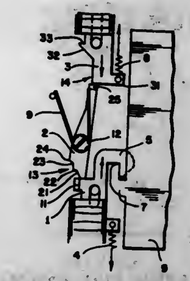
A self-developing camera including a pair of processing rollers and a reciprocating pick for engaging one of a stack of film units in a container and moving it into engagement with the rolls. The rolls rotate and the pick reciprocates continuously and simultaneously. An arm is connected to the pick for sensing the presence of the film unit in engagement between the rolls for preventing the pick from moving another film unit into the bite of the rolls until the previous film unit has moved from between the rolls.

3,511,153
FILM COUNTING MECHANISM FOR PHOTOGRAPHIC CAMERAS
Kurt Steinlinger, Stuttgart-Hedelfingen, and Horst Simon, Fellbach, near Stuttgart, Germany, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Aug. 23, 1967, Ser. No. 662,714
Claims priority, application Germany, Sept. 2, 1966, K 60,168
Int. Cl. G03b 19/04
U.S. Cl. 95—31 13 Claims



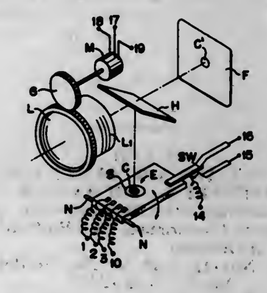
A film metering mechanism in which a sprocket wheel, which is driven by advancing film, actuates a film transport blocking pawl. Frame registration for reloaded film is achieved by a lever that, upon opening of the camera back, moves into abutment with a fixed locking surface connected to the sprocket wheel, stopping the sprocket wheel in a predetermined angular position and preventing its further rotation until the camera back is closed or the lever is manually disengaged from the sprocket wheel.

3,511,154
LOCK FOR LOCKING THE BACK OF A PHOTOGRAPHIC CAMERA
Horst Simon, Fellbach, near Stuttgart, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Sept. 21, 1967, Ser. No. 669,630
Int. Cl. G03b 19/04
U.S. Cl. 95—31 6 Claims



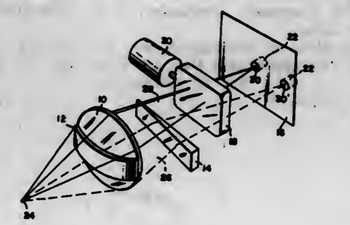
For a roll film camera having means for rewinding the film upon actuation of a rewind slide, a locking mechanism that provides an interlock between the rewind slide and a camera back opening slide to prevent inadvertent actuation of the rewind slide and further to prevent opening of the camera back until the film is rewound. The mechanism includes a pivotal latching lever having cam surfaces and being disposed between the rewind slide and back opening slide so that the rewind slide cannot be moved to rewind the film until the back opening slide is moved to the intermediate position. When the back opening slide is moved to the intermediate position the latching lever is pivoted to permit the movement of the rewind slide to its rewind position. The rewind slide in turn further pivots the latching lever to permit movement of the back opening slide to a back opening position, and movement of the back opening slide to its unlocking position further pivots the latching lever to permit the rewinding slide to return to its normal inoperative position.

3,511,155
AUTOMATIC FOCUSSING MEANS OF OPTICAL INSTRUMENTS AND STRUCTURE OF THE LIGHT RECEIVING PORTION THEREOF
Takeo Yamada, Tokyo, Japan, assignor to Nippon Kogaku K.K., Chuo-ku, Tokyo, Japan, a corporation of Japan
Filed June 30, 1966, Ser. No. 561,903
Claims priority, application Japan, July 14, 1965, 40/42,017; July 19, 1965, 40/43,200, 40/43,201
Int. Cl. G03b 3/10
U.S. Cl. 95—44 12 Claims



The method of automatically focusing optical instruments and the apparatus therefor is provided wherein a photoconductive surface is finely divided into a plurality of discrete portions. Thereafter according to one embodiment of the present invention, a plurality of resistance bridges are formed out of such discrete portions wherein each of said resistance bridges includes four resistance arms and each arm thereof includes one of such discrete portions. The photoconductive surface is then placed in the optical path of radiant energy refracted from the lens means of the associated optical instrument and any imbalances present in the resistance bridges formed are relied upon to energize means for adjusting the axial position of said lens means.

3,511,156
AUTOMATIC FOCUS DETECTOR
Leonard Larks, West Covina, Calif., assignor to Hycon Mfg. Company, Monrovia, Calif.
Filed Nov. 26, 1965, Ser. No. 509,963
Int. Cl. G03f 3/10
U.S. Cl. 95—45 19 Claims

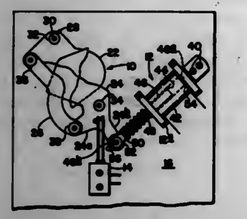


Apparatus for detecting changes in focus of a camera image, and for automatically maintaining the camera image in optimum focus. A Scheiner lens system continually examines the camera image and produces an electrical error signal when the camera is out of focus, the signal corresponding to the direction and magnitude of the focusing error, to thereby actuate a servo mechanism for automatically placing the camera back into focus. The lens system includes a Scheiner lens for obtaining two images, a reference plane having photosensitive elements therein, a prism for laterally shifting one of the images with respect to the other, and a rotating optical element for producing a vertical sweep of the images across the reference plane. The images are laterally spaced from each other by a predetermined distance so that each one will impinge upon one of the photosensitive elements in the reference plane. The photosensitive elements measure the vertical alignment of the images on the reference plane and will produce an error signal if these images are not properly aligned with one another.

3,511,157
CAMERA SHUTTER AND DIAPHRAGM APPARATUS
Valto K. Eloranta, Needham, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Aug. 30, 1967, Ser. No. 664,498
Int. Cl. G03b 9/00
U.S. Cl. 95—53 7 Claims

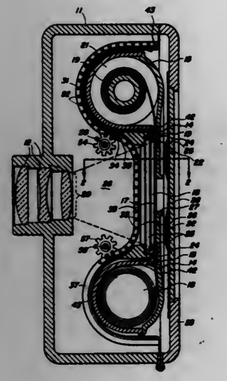
Exposure control apparatus for a photographic camera includes a pair of shutter blades mounted adjacent an exposure aperture for opening and closing movement relative thereto. An electromagnetic device is energized by a controlled electrical pulse produced by discharge of a capacitance for driving the shutter blades to an open position, in a positive manner, against the bias of a spring.

De-energization of the electromagnetic device permits the spring to effect closure of the shutter blades. The amount



of blade movement may be controlled to vary the effective size of the exposure aperture.

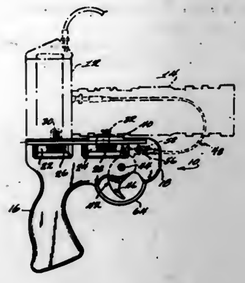
3,511,158
INTERVAL START FOCAL PLANE SHUTTER
Hubert Norwin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 613,317, Feb. 1, 1967. This application Dec. 23, 1968, Ser. No. 800,310
Int. Cl. G03b 9/28
U.S. Cl. 95—57 11 Claims



In a compact camera, such as a double spool magazine type, an improved interval start focal plane shutter of interlocking link members, and the method of assembling such interlocking link members to form two articulated curtains. The path of travel of the curtains is parallel to the film over the central part of the exposure frame, but the path curves toward the camera objective within the outer limits of the exposure frame to clear the chambers of the magazine and then reverses and curves around the chambers. The driving gears engage the curtains at a tangent near the points of curve reversion, i.e. near the points of inflection of the path.

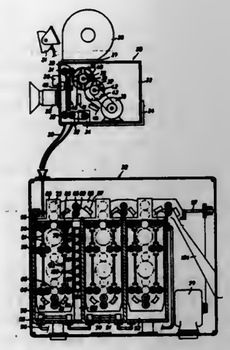
3,511,159
CAMERA AND LENS SUPPORT
Horace P. Hobbs, Jr., 2719 36th Place NW., Washington, D.C. 20007
Filed Sept. 14, 1966, Ser. No. 579,347
Int. Cl. G03b 17/12
U.S. Cl. 95—46 5 Claims

A camera and lens support including a stock fitting beneath a camera, and a pistol-grip handle depending from the stock. The camera and lens are detachably mourted upon the stock by means of separate thumb screws car-



ried in the stock. A trigger associated with the stock actuates the camera shutter.

3,511,160
PHOTOGRAPHIC PROCESSING DEVICE
Gerard Laurens Vanreusel, Hove, Belgium, assignor to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company
Filed Aug. 28, 1967, Ser. No. 663,739
Claims priority, application Great Britain, Aug. 26, 1966, 38,473/66
Int. Cl. G03d 3/12
U.S. Cl. 95—89 9 Claims

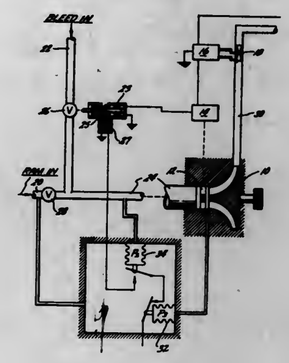


Automatic developing apparatus for developing exposed light-sensitive photographic material to produce a direct positive in which the material is advanced through a developing station containing a developing solution and is uniformly exposed to low intensity actinic light during passage through the developing station. The exposure is controlled by a detector actuated by the arrival of the material at a predetermined stage of the developing cycle. A timer is effective to prolong the exposure for a predetermined period of time after the detector is no longer actuated by the material.

3,511,161
SELECTING THE AIR SOURCE FOR AN AIRCRAFT SUPERCHARGER
Marc M. Schindelman, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 15, 1968, Ser. No. 776,194
Int. Cl. B64d 13/00
U.S. Cl. 98—1.5 9 Claims

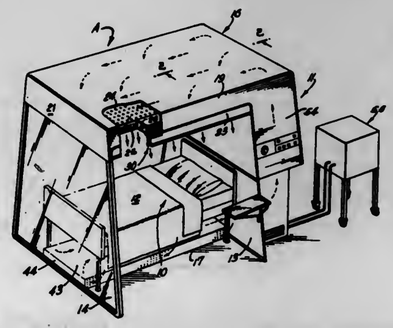
A system is disclosed wherein aircraft ram air or jet engine bleed air can be selected as sources of flow needed

to maintain the aircraft cabin environment. Two parameters govern switching from ram air to engine bleed air and two separate parameters govern switching from engine bleed air to ram air. Switching to bleed air depends on a full open signal from the throttling vanes at the



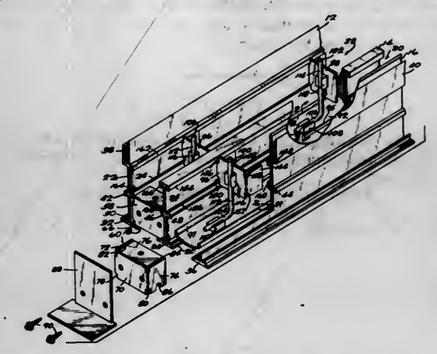
inlet of a compressor and a demand for increased flow. Bleed air remains the source of air until ram air is a satisfactory source which is assured by arming the circuit that governs switching to ram air by determining that bleed air is the source and by determining that a critical pressure differential is above a preselected value.

3,511,162
APPARATUS AND METHOD FOR ISOLATING A PATIENT ZONE
Andrew Truhan, Somerset, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Continuation-in-part of application Ser. No. 671,625, Sept. 29, 1967. This application Feb. 20, 1969, Ser. No. 801,131
Int. Cl. F24f 9/00
U.S. Cl. 98—36 10 Claims



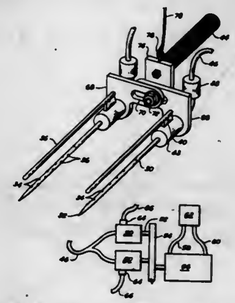
An apparatus and method for providing a controlled environment in a localized patient zone. An air distributing structure, having at least two opposed enclosed sides and two opposed open sides for surrounding the patient zone, is equipped with an overhead inlet plenum and an exhaust duct adjacent the bottom of the zone. The periphery of the plenum along the open sides of the zone is provided with structure for forming a high velocity air curtain between the plenum and the exhaust duct to effect the complete enclosure of the zone. An air treating apparatus feeds purified air into the plenum and withdraws air from the exhaust duct for recirculation through the system.

3,511,163
DIFFUSER
John F. Newell, Madison, and Reuben A. Zahler, Verona, Wis., assignors to Wehr Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 15, 1968, Ser. No. 697,889
Int. Cl. F24f 13/08
U.S. Cl. 98—40 11 Claims



This disclosure relates to a slot type air diffuser wherein the pattern of discharge from the diffuser is adjustable through manipulation of an elongated blade which extends longitudinally of the diffuser. The blade is supported for pivotal movement in the diffuser flow passage about a longitudinal axis so as to vary the direction and amount of flow diversion caused by the blade. The blade is also supported for movement toward and away from the exit end of the diffuser so that the blade can be positioned in registry with the exit end to close the diffuser to flow or its spacing from the exit end can be adjusted to provide volume as well as pattern control. Preferably, the blade is suspended in the diffuser by means of an L-shaped hanger. One leg of the hanger has a frictional engagement with a connecting block on the blade to define the pivotal axis and the other leg of the hanger has a sliding connection with a bracket support to permit movement of the hanger and blade toward and away from the exit end of the diffuser.

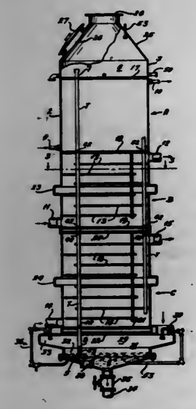
3,511,164
PROCESSING POULTRY AND APPARATUS THEREFOR
Eldon J. Strandine, Chicago, Ill., and Charles W. Peckenpaugh, Detroit Lakes, Minn., assignors to Swift & Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,803
Int. Cl. A23b; A23l 3/34
U.S. Cl. 99—257 6 Claims



Poultry carcasses are treated to improve the eating qualities, notably flavor, tenderness, juiciness, and fat content, by injecting an additive, such as a vegetable oil

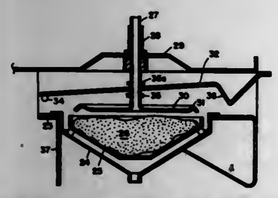
emulsion, into the meat tissue of the breast areas by inserting a hollow needle into the flesh from locations exposed at either of the posterior and anterior visceral incisions. In this way the needle can be inserted along a path that is generally normal to the tissue fiber structure so as to release the additive in directions aligned with and between the fibers. Also the injection can be made without penetrating the skin of the fowl whereby there will be substantially less opportunity for the additive to ooze from the tissue.

3,511,165
WORT COOLER
Frank H. Schwaiger, St. Louis, Mo., assignor to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri
Filed Apr. 10, 1967, Ser. No. 629,688
Int. Cl. C12c 7/04
U.S. Cl. 99—278 **8 Claims**



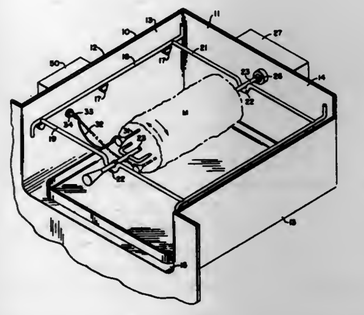
In a wort cooler having a vertical shell with upper and lower headers, a plurality of tubes vertically mounted within said cooler, said tubes having portions extending into the headers, in which air is blown up through the tubes and the wort flows down along the inner surfaces of the tubes, the cooler being divided into three cooling zones or sections (one cooled with air, one cooled with water, and one cooled with a refrigerant), each of said tubes extending through each cooling section.

3,511,166
COFFEE BREWING APPARATUS
George Bixby, Jr., Scottsdale, Ariz., assignor to Automatic Marketing Industries, Inc., Phoenix, Ariz., a corporation of Arizona
Filed Oct. 28, 1968, Ser. No. 771,136
Int. Cl. A23f 1/08
U.S. Cl. 99—295 **5 Claims**



Coffee brewing apparatus using a filter bag wherein a movable presser plate confines the bag within an open-topped tray to insure thorough distribution of hot water through the grounds in the filter bag.

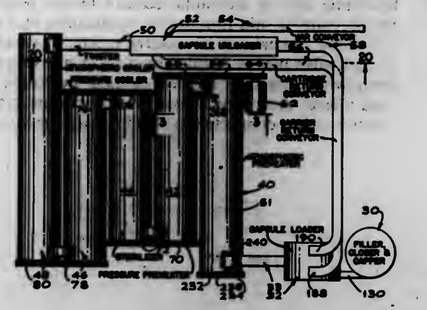
3,511,167
COOKING OVEN
Calvin J. Holtkamp, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 12, 1968, Ser. No. 759,336
Int. Cl. A47j 37/04
U.S. Cl. 99—343 **5 Claims**



A cooking oven having a rotisserie spit for meat to be cooked within the oven cavity wherein a probe-type meat temperature-responsive device is provided for insertion into the meat to be cooked on the rotisserie spit together with a cable connecting the probe with a plug adapted to be inserted into a receptacle in a wall of the oven so that the change in temperature of the meat being cooked is transmitted to a temperature-responsive device which may provide a visual indication of the temperature of the meat being cooked, or which may sound an alarm when a predetermined temperature of that meat is reached, or which may actually control the means supplying the heat to the oven to control the cooking of the meat. Since such direct connection by cable between the meat on the rotisserie spit and a fixed receptacle in a wall of the oven precludes continuous rotation of the spit and its meat, there is provided mechanism between the rotisserie spit motor and the spit itself which converts the rotary motion of the motor into oscillating motion of the spit. Preferably such oscillation is through an arc of not much more than 360°, which prevents entanglement or wrapping of the cable about the spit and its meat.

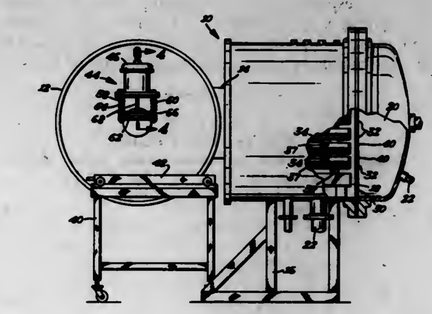
3,511,168
APPARATUS FOR PROCESSING PRODUCTS IN SEALED CONTAINERS
Allison E. Pech, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application July 19, 1965, Ser. No. 473,107. Divided and this application Apr. 22, 1968, Ser. No. 736,240
Int. Cl. A23l 3/02
U.S. Cl. 99—360 **14 Claims**

An apparatus for processing frangible or deformable containers in a cooking and cooling system. Each container is individually confined in a two-piece capsule before the container is introduced into the heat treatment medium, and remains in confinement until after the container, whether intact or broken, has moved through and out of the heat treatment medium. The container is then



removed from confinement and the capsule pieces are returned to the encapsulating section for re-use.

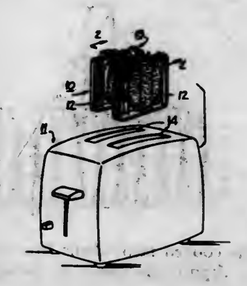
3,511,169
PRESSURE COOKING APPARATUS
Edward L. Fritzberg and Selwyn Jones, Minneapolis, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed Mar. 14, 1966, Ser. No. 534,994
Int. Cl. A23l 3/10
U.S. Cl. 99—370 **1 Claim**



An apparatus for cooking articles such as plastic pouches that can be damaged by pressure. The apparatus is composed of a vessel having a mixing compartment for a heat transfer medium (usually water) and a processing chamber adapted to hold trays upon which the articles are supported. Water at a precisely controlled temperatures is circulated continuously from the mixing chamber to the processing chamber through a plurality of openings within a plate separating the chambers. The trays are positioned in alignment with the openings. The water after leaving the processing chamber passes through a heat exchanger and is returned to the mixing chamber. Pouch expansion is sensed and used to control air pressure within the vessel to prevent excessive expansion of the pouches.

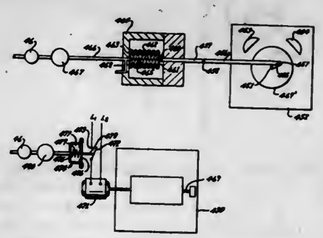
3,511,170
TOASTER ACCESSORY FOR BROILING MEAT
Robert H. O'Connor, 1777 E. 48th St., Brooklyn, N.Y. 11234
Filed Oct. 8, 1968, Ser. No. 765,928
Int. Cl. A47j 37/08
U.S. Cl. 99—402 **9 Claims**

The frames of the toaster accessory are each made with a rectangular shape with a plurality of straight pins passing through the opening in the frame to contain the meat therein. The hinged sections of each frame are locked together by a releasable clamp mounted at the top and



are sized to fit within the opening of a pop-up type toaster. A handle can be secured to one or more frames to broil one or more hamburgers.

3,511,171
COOKING APPARATUS
William K. Body, Whittier, and Russell J. Locascio and Harold W. Rice, Fullerton, and Douglas R. Scott, Santa Ana, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Original application Feb. 12, 1965, Ser. No. 432,228, now Patent No. 3,384,071, dated May 21, 1968. Divided and this application Dec. 18, 1967, Ser. No. 714,141
Int. Cl. A47j 37/04
U.S. Cl. 99—421 **5 Claims**

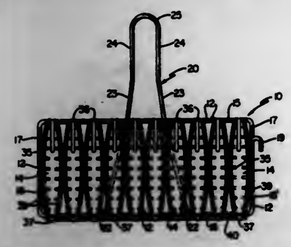


This disclosure relates to pneumatic control means utilized to control the operation of a cooking apparatus, whether the cooking apparatus has an oven, or a range type burner, or both, such pneumatic control means comprising pneumatic actuators for controlling the flow of fuel to the burner means as well as for latching the oven door means in its closed position for oven cleaning operations, adjusting the burner means to various positions thereof and automatically controlling a cooking operation thereof, such features being utilized singly or in any combination thereof.

3,511,172
TACOS SHELL COOKING UNIT
Finis E. Jones, 2630 Yates, Denver, Colo. 80212
Filed Dec. 26, 1967, Ser. No. 693,313
Int. Cl. A23p 1/00
U.S. Cl. 99—426 **9 Claims**

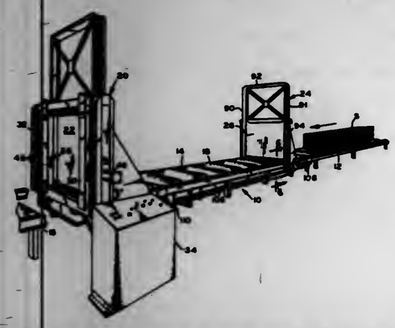
A cooking unit for tacos shells has a frame comprised of U-shaped stationary molds each adapted to receive a shell-supporting mold hinged to the frame alongside the lower closed end of each stationary mold. A tacos shell

is placed over the external surface of each shell-supporting mold as it is advanced into nested relation with its stationary mold, and a fork is provided for simultaneous re-



moval of the cooked tacos shells from the shell support members to deposit the shells in stacked relation on a rack.

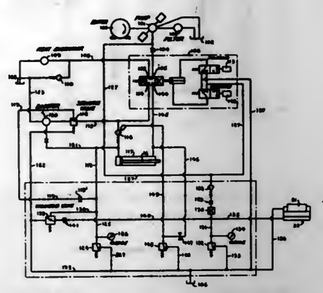
3,511,173
APPARATUS FOR PRESSING AND STRAPPING LUMBER
Allen E. Morrow, Portland, Oreg., assignor to Mac-Fab Manufacturing, Inc., Portland, Oreg., a corporation of Oregon
Filed Jan. 2, 1968, Ser. No. 695,023
Int. Cl. B65b *13/00*; B65g *57/00*
U.S. Cl. 100—7 **20 Claims**



An apparatus for pressing a loose stack of lumber into a squared stack. First the opposite ends of the stack are squared by pressing it between fixed and movable end gates. Then the fixed gate is lifted and the stack moved into the resulting gate opening, after which side pressure plates of the fixed gate square the opposite sides of the stack and the fixed gate itself exerts a downward pressure against the top of the stack while the stack is strapped with a strapping attachment.

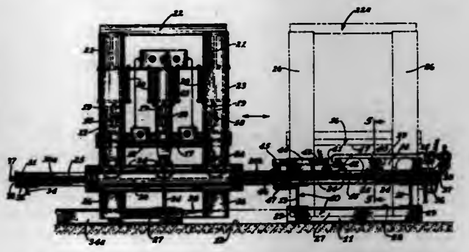
3,511,174
FLUID OPERABLE SYSTEM FOR BALING EQUIPMENT
Hilary A. Raab, Hammond, Ind., assignor to East Chicago Machine Tool Corporation, East Chicago, Ind., a corporation of Indiana
Application Jan. 13, 1964, Ser. No. 339,068, now Patent No. 3,312,432, dated Oct. 19, 1965, which is a continuation of application Ser. No. 23,848, Apr. 24, 1960. Divided and this application Aug. 10, 1965, Ser. No. 478,651
Int. Cl. B30b *9/00*; F15b *11/16*
U.S. Cl. 100—43 **13 Claims**

1. In a system for applying a compressive force on material collected in a chamber and against a controllable resistance comprising a variable choke and having a source of limited hydraulic pressure connected to and supplying a hydraulic ram for applying and force up to the pressure limit of said source and a hydraulic unit connected to and supplied by said source for controlling the magnitude of said resistance, the combination with said hydraulic unit of hydraulic control means responsive to the pressure to said ram during application of a compressive force comprising: first valve means, normally closed second valve means adapted by a relief pressure setting to open when pressure applied to said hydraulic unit exceed a level determind by said relief pressure setting, first conduit means connected to said first valve means whereby



the latter is responsive to the pressure supplied to said ram during application of a compressive force, a second conduit means connecting said second valve means and said first valve means, both of said valve means being hydraulically connected to the source pressure and said hydraulic unit, and said first valve means being continuously responsive to said applying force for regulating said hydraulic unit whereby to control the power applied to said applying force in response to variations in the controllable resistance during operation of the system.

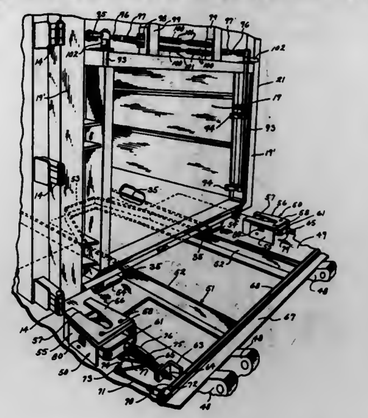
3,511,175
PRESS STRUCTURE
Joseph Rugel, 445 S. Center, Mesa, Ariz. 85201
Filed Oct. 16, 1968, Ser. No. 768,104
Int. Cl. B27d *3/00*; B30b *1/34*
U.S. Cl. 100—226 **3 Claims**



A press, particularly adapted to handling large sheets in laminating operations, in which the entire top H-frame structure is movable horizontally rearwardly to and from a position over the press bolster so as to facilitate handling the work relative to the press.

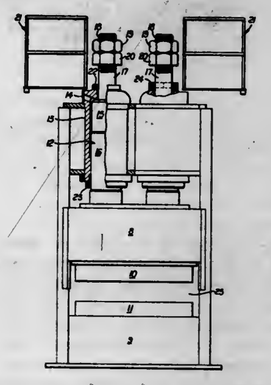
3,511,176
REFUSE PACKING MECHANISM
Raymond R. Szaj, Hales Corners, and Llewellyn F. Sexton, Jr., Milwaukee, Wis., assignors to The Heil Co., Milwaukee, Wis., a corporation of Wisconsin
Filed May 2, 1968, Ser. No. 726,152
Int. Cl. B30b *15/06*
U.S. Cl. 100—229 **20 Claims**

A movable refuse container having a front opening and having traction rollers which are guided toward a packing unit by guide rails projecting from the latter, there being latches connected to the packer which automatically engage king pins projecting from the bottom of the container to latch the container to the packer when the container has been moved to operative position. A retainer plate with grooved sides is removably connected to the packer plate to move with the latter during the packing operation. Swingable flappers on the sides of



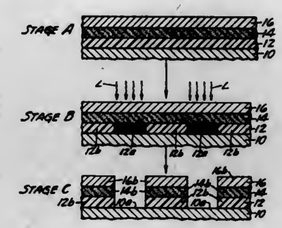
the container opening are locked in inoperative position during the packing cycle, but are released to engage the side grooves of the retainer plate when the packing has been completed, to maintain refuse in the container. Relative movement between the packer plate and the container will automatically release the flappers from the retainer plate grooves at the start of a packing cycle to permit the retainer plate to be transferred to the front of the packer plate.

3,511,177
PRESSES
George Schiff, Elstree, England, assignor of one-half to The Ulster Chipboard Company Limited, Castleroe, Coleraine, Northern Ireland, a British corporation
Filed Aug. 7, 1967, Ser. No. 658,921
Claims priority, application Great Britain, Aug. 8, 1966, 35,438/66
Int. Cl. B30b *15/06*
U.S. Cl. 100—257 **7 Claims**



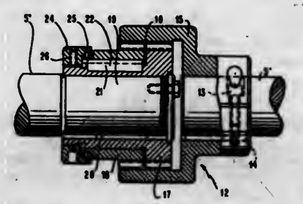
A press incorporating means located externally of the pressing space between the head and table for enabling the distance between the platens of the press to be selected when the pressing stop takes place, such means being provided by the interengagement of a stop associated with the head and an abutment associated with a structure element of the press, and means being provided for adjusting the position at which the stop and abutment interengage.

3,511,178
PRINTING PLATE AND METHOD
John L. Curtin, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 6, 1967, Ser. No. 607,728
Int. Cl. B41m *1/08*; B41n *1/08*
U.S. Cl. 101—450 **17 Claims**



A printing plate of the planographic type, i.e., not containing raised or depressed image areas, wherein printing occurs from the oleophilic (when dry) image areas of the plate while being completely rejected in the highly abhesive non-image background areas, all entirely in the absence of the water or dampening solutions necessary in lithography (lithography being fundamentally based on the fact that water and oils are immiscible, and wherein it has been necessary first to wet or dampen the background areas before they would reject the oily ink). The plate can be imaged photographically, pre-sensitized plate structures being preferred, or mechanically or by electrical discharge techniques.

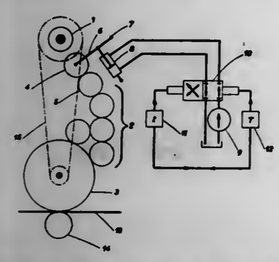
3,511,179
DRIVE AND COUPLING FOR A ROTARY PRINTING PRESS WITH IN-LINE PRINTING MECHANISMS
Anton Breunig, Heidelberg, Germany, assignor to Heidelberger Druckmaschinen Aktiengesellschaft, Heidelberg, Germany, a corporation of Germany
Filed May 13, 1968, Ser. No. 728,734
Claims priority, application Germany, May 20, 1967, Sch 40,747
Int. Cl. B41f *7/06*
U.S. Cl. 101—183 **6 Claims**



Drive for a rotary printing press having printing presses disposed in tandem includes two main drive shaft portions connected by a coupling having an outer part fixed to one shaft portion and an inner part to the other shaft portion. The outer part has inner teeth and the inner part

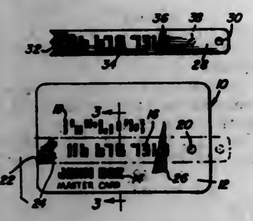
is formed of a pair of adjacent coaxial gears having outer teeth meshing with the teeth of the outer part. The gears are relatively immovable in the radial direction. One of the gears is axially displaceable relative to the other gear.

3,511,180
DEVICES FOR DISTRIBUTING INK TO PRINTING MACHINES
René Carrel, Lyon, France, assignor to Société d'Etudes et de Vente de Materiels pour la Fabrication et le Faconnage du Carton Ondule-Martin, St.-Priest, France, a company of France
Filed June 12, 1968, Ser. No. 736,484
Int. Cl. B41f *31/32*
U.S. Cl. 101—352 3 Claims



The invention is concerned with ink distribution devices in printing machines and provides timing control systems for controlling contact of an ink receiving roller with an inking roller and with a chain of ink distributing rollers which feed ink to a printing roller.

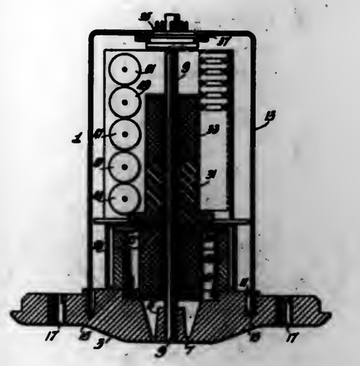
3,511,181
CREDIT CARD WITH STRUCTURALLY INTERENGAGING COMPONENTS
John W. McGiffen, 1124 Rostrevor Circle, Louisville, Ky. 40205, and Thomas E. Speer, Jr., R.R. 3, Box 10A, Vincennes, Ind. 47591
Filed June 22, 1967, Ser. No. 648,010
Int. Cl. B41l *47/02*; G09f *3/02*
U.S. Cl. 101—369 2 Claims



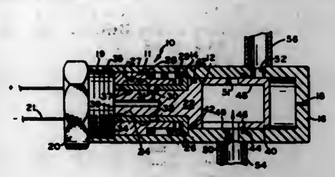
A credit card assembly including two components having interengaging male and female projecting means thereon so that both components must be in the possession of a customer and assembled to enable the credit card to be used.

3,511,182
APPARATUS FOR CONTROLLING THE FIRING OF AN EXPLOSIVE CHARGE
Frank A. Hester, Jr., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 18, 1943, Ser. No. 510,798
Int. Cl. F42b *22/04*
U.S. Cl. 102—70.2 14 Claims

1. Apparatus for controlling the firing of an explosive charge comprising a sonic transducer adapted to project sonic waves toward a target and to receive sonic waves reflected back thereto from said target while said transducer and said target move relative to each other, the relative movement of said transducer and said target resulting in a continually varying frequency difference between said projected and received waves in accordance with the Doppler effect and producing in said transducer a correspondingly varying heterodyne signal, means associated with said transducer for detecting said varying heterodyne signal, an amplifier coupled to said detecting means for amplifying said detected signal, and means associated with said charge coupled to said amplifier and responsive to the output signal thereof for firing said charge when said heterodyne signal has reached a frequency less than a predetermined frequency.

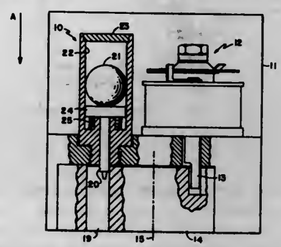


3,511,183
SAFETY AND ARMING MECHANISM FOR FUZE
Ted Geffner, 48 Park Ave., East Merrick, N.Y.
Filed Mar. 6, 1968, Ser. No. 711,123
Int. Cl. F42c *15/00*, *15/40*, *19/12*
U.S. Cl. 102—70.2 12 Claims



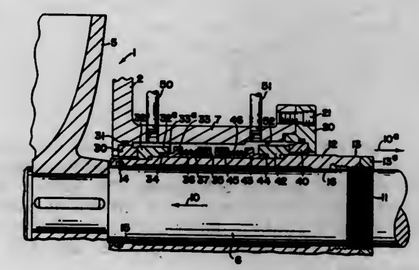
A normally open or normally closed explosively actuated valve of general utility which can be used for a safety and arming mechanism for a fuze provided with a detonator and a booster charge for a bomb. It comprises a cylinder having a longitudinal bore extending from its inner end and formed at its outer end with a reduced diameter section and a shoulder between the sections. In the cylinder is a piston, a sleeve slidable in the bore, a barrel between the piston and sleeve with its forward end engaging said shoulder, and ball detent means between the piston, barrel and sleeve. Explosive means operate against the inner ends of the sleeve and cylinder to drive the sleeve forwardly, followed by release of the detent means and then driving the piston. When used as a safety and arming mechanism, forward end of the piston has a transverse opening and a detonator in the opening which, in starting position, is radially out of line with the booster. The cylinder has an opening aligned with the booster to detonate the same when the piston moves forwardly to position the detonator in line with the booster.

3,511,184
INERTIA IMPACT FIRING MECHANISM FOR MUNITIONS HAVING RETARDING MEANS
Russell E. Bowers, Richmond, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware
Filed Apr. 8, 1968, Ser. No. 719,417
Int. Cl. F42c *1/04*, *1/06*, *15/24*
U.S. Cl. 102—78 1 Claim



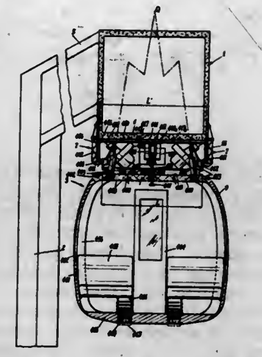
An inertia impact firing mechanism for initiating a stab detonator or any stab-sensitive explosive device. It is actuated by the inertia of a ball reacting against a spring on impact, the ball accomplishing minimum-friction rolling movement over its race so it will function in positive manner at impact angles from 0° to 85° from the vertical. The invention includes timing means for insuring that the firing will not detonate the explosive charge in response to forces of deceleration less than those developed upon impact upon the target.

3,511,185
MECHANICAL SEAL FOR SLURRY PUMP
Walter D. Haentjens, R.F.D. 31, Sugarloaf, Pa. 18249
Filed Aug. 30, 1968, Ser. No. 756,482
Int. Cl. F04d *29/00*; F16j *15/00*
U.S. Cl. 415—131 5 Claims



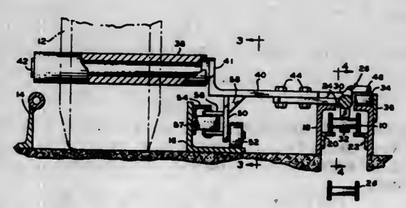
A seal is provided for a pump assembly wherein the impeller shaft is positioned for axial adjustment to compensate as wear occurs. The seal includes a sleeve in threaded engagement with the shaft and received in the housing but with an outer end protruding therefrom. The sleeve is in threaded engagement with the shaft for sleeve adjustment. Double mechanical seal means are positioned intermediate the housing and the sleeve so that after axial adjustment of the shaft and sleeve assembly, the sleeve can be returned substantially to its former position so that the seal means and any springs therein are returned to substantially their prior positions.

3,511,186
SUSPENDED RAILWAY CAR FLUIDICLY SUPPORTED
Maurice Barthalon, 78 Avenue Henri Martin, Paris, France
Filed May 15, 1968, Ser. No. 729,211
Claims priority, application France, June 7, 1967, 109,425
Int. Cl. B61b *3/02*, *13/08*; B60v *3/04*
U.S. Cl. 104—89 42 Claims



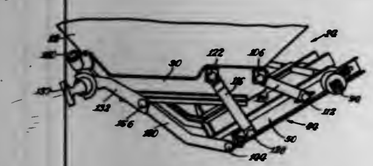
Transporter of the type comprising a continuous beam from which is suspended a vehicle, by means of one chamber at sub-atmospheric pressure reserved between the beam and the vehicle and rendered sensibly tight by sealing means permitting the displacement of the vehicle, this chamber, which is connected to an air extraction means carried by the vehicle, comprising at least a surface forming part of the beam and situated above a surface belonging to the vehicle, such that the sub-atmospheric pressure produced in the chamber creates a force having a rising vertical component which contributes to the support of the vehicle.

3,511,187
APPARATUS FOR TRANSPORTING VEHICLES
Daniel C. Hanna, 16325 SE. Cherry Court, Milwaukie, Oreg.
Filed May 4, 1967, Ser. No. 636,051
Int. Cl. B65g *19/00*; B61b *13/12*
U.S. Cl. 104—172 3 Claims



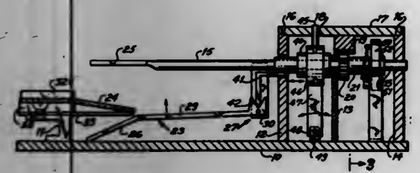
A drive means is provided for a conventional car wash conveyor or the like, such drive means including an attaching member adapted for detachable engagement with the conveyor chain. The drive means is further provided with a horizontally extending cantilever arm supporting a roller at the end thereof, the roller being positioned for engaging the wheel or tire of a vehicle. The arm is braced such that movement of the chain pushes the roller against the vehicle tire to cause movement of the vehicle.

3,511,188
HOPPER OUTLET ASSEMBLY
Worrell M. Danielson, Evergreen Park, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 21, 1967, Ser. No. 669,585
Int. Cl. B61d 7/00
U.S. Cl. 105—280 10 Claims



A railroad car hopper outlet assembly having a main frame with a discharge opening through which lading can flow. Closure means is positionable across the discharge opening to close the same for retaining lading within the hopper. The closure means includes a gate selectively slidable to open the discharge opening for controlled discharge of lading. Support linkage means is pivotally connected to the main frame and to the closure means to accommodate quick drop swinging movement of the latter away from the discharge opening to open the same for rapid discharge of lading.

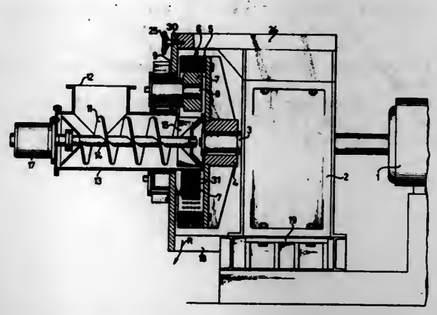
3,511,189
PASTRY TWISTER
Leonhard Schafer, New York, N.Y.
(2770 Briggs Ave., Bronx, N.Y. 10454)
Filed May 31, 1968, Ser. No. 733,512
Int. Cl. A21c 3/08
U.S. Cl. 107—8 5 Claims



A device for producing a full or 360 degree twist in a planar piece of pastry. The device uses a mechanically actuated levered arm with seizure hand to grasp one end of said pastry, the other end being firmly held during the the twisting or complete rotation of the seized portion.

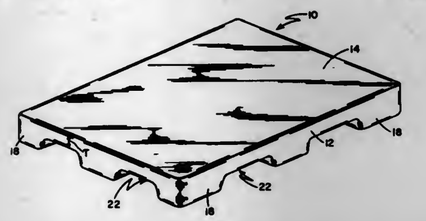
3,511,190
PRESS FOR AGRICULTURAL FODDER OR FEED
Werner Kunz, Adliswil, Switzerland, assignor to W. Kunz AG., Dietikon, Switzerland, a corporation of Switzerland
Filed Dec. 11, 1967, Ser. No. 689,437
Claims priority, application Switzerland, Dec. 14, 1966, 17,800/66
Inc. Cl. A21c 11/16
U.S. Cl. 107—14 7 Claims

A press for processing substantially fibrous agricultural fodder, such as hay for instance, which is of the type comprising an apertured substantially annular die member and a plurality of edge-runner disk members mounted at a support member. The edge runner disk members cooperate with the inner wall of the annular die member and are arranged about such inner wall in substantially crown-like formation to define therebetween a substantially central space. The annular die member and the edge-runner disk members are mounted for relative rotational movement with respect to one another. A feed worm serves to convey the fodder into the annular die member. This feed worm includes a portion which



extends into the central space between the edge-runner disk members. Such an extending portion is preferably in the form of a vane-like extension of the feed worm. Further, this feed worm is mounted for rotational movement independently of the edge-runner disk members or the annular die member.

3,511,191
PALLETS
James H. Barry, Jr., Lunenburg, Joseph M. Di Verdi, West Boylston, John P. Temple, Leominster, and Albert C. Petitto, Hudson, Mass., assignors to Foster Grant Co., Inc., Leominster, Mass., a corporation of Massachusetts
Filed June 28, 1968, Ser. No. 740,940
Int. Cl. B65d 19/18
U.S. Cl. 108—58 4 Claims

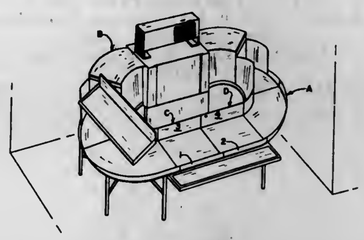


A pallet for providing support for a load of material is provided which is constructed of molded thermoplastic foam particles, such as polystyrene. The pallet is constructed in a particular manner by the use of partially expanded particles which, during molding, further expand to fill void space between the particles and fuse the surface toge[ther]

3,511,192
SECTIONAL OVAL-SHAPED TABLE WITH SIDE WALLS AND U-SHAPED TONGUES INTERCONNECTING ADJACENT SECTIONS
Tore H. Noren, 1350 Donner Ave.,
San Francisco, Calif. 94124
Filed Aug. 19, 1968, Ser. No. 753,417
Int. Cl. A47b 33/00
U.S. Cl. 108—64 4 Claims

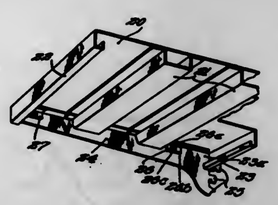
An oval-shaped table is used in conjunction with some commercial dishwashers for guiding the dishwashing trays therethrough. The table has sidewalls and is large

so it is formed in sections. I have found that each section if provided with a U-shaped tongue at one end and a U-shaped groove in the other end with the sides of the groove extending into the table section sides, a join-



ing of adjacent sections together will make a better waterproof joint between the sections because the sides of the U-shaped tongue will be received in the groove sides of the adjacent section. The sections are removably connected together and form watertight joints.

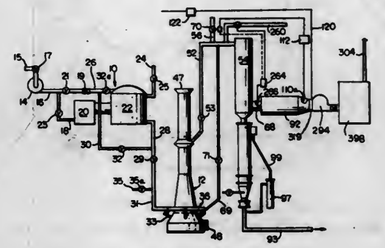
3,511,193
SHELF AND BRACKET STRUCTURE
Edwin F. Schild, 1683 Beaver Pond,
Inverness Countryside, Ill.
Filed July 18, 1967, Ser. No. 654,105
Int. Cl. A47b 96/02
U.S. Cl. 108—152 5 Claims



The shelving construction including a vertical support unit with a shelf member and a bracket for supporting the shelf member with the bracket having outwardly facing surfaces uniquely coacting with novel bracket engaging elements on the shelf member for holding the bracket in stabilized position.

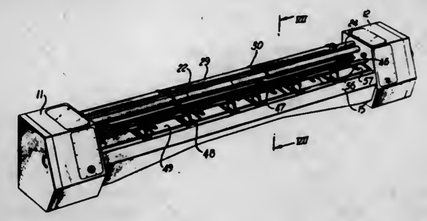
3,511,194
METHOD AND APPARATUS FOR HIGH TEMPERATURE WASTE DISPOSAL
Kenneth W. Stookey, Markle, Ind., assignor, by mesne assignments, to Torrax Systems, Inc., North Tonawanda, N.Y., a corporation of Delaware
Filed Mar. 25, 1968, Ser. No. 719,300
Int. Cl. F23g 5/00; C10b 49/02
U.S. Cl. 110—8 17 Claims

Method and apparatus for high temperature disposal of waste materials in which the waste materials are charged to the upper end of a vertical gasification chamber through which the materials move downwardly under gravity as the combustible materials beneath are converted to gases, vaporous distillates, etc. The preheated hot air blast together with the combustibles develops a temperature sufficient to produce a flame temperature which will melt glass, metals and the like where a temperature is developed to fully reduce the metals, glass, etc., to a molten condition. The gaseous and vaporous products withdrawn from the upper end of the chamber are mixed with additional air and completely burned in a secondary combustion chamber, and then passed



through a waste heat boiler for extraction of thermal energy and finally through a particulate separation system before venting to atmosphere.

3,511,195
TUFTING MACHINE HAVING HORIZONTAL NEEDLES
William Sandford Hasler, Blackburn, and John Edward Hibbitt, Darwen, England, assignors to Singer-Cobble Limited, Blackburn, England
Filed July 5, 1968, Ser. No. 742,801
Claims priority, application Great Britain, July 5, 1967, 30,923/67
Int. Cl. D05c 15/10, 15/20,15/22
U.S. Cl. 112—79 9 Claims

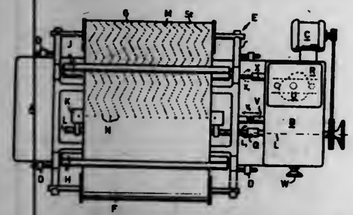


The invention concerns a tufting machine wherein looper and needle-stroke mechanisms are arranged on respective cross-beams extending in spaced parallel relationship between end pillars, the cross-beams defining a vertical slot therebetween, the loopers of the looper mechanism and the corresponding needles of the needle stroke mechanism co-operating together in a position aligned with such slot. In the machine the needles reciprocate in a generally horizontal direction and the tufted fabrics issues from the machine in a vertical direction, thus to be readily available for immediate inspection.

3,511,196
DRIVE ASSEMBLY INCORPORATING STITCH SIZE ADJUSTMENT DEVICE FOR AUTOMATIC PATTERN-STITCH SEWING MACHINE
Theodor Hesz, Vienna, Austria, assignor to Arthur Schmid, Romanshorn, Switzerland, a corporation of Switzerland
Filed Dec. 29, 1966, Ser. No. 605,701
Claims priority, application Switzerland, Dec. 30, 1965, 18,176/65
Int. Cl. D05b 11/00
U.S. Cl. 112—118 3 Claims

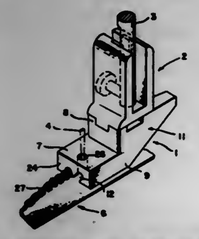
A drive assembly for a quilting machine having a patterning cam or disk for controlling the feed rolls and wherein a cam plate is rotatably entrained with the main

drive shaft but is axially shiftable therealong. Axial movement of the cam brings it into selective contact with at



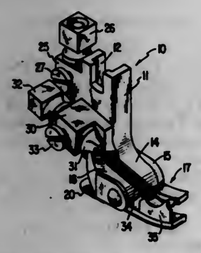
least one spring-biased pusher rod which controls a stepping device for the patterning disk to vary the stitch size.

3,511,197
ZIPPER FOOT ATTACHMENT FOR SEWING MACHINES
Robert B. Howell, Bremerton, Wash., assignor to Unique Zipper Distributing Co., a corporation of Washington
Continuation-in-part of applications Ser. No. 228,481, Oct. 4, 1962, and Ser. No. 464,353, June 16, 1965. This application Mar. 8, 1966, Ser. No. 532,796
Int. Cl. D05b *29/00*
U.S. Cl. 112—235 5 Claims



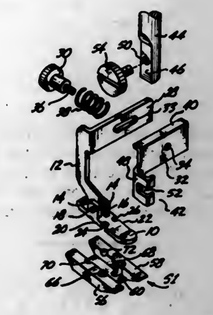
A zipper foot component for installing a zipper strap having rows of zipper teeth. The foot component has a flat bottom with a hole to receive the sewing machine needle and two longitudinally extending parallel slots formed in the bottom surface for guiding the zipper teeth. The slots are flared outwardly away from the center of the foot and the bottom edges of the outboard sidewalls of the slots are provided with inclined narrow places to prevent bagging.

3,511,198
PRESSER FOOT FOR SEWING MACHINES
Samuel Hacking, 330 Hyde St., Fall River, Mass. 02720
Filed July 24, 1968, Ser. No. 747,357
Int. Cl. D05b *29/00*
U.S. Cl. 112—235 8 Claims



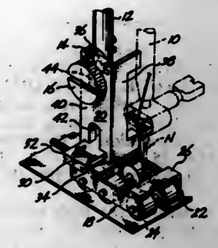
A sewing machine pressure foot assembly having tension springs exerting a force between the shoe and shank tending to rotate the shoe about a horizontal pivot axis joining the shoe and the shank. Adjusting means are provided for manually adjusting the force exerted by the tension springs.

3,511,199
ZIPPER FOOT ADAPTER SHOES
Robert B. Howell, 2115 Madrona Point Drive, Bremerton, Wash. 98310
Filed Sept. 13, 1968, Ser. No. 761,018
Int. Cl. D05b *29/00*
U.S. Cl. 112—235 9 Claims



A slip-on attachment for the horizontally adjustable foot component of a presser foot. Guide avenues for the respective tooth chains of a zipper are formed in separate side parts of the attachment. The side parts are situated laterally outwardly of the foot component and are interconnected by either fixed or adjustable cross-tie members. Recesses in the side parts mate with recesses in the foot component to form vertical needle receiving apertures which are used with the guide avenues.

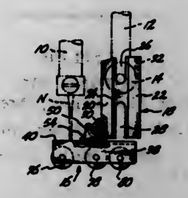
3,511,200
PRESSER FOOT ASSEMBLIES
Robert B. Howell, 2115 Madrona Point Drive, Bremerton, Wash. 98310
Continuation-in-part of application Ser. No. 678,742, Oct. 27, 1967. This application Oct. 2, 1968, Ser. No. 764,518
Int. Cl. D05b *29/00*
U.S. Cl. 112—235 13 Claims



A laterally adjustable presser foot components including one or more presser rollers or wheels making contact with the material. A forward guide roller including one or more grooves sized and shaped to closely fit and guide a chain of zipper teeth or some other elongated article. The foot component may include a plurality of interchangeable guide rollers or wheels, each adapted for use in installing a different type of zipper or article. A

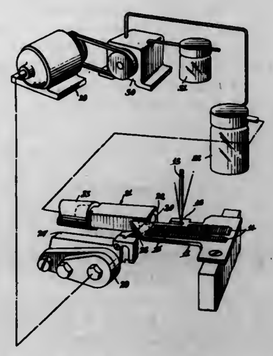
presser roller mounted for some vertical movement of its ends so that downward pressure on the roller carrier will place the roller into a position of contact with the material at each of its ends.

3,511,201
PRESSER FOOT MOUNTING
Robert B. Howell, 2115 Madrona Point Drive, Bremerton, Wash. 98310
Continuation-in-part of application Ser. No. 678,742, Oct. 27, 1967. This application Oct. 2, 1968, Ser. No. 764,453
Int. Cl. D05b *29/12*
U.S. Cl. 112—240 10 Claims



An elongated, transverse, rotatable adjustment screw is supported on an upper portion of a presser foot component. The screw extends through a threaded transverse bore in a connector block. The adjustment block includes one component of a joint between it and any one of a set of selectively usable mounting shanks. Each mounting shank is adapted for connection to a different type of presser bar.

3,511,202
THREAD CHAIN SEVERING DEVICE FOR SEWING MACHINES
Ira Strauss, 72 Spring St., New York, N.Y. 10012, and Bryant Thomas, 1225 Morris Ave., Bronx, N.Y. 10456
Filed Feb. 28, 1968, Ser. No. 709,111
Int. Cl. D05b *65/06*
U.S. Cl. 112—252 5 Claims



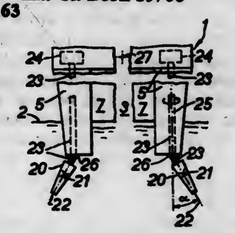
The invention involves a thread chain cutting device for cutting and removing the chain formed between successive pieces of work fed through a sewing machine by utilization of a novel vacuum-operated tubular member automatically effective and operational with the running of the sewing machine, said tubular member being so constructed and functional as to draw and cut the thread chain without the necessity for utilization of a thread chain feed dog.

3,511,203
SHIP HAVING A PLOW STEM
Lubbertus Buyscoll, 800 E. Ocean Blvd., Long Beach, Calif. 90802
Continuation-in-part of application Ser. No. 732,500, May 24, 1968. This application May 5, 1969, Ser. No. 821,786
Int. Cl. B63b *1/06*
U.S. Cl. 114—56 1 Claim



This application relates to an improved ship stem design for moving water from the path of a ship. The ship includes a hull having a stem formed between its half loaded waterline and its full loaded waterline with a plow having an upwardly and rearwardly projecting taper whereby water at the front of the forwardly moving ship will be raised upwardly as it passes rearwardly over the tapered portions to be divided into approximately equal portions that are directed to opposite sides of said hull.

3,511,204
METHOD AND APPARATUS FOR STEERING TWIN HULLED VESSELS
Edward Gunston Tattersall, Hythe, Southampton, England, assignor to Hovermarine Limited, London, England, a corporation of the United Kingdom
Continuation-in-part of application Ser. No. 672,067, Oct. 2, 1967. This application Nov. 27, 1968, Ser. No. 779,349
Claims priority, application Great Britain, Dec. 23, 1967, 58,571/67
Int. Cl. B63h *25/06*
U.S. Cl. 114—163 13 Claims

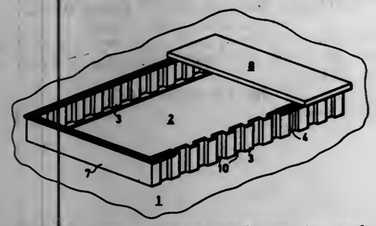


A twin-hulled marine craft, for example, a sidewall air-cushion craft, is steered by a pair of rudders, one rudder disposed beneath each hull. The rudders are inclined outwardly so that when the craft executes a turn a force couple is generated which tends to bank the craft into the turn.

3,511,205
COAMING FOR A HATCH OPENING
Ulf Sune Ivar Nordh, Goteborg, Sweden, assignor to Associated Cargo Gear AB, Goteborg, Sweden, a corporation of Sweden
Filed May 22, 1968, Ser. No. 731,009
Claims priority, application Sweden, June 26, 1967, 9,076/67
Int. Cl. B63b *3/54, 9/12*
U.S. Cl. 114—201 2 Claims

In order to prevent the deformations in a ship's hull caused by the hogging and sagging stresses from being transferred to the hatch coaming and from this to the hatch cover, the coaming, or at least the longitudinal sides thereof, are manufactured from corrugated plates arranged with the corrugations standing in the vertical direction. In this manner the lower part of the coam-

ing may follow the movements of the deck, while the upper part of the coaming and thus in joint between the



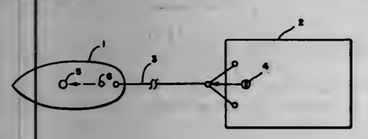
same and the cover remains unaffected by such movements.

3,511,206

METHOD AND APPARATUS FOR TOWING MARINE VESSELS, PARTICULARLY FOR CONTROLLING TOWED MARINE VESSELS

Francis West, Jr., Sea Cliff, N.Y., assignor to Propulsion Systems, Inc., Port Washington, N.Y., a corporation of New York

Filed Aug. 20, 1968, Ser. No. 754,079
Int. Cl. B63b 21/00
U.S. Cl. 114—236 15 Claims



A towed marine vessel is controlled automatically to maintain a predetermined relative bearing from the towed vessel to a towing vessel. Apparatus is provided on the towed vessel for continuously detecting the relative bearing of the towing vessel from the towed vessel and steering the towed vessel to maintain the relative bearing at a predetermined value. Suitable apparatus includes an automatic radio direction finder on the towed vessel for detecting the relative bearing of a signal transmitter on the towing vessel, the direction finder being coupled to an electrohydraulic steering system on the towed vessel so as to actuate the steering rudder appropriately to maintain the predetermined relative bearing. The automatic follower system can be deactivated so as to permit manual control of the steering on the towed vessel, and an auxiliary remote steering system can be activated in an emergency through a radio link between the towing vessel and the towed vessel. To compensate for the tendency of a loaded barge to overshoot, especially during operation of the automatic follower system, a rate gyro on the towed vessel is responsive to the rate-of-turn of the towed vessel to bias the steering system in the sense to oppose the swing, thus incorporating a damping factor in the steering system.

3,511,207

PARTIALLY REFLOATING AMPHIBIOUS CRAFT

Koji Ito, Ebinugawa-machi, Ogasa-gun, Japan, assignor to Nichiei Yoshida Co., Ltd., Shizuoka-ken, Japan, a corporation of Japan

Filed June 5, 1968; Ser. No. 734,784
Claims priority, application Japan, Sept. 20, 1967, 42/599,885
Int. Cl. B63b 1/38; B60f 3/00
U.S. Cl. 115—1 6 Claims

An amphibious air filled small craft for sport or pleasure use which can be operated on land and water surfaces by maintaining the front of the craft in its floated state by means of air-injections while the rear part of the craft is



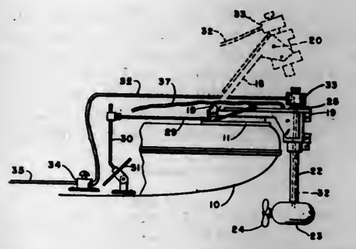
driven on land, by a wheel, and on the water, by two impellers.

3,511,208

FISHING RIG

Oscar C. Woodruff, 3128 Regent, Shreveport, La. 71109

Filed July 26, 1968, Ser. No. 747,868
Int. Cl. B63h 21/26
U.S. Cl. 115—18 4 Claims



An auxiliary power attachment for fishing boats adapted for mounting on the bow of the boat to permit an occupant in the boat to maneuver the same without the use of the hands. The device consists in an electric motor connected to the battery normally used with the boat's engine. The motor is fastened to a hollow shaft pivotally mounted at the bow of the boat which permits the motor to lie in a transporting position on the boat deck, yet permits the same to be swung arcuately over the bow of the boat and into the water. The device includes a remote foot control of the motor speed together with a control of the hollow shaft which may be turned radially to thus position the motor and its propeller to guide the boat.

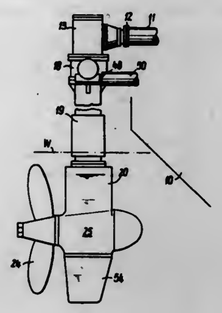
3,511,209

DRIVE MECHANISM FOR A STEERABLE PROPELLER

Josef Becker, Oberspay (Rhine), Germany, assignor to Schottel-Werft, Josef Becker K.G., Oberspay (Rhine), Germany, a corporation of Germany

Filed June 18, 1968, Ser. No. 738,038
Claims priority, application Germany, Nov. 10, 1967 Sch 41,547
Int. Cl. B63h 1/14, 5/06
U.S. Cl. 115—35 7 Claims

A drive mechanism for a steerable propeller on a watercraft wherein the propeller is driven by a drive motor through speed reduction gearing beneath the water level and in which the propeller is steerable about a vertical axis, said speed reduction gearing being located in a housing below the water line and having a speed reduc-



tion greater than that in the above-water portion of the housing.

3,511,210

DEPTH INDICATING STAKE

Robert W. Layman, 544 Vincente Ave., Berkeley, Calif. 94707

Filed June 23, 1969, Ser. No. 835,457
Int. Cl. G01d 21/00
U.S. Cl. 116—114 6 Claims



A depth indicating stake includes a containing shell filled with solid materials of different visual aspects (colors) at different predetermined zones within the shell, the zones preferably overlapping in a vertical direction and having inclined interzone faces, the shell and filler materials being severable substantially in a horizontal plane by a grader blade.

3,511,211

POLARIZED GAUGE DIAL

Edgar J. Horne, Perkasie, and Ralph C. Spohn, Greenlane, Pa., assignors to Ametek Inc., New York, N.Y., a corporation of Delaware

Filed July 21, 1967, Ser. No. 655,159
Int. Cl. G02b 5/30; G01d 13/02
U.S. Cl. 116—129 1 Claim



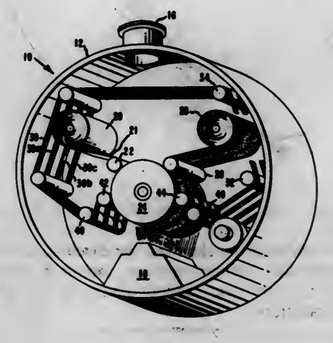
An instrument panel dial for gauges and the like in which the intensity of illumination of indicia on the dial is controlled by relative rotation of polarized discs adapted to be locked in an angular position providing the desired intensity or a desired intensity ratio of brightness of pointer to indicia.

3,511,212

VAPOR DEPOSITION APPARATUS INCLUDING A POLYIMIDE CONTAINING MASK

Glen C. Burns, Clarence, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 16, 1968, Ser. No. 729,662
Int. Cl. C23c 13/12
U.S. Cl. 118—49 2 Claims



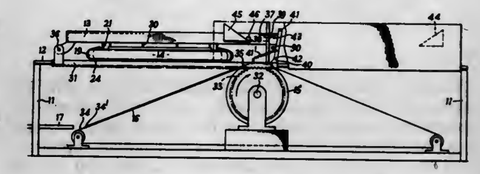
A vacuum deposition chamber having therein means to pass a substrate about a rotatable cooling cylinder disposed above a source of metallizing vapor and a masking strip consisting of an inner ply of fluorocarbon polymer and outer plies of an aromatic polyimide polymer.

3,511,213

APPLICATION OF LIQUID COLOURS TO PAPER CARD OR OTHER SMOOTH SURFACES

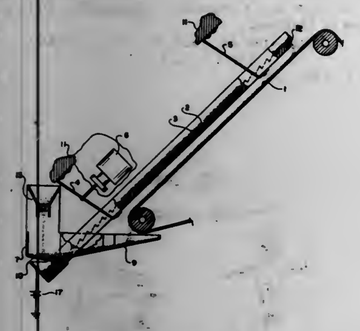
Kenneth James Reed, London, Donald Ian McGilvray, Knutsford, and Jack Fletcher, Newton-le-Willows, England, assignors to McCorquodale Colour Display Limited, London, England

Filed June 24, 1965, Ser. No. 466,862
Claims priority, application Great Britain, Dec. 22, 1964, 52,131/64
Int. Cl. B05c 3/20
U.S. Cl. 118—401 6 Claims



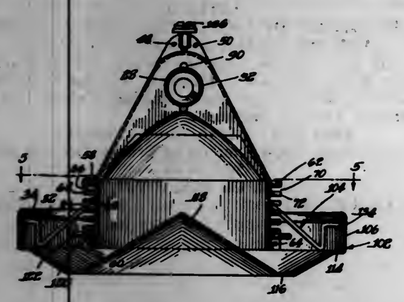
A machine for applying discrete patches of colour to sheets, having a container for separated pools of the liquid with container outlets shaped to correspond with the required patches covered by a mesh screen of a mesh such as to retard gravity flow of the liquid from the container while permitting formation of menisci at the face of the screen and a sheet-supporting roller for bringing a sheet into travelling-line rolling contact with the menisci without pressure on the screen, to break the menisci and thereby transfer colour to the sheet.

3,511,214
CASCADE DEVELOPING MECHANISM FOR ELECTROGRAPHY
Howard T. Hodges, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 13, 1968, Ser. No. 712,852
Int. Cl. B05b 5/02
U.S. Cl. 118—637 6 Claims



A recirculating mechanism for cascade developer having an inclined, stepped surface, mounted for oscillation which, in operation, shakes developer to an elevated cascade position.

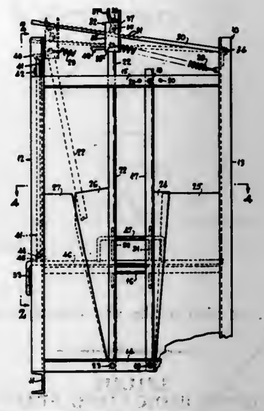
3,511,215
POULTRY FEEDER
Lawrence A. Myers, Milford, Ind., assignor to Chore-Time Equipment, Inc., Milford, Ind., a corporation of Indiana
Filed Dec. 26, 1967, Ser. No. 693,500
Int. Cl. A01k 39/00
U.S. Cl. 119—53 6 Claims



There is disclosed a poultry feeder having means for conveying feed down a line and a plurality of dispensing assemblies mounted along said line. Each of the assemblies includes an inverted cone or chamber supported from the conveyor, a pan disposed beneath and spaced from the lower edge of the cone, and a wire grid rigidly but adjustably supporting the pan from the cone.

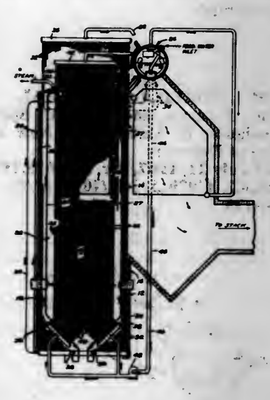
3,511,216
ANIMAL WORK STANCHIONS
Elton L. George, Rte. 1, East, Danville, Ark. 72833
Filed Jan. 29, 1968, Ser. No. 701,389
Int. Cl. A61d 3/00; A01k 1/00
U.S. Cl. 119—147 9 Claims

A stanchion composed of a frame, and two upright bars between which an animal's neck may be releasably held, one of the bars being pivoted at its lower end to the frame and having its upper free end rotatable away from and biased for rotation toward the other bar, in combination with an adjustable strut connecting the free bar end to the frame. Specifically, the strut comprises a control bar pivoted to the frame and mounted upon and movable



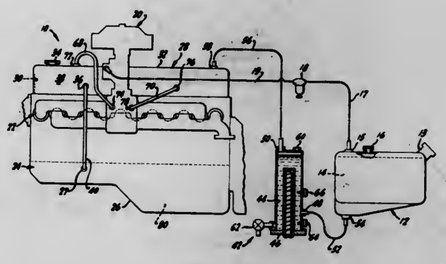
relative to the free bar end. The bar cooperates with a mechanism for releasably holding the free bar end in a rearward cocked position, and also with a one-way releasable mechanism for automatically preventing the free bar end from rotating rearwardly from any forward position.

3,511,217
DUAL CIRCULATION VAPOR GENERATOR
Robert A. Lorenzini, Westport, Conn., and Henry Phillips, Metuchen, N.J., assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Filed Sept. 18, 1968, Ser. No. 760,467
Int. Cl. F22d 7/00; F22l 37/26
U.S. Cl. 122—406 6 Claims



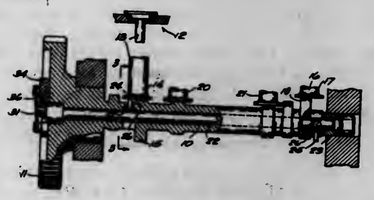
A dual circulation boiler having primary and secondary circuit wherein the secondary circuit is of the forced circulation type. Collection means are provided to receive the flow from the primary circuit and flow means are utilized to pass a portion of the flow from the collection means to the secondary circuit.

3,511,218
FUEL COMBUSTION SYSTEM
Anthony M. Lazaros, 20 Monroe St., San Francisco, Calif. 94108
Filed Feb. 14, 1967, Ser. No. 616,092
Int. Cl. F02b 75/12
U.S. Cl. 123—119 6 Claims



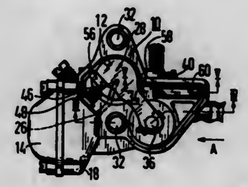
The present invention provides a fuel-combustion system for an internal-combustion engine. In accordance with this system, a distillation column produces hot vapors of fuel drawn from the engine fuel tank. Such vapors are conducted through a chamber and to the inlet manifold for introduction into the engine cylinder. Similarly introduced into this chamber are vapors of a particular crankcase lubricant composition. The introduced vapors assure more complete fuel combustion with resultant increase in engine efficiency, and a decrease in the toxic gases in the engine exhaust fumes. The lubricant compound contains at least glycol, colloidal graphite and alcohol.

3,511,219
AUTOMATIC COMPRESSION RELEASE
Francis B. Esty, Brookfield, Wis., assignor to Wisconsin Motors Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 12, 1968, Ser. No. 774,673
Int. Cl. F01l 13/08
U.S. Cl. 123—182 2 Claims



This disclosure relates to an automatic compression release for a multi-cylinder engine. A single, centrifugally actuated flyweight turns a rotor co-axially within a hollow cam shaft. The rotor has cam means proximate certain cams on the shaft which actuate tappers for certain valves. There are radially movable push pins for each such tapper, the pins being actuated by the cams on the rotor, to simultaneously provide compression release for all cylinders at low engine speeds and normal compression at high engine speeds.

3,511,220
CARBURETOR
Gerd Otterbach, Hausen, and Günter Troch, Schweinfurt, Germany, assignors to Fichtel & Sachs AG, Schweinfurt, Germany
Filed Sept. 4, 1968, Ser. No. 757,383
Claims priority, application Germany, Sept. 9, 1967, 1,576,551
Int. Cl. F02b 77/00; F02m 37/02; F02p 9/00
U.S. Cl. 123—198 12 Claims



A carburetor for a gasoline engine in which a single control knob, when turned in one direction, sequentially causes tickling of the float, opening of the choke, closing of the throttle to idling speed, grounding of the ignition, and shut-off of the fuel supply conduit. The knob is mounted on a shaft carrying the choke plate, the grounding switch, and the shut-off valve. Abutments on the choke plate operate the throttle and the tickler rod.

3,511,221
ARM-BRACED SLINGSHOT
Charles A. Saunders, Box 102, Columbus, Nebr. 68601
Filed July 3, 1968, Ser. No. 742,360
Int. Cl. F41f 7/00
U.S. Cl. 124—20 8 Claims



A foldable, arm-braced slingshot in which each band-carrying bar or rod is independently adjustable both axially and laterally to establish a true balance of draw forces applied through the bands, the slingshot having improved means for attachment of the missile-holding sling or pouch to the resilient bands.

3,511,222
PORTABLE STOVE
John D. Miller, Fairfield, Iowa (6635 Olive St., Commerce City, Colo. 80022)
Filed Sept. 9, 1968, Ser. No. 758,278
Int. Cl. F24c 1/16; F24b 3/00; F47j 37/07
U.S. Cl. 126—9 3 Claims

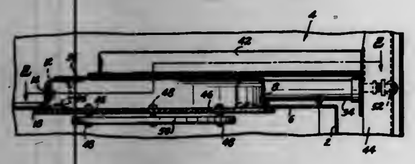
A portable stove having a support that is sectioned. The sectioned support being so comprised as to be driven into

the ground, threaded to receive a base and a grill and storable in the base when unthreaded from the base and



the grill. The base having notches therein to receive the grill for storing.

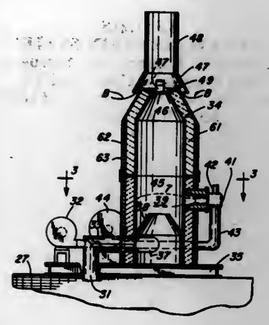
3,511,223
BROIL BURNER FOR SELF-CLEANING OVEN
John A. Welshofer, Cleveland, and Earl T. Rhinehart, Apison, Tenn., assignors to Magic Chef, Inc., Cleveland, Tenn.
Filed Dec. 2, 1968, Ser. No. 780,462
Int. Cl. F24c 3/04
U.S. Cl. 126—41 6 Claims



A downwardly open channel-shaped annular chamber has means for introducing a gas and air mixture therein. The annular chamber surrounds a flue chamber having top and bottom walls, each having a central opening, a laterally extending flue duct communicates with the upper opening and extends laterally over the annular chamber. A perforated, upwardly curved ring of sheet metal closes the bottom of the annular chamber and serves as a radiant element. A baffle disc is mounted below and spaced from the flue chamber to force oven gases through the burner flame before they enter the flue chamber.

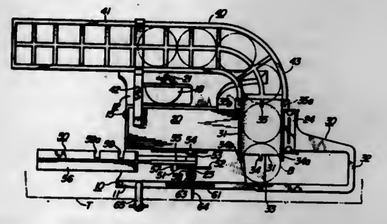
3,511,224
SMOKEHOUSE EXHAUST INCINERATOR
Samuel R. Forwancher, Chicago, Ill., assignor to Michigan Oven Company, Romulus, Mich., a corporation of Michigan
Filed Aug. 26, 1968, Ser. No. 755,343
Int. Cl. F23g 7/06
U.S. Cl. 126—89.5 4 Claims

An incinerator for exhausting smoke from a food product smokehouse, including an insulated vertical cylindrical chamber tapered inwardly at the top, a deflector for directing smoke from the smokehouse, in a turbulent flow, into an intermediate combustion region in the chamber, a burner for burning the smoke in the combustion



region, and means to introduce cooling air into the base of an exhaust stack extending upwardly from the top of the chamber.

3,511,225
SMALL SIZED TOY PITCHING MACHINE
Gunpei Yokoi, Kyoto, Japan, assignor to Nintendo Co., Ltd., Kyoto, Japan, a corporation of Japan
Filed Oct. 22, 1968, Ser. No. 769,649
Int. Cl. F41b 3/02
U.S. Cl. 124—7 2 Claims

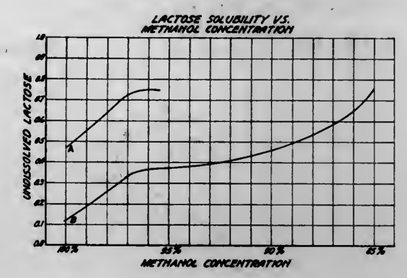


A small sized pitching machine for use by children in indoor batting games. The machine has a two-part plastic base which supports a metallic housing. The housing contains a battery-powered motor and reduction gearing. The housing detachably supports an inclined ball magazine leading at its lower end to a ball-holding station. A pitching arm is mounted for unidirectional 360 degree rotation to pick up and throw a ball from the holding station. The arm is rotated by the reduction gearing through a cocking movement to load an adjustable overcenter spring and then released to be driven by the spring through a ball-pitching movement.

3,511,226
LACTOSE MANUFACTURE
Robert Carlton Kyle and Robert John Henderson, Minneapolis, Minn., assignors to Emery Carlton Swanson, Minneapolis, Minn.
Filed Jan. 17, 1968, Ser. No. 698,588
Int. Cl. C13k 5/00; C13f 1/02
U.S. Cl. 127—58 9 Claims

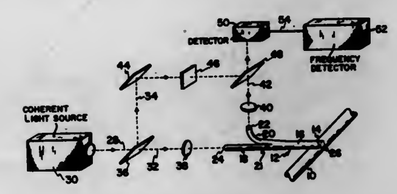
Process for the preparation of a highly water soluble lactose powder which comprises (a) dissolving non-delactosed skim milk powder or whey powder in a solvent consisting of methanol having less than 3% water by

volume, (b) removing insolubles from the solution, (c) crystallizing the lactose from the solution, (d) separating



the wet lactose solids, and (e) drying said wet lactose solids in the absence of moisture.

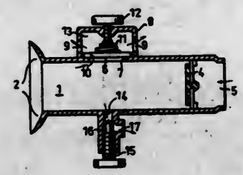
3,511,227
MEASUREMENT OF BLOOD FLOW USING COHERENT RADIATION AND DOPPLER EFFECT
Curtis C. Johnson, Salt Lake City, Utah, assignor to University of Utah
Filed Feb. 27, 1967, Ser. No. 618,738
Int. Cl. A61b 5/02
U.S. Cl. 128—2.05 2 Claims



In vivo measurement of blood flow characteristics jointly using Doppler-shift phenomenon and coherent radiation wave propagation, the method including directing coherent light radiation into the blood stream of a patient, scattering the coherent light radiation by impinging the light radiation upon particles in the blood and comparing the frequency of the scattered light radiation with the frequency of the originally directed radiation to determine the flow characteristics of the blood. The method also comprises focusing an incident beam of coherent light radiation upon a moving part of the body and monitoring the movement by comparing the frequency of the incident beam with the frequency of the beam scattered by the moving body part.

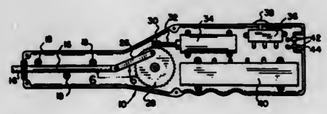
3,511,228
BRONCHIAL DILATOR FOR PATIENTS SUFFERING FROM EMPHYSEMA AND ASTHMA OR THE LIKE
Claes Erik Gunnar Lundgren, Stora Tvargatan 36, and Istvan Janos Antal Lichtneckert, Fjelle V. 23, both of Lund, Sweden
Filed May 28, 1965, Ser. No. 459,700
Claims priority, application Sweden, June 4, 1964, 6,810/64
Int. Cl. A61h 1/00
U.S. Cl. 128—25 1 Claim

Apparatus for providing controlled assistance to exhalation for a person suffering from certain lung disorders, comprising a nonreturn inlet valve for air that imposes little resistance to inhalation, in combination with two outlet valves for exhaled air. One of the outlet valves is adjustably spring loaded, while the other outlet valve is of



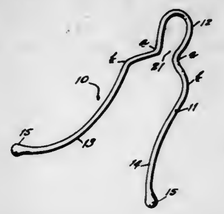
the set-screw type, so that rotation of the set screw adjusts the orifice of said other outlet valve.

3,511,229
PORTABLE BATTERY OPERATED HAIR SHAMPOOER
Eloise H. Romo, 2016 E. Jefferson, Detroit, Mich. 48207
Filed Aug. 10, 1967, Ser. No. 659,694
Int. Cl. A61h 11/00
U.S. Cl. 128—52 3 Claims



A multi-speed portable hair shampooer operated by a self-contained rechargable battery, and having a detachable scrubber head. The scrubber head is mounted on the end of a reciprocating shaft. The reciprocating shaft is supported by a plurality of rollers. A casing is provided for housing the various elements and in use, the casing is held in the hand while applying the scrubber head to the scalp.

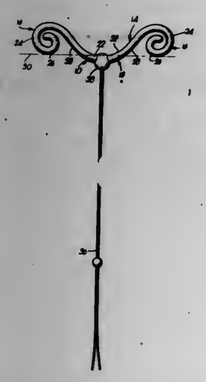
3,511,230
COPULATION AID
Paul B. Strong, 6005 Preston Road, Dallas, Tex. 75205
Filed Apr. 19, 1968, Ser. No. 722,604
Int. Cl. A61h 19/00
U.S. Cl. 128—79 2 Claims



A device for attachment to the male regenerative organ whereby to insure the maintenance of the organ in erection during the copulatory act, or coition, and comprises an integral unit formed of flexible plastic covered wire defining a substantial V-shape, the bifurcations, or legs, curving outwardly toward their termini. At the convergence of the legs is formed a loop by which the organ is embraced, adjacent to its juncture with the body, or the ischio-base end, and by which pressure can be applied

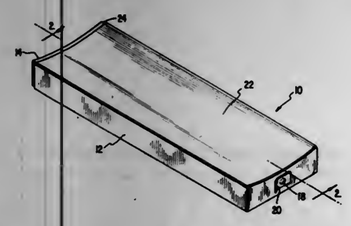
thereto when the diverging legs are pressed inwardly, resulting in the constriction of the corpora cavernosa close to the body and prevent the backflow of the accumulation of blood in the erectile tissue during the coition, and without restriction of the urethra.

3,511,231
INTRAUTERINE DEVICE FOR POSTPARTUM PATIENT
Ralph R. Robinson, 322 Englewood Road, Middlesboro, Ky. 40965
Filed July 12, 1967, Ser. No. 652,967
Int. Cl. A61f 5/46
U.S. Cl. 128—130 3 Claims



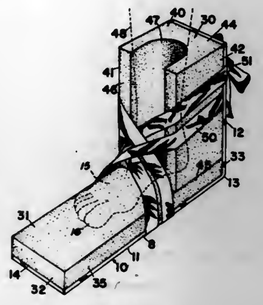
An intrauterine device for postpartum patients includes an elongated, resilient member having a uterus-engaging coil at each end thereof and a length interconnecting the coils for spanning the distance between the fallopian tubes of a uterus when the latter is in a dilated, postpartum condition. The length initially has a relatively shallow, concavo-convex bow shape and assumes a deep, U-shaped configuration as the uterus contracts during return of the latter to an undilated condition. Thus, the device is inserted shortly after childbirth and remains in place and fully operative during return to normalcy and thereafter.

3,511,232
COMBINATION INTRAVENOUS TUBING CONTAINER AND ARM BOARD
Maurice Converse, 1311 Briarhill Drive, Akron, Ohio 44313
Filed Aug. 18, 1967, Ser. No. 661,632
Int. Cl. A61m 5/00; A61b 19/02
U.S. Cl. 128—133 4 Claims



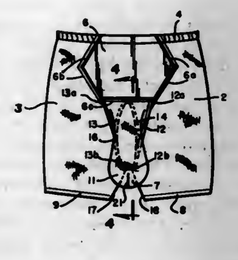
A hollow container which doubles as a package for containing intravenous tubing and as an arm board for use with the intravenous tubing.

3,511,233
FOOT PROTECTOR
Elbert Holy, Jr., 2089 S. Akin Drive NE., Atlanta, Ga. 30329
Filed Sept. 16, 1968, Ser. No. 762,182
Int. Cl. A61j 13/00
U.S. Cl. 128—149 9 Claims



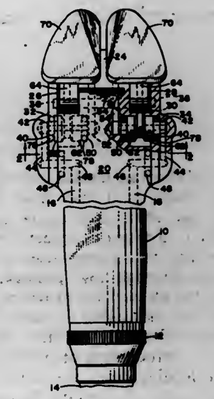
A foot protector for a bed patient having a flat L-shaped outer casing which is relatively rigid and a resilient cellular lining conforming generally to the curvature of the back of the leg and heel and also having a flat upper surface for receiving the sole of the foot in combination with a releasable strap for retaining the foot, ankle and leg portion in place.

3,511,234
SUPPORTING UNDERGARMENT FOR MEN
Phyllis M. Larson, 1412 Julia Ave., McLean, Va. 22101
Filed May 31, 1968, Ser. No. 733,709
Int. Cl. A61f 5/40
U.S. Cl. 128—159 6 Claims



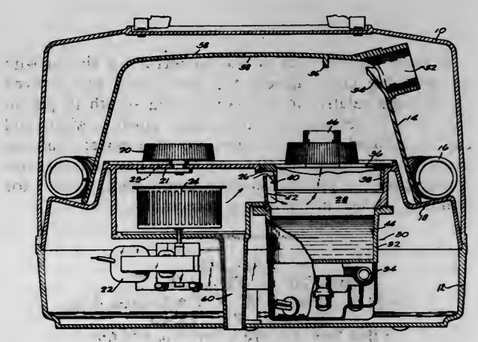
A man's support garment of resilient material providing smoothly decreased support pressure from the bottom of the leg portions upwardly to the waist portion and having a scrotal pouch suspended at the top from a non-resilient abnormal panel which in turn is supported mainly from the waistband, said pouch being fastened at the bottom to the crotch portion and being open at both sides between said fastening areas to provide access openings and to prevent binding of the pouch or crotch portion by horizontal distension of the garment due to bending motion of the user, the garment having a vertically extending front opening covered by said pouch with extensible tension tapes edging the sides of said vertical opening to keep said opening from spreading too easily and to maintain horizontal support pressure of the garment throughout the buttocks region.

3,511,235
DENTAL SYRINGE
George H. Stram, Hellam, Pa., assignor, by mesne assignments, to Dentsply International Inc., York, Pa., a corporation of Delaware
Filed Aug. 7, 1967, Ser. No. 658,795
Int. Cl. A61c 17/02; A61m 17/00; F16k 3/10
U.S. Cl. 128—173.1 11 Claims



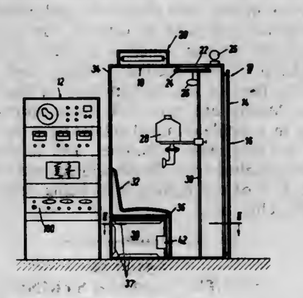
A dental syringe connectable to sources of air and water under pressure and having slidably movable gate-type valves respectively to control the flow thereof individually, or simultaneously to form a spray. The valves are actuated by exterior levers located conveniently for engagement by the thumb or a finger of the user. The levers are integrally connected to the valves and have a finger conforming, leaf-like shape for ease of manipulation.

3,511,236
VAPORIZER FOR DELIVERY OF VAPOR TO FACIAL AREA
Peter Conlin, Reedsburg, and Paul Myklebust, Baraboo, Wis., assignors to Hankscraft Company, Reedsburg, Wis., a corporation of Wisconsin
Filed Apr. 8, 1968, Ser. No. 719,624
Int. Cl. A61f 13/16; F22b 1/28
U.S. Cl. 128—187 1 Claim



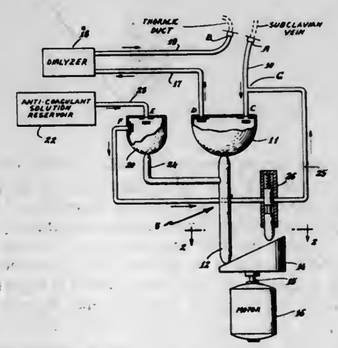
The fan delivers a variable air supply to the vaporizing chamber to influence the vapor temperature delivered to the face mask through the hose. The mask has a deflector to break up the incoming vapor and is provided with ventilation holes which serve to further moderate the temperature and distribute the vapor.

3,511,237
PLETHYSMOGRAPH
Erich Jaeger, 5 Rontgenring, Wurzburg, Germany
Filed Dec. 10, 1965, Ser. No. 512,894
Claims priority, application Germany, Dec. 11, 1964, J 27,102; Apr. 24, 1965, J 27,991; Oct. 25, 1965, J 29,247
Int. Cl. A61b 5/08
U.S. Cl. 128—2.08 14 Claims



A body plethysmorgraph device for medical lung examination includes a cabin which can be closed in a substantially air-tight manner for receiving a person to be examined and a flexible breathing bag within the cabin. The breathing bag contains thermostatically controlled temperature and air circulating means and the cabin and breathing bag include means for controlling and monitoring various parameters such as pressure, flow and temperature to substantially reduce errors in the recorded data due to extraneous variations in ambient pressure and temperature.

3,511,238
SYSTEM FOR TRANSFERRING HUMAN FLUIDS WITHOUT CLOTTING THEREOF
Charles P. E. von Wrangell, East Norwalk, Conn., assignor to Bio-Medical Systems, Inc., Danbury, Conn., a corporation of Connecticut
Filed Apr. 14, 1967, Ser. No. 630,919
Int. Cl. A61m 5/00
U.S. Cl. 128—214 6 Claims



This invention provides an improved system for removing, treating and infusing a human fluid which must be

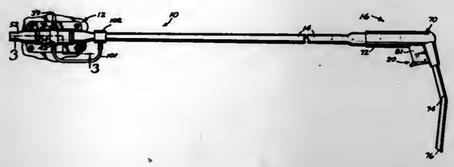
prevented from clotting. Such system having a pumping apparatus to maintain the flow of the human fluid at a rate compatible with the natural body functions. The flow of the fluid occurring exterior of the body from a first removal position to a second infusion position. The pumping apparatus has an elastic collapsible chamber to hold a volume of the human fluid and compressing means to compress the chamber to expel the human fluid therefrom. The improvement therein includes a source of an anti-coagulant and a second elastic collapsible chamber positioned adjacent to the elastic chamber to remove and hold a volume of the anti-coagulant from its source. The second chamber having an inherent elasticity to expel the anti-coagulant when compressed and to create therein an elastic force sufficient to inflate the chamber to cause a pressure to induce flow thereinto and remove the anti-coagulant solution from its source. The second chamber has an outlet conduit which is connected at one end to the discharge of the second chamber and at the other end to the flow of the human fluid at the first removal position. Means are provided to compress the second chamber in a predetermined relationship to the compression of the first elastic chamber, and to cause the anti-coagulant expelled from the second chamber to be injected into the flow of the human fluid being removed into the first elastic chamber.

3,511,239
MULTI-CHAMBER SYRINGE
Ludwig Tuschhoff, Bovenden, Germany, assignor to Penicillin-Gesellschaft Dauelsberg & Co., Gottingen, Germany, a corporation of Germany
Filed Aug. 15, 1967, Ser. No. 660,734
Claims priority, application Germany, Jan. 21, 1967, P 41,261
Int. Cl. A61m 5/22
U.S. Cl. 128—218 5 Claims



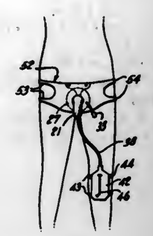
A syringe, which comprises a vial cylinder and a piston axially movable in the vial cylinder and dividing the vial cylinder into at least two separate chambers. The piston has means permitting liquid movement from a front to a rear chamber but blocking movement of said liquid in the opposite direction. A piston rod is non-movably secured to and displaces the piston, which is movable in the vial cylinder towards the injection end thereof. At least one stopper has a central bore and is disposed in and seals the vial cylinder, permitting independent and free movement of the piston during its forward movement, and the piston rod projects through and is guided by the stopper.

3,511,240
APPARATUS FOR REGULATING FLUID FLOW INCLUDING VALVE AND REMOTE CONTROL
Norman C. Williams, and Dwight A. Booth, Portland, Oreg., assignors to Power Brake Equipment Company, Portland, Oreg., a corporation of Oregon
Filed Aug. 25, 1967, Ser. No. 663,377
Int. Cl. A61c 17/04
U.S. Cl. 128—276 3 Claims



Fluid flow regulating apparatus having an elongated conduit through which fluid may flow, a valve with a through-flow passage connected to one end of the conduit and a hollow instrument connected to the other end. The valve has a flexible tubular sleeve, the interior of which bounds the through-flow passage, and a casing which surrounds the sleeve and provides a chamber between the sleeve and the casing to receive pressure fluid. The sleeve collapses laterally to close off the through-flow passage on an introduction of pressure fluid into the chamber. A tube leading from the chamber connects to a pressure release valve mounted on the instrument which is operable to release pressure fluid from the chamber permitting opening of the through-flow passage.

3,511,241
INCONTINENCE DEVICE FOR THE MALE PATIENT
John W. Lee, State Veterans Hospital, Rocky Hill, Conn. 06067
Filed June 23, 1966, Ser. No. 559,768
Int. Cl. A61f 5/44
U.S. Cl. 128—295 3 Claims



A male incontinence device comprising a sheath with an inflatable cuff adjacent the pubic area and arrayed at an angle relative to the axis of said sheath to permit the latter to remain in a dependent position when said cuff is inflated. There is also provided novel drainage means for the sheath comprising a tube having transverse corrugations to provide suitable compliance thereof for draining voided urine into a receptable.

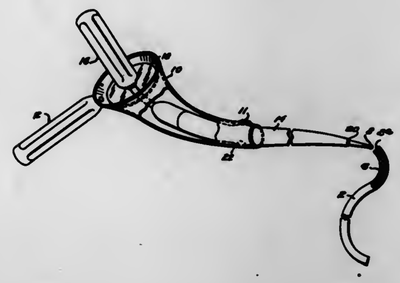
3,511,242
SURGICAL FINGER COT
Frank A. Agnone, 327 N. Washington Ave., Scranton, Pa. 18503
Filed Dec. 29, 1967, Ser. No. 694,656
Int. Cl. A61b 17/04, 19/04
U.S. Cl. 128—303 9 Claims

A surgical finger cot having a hollow flexible body adapted for receiving a finger therein. The body has on at least one side a relatively stiff ear with a well-defined terminal edge. A surgeon and the surgeon's assistant may



use the novel finger cots to protect the fingers from puncture by the suturing needle and to support the patient's damaged tissue during suturing.

3,511,243
APPARATUS FOR PROVIDING A BREATHING CONDUIT COMMUNICATING WITH THE TRACHEA AT THE BASE OF THE NECK
Frederic J. Toy, 404 Verona Ave., Elizabeth, N.J. 07208
Filed July 18, 1967, Ser. No. 654,128
Int. Cl. A61b 17/24; A61m 29/00
U.S. Cl. 128—305 5 Claims

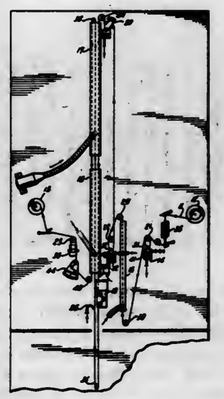


Emergency tracheotomy is carried out by locating a flexible leader through a hollow needle inserted in the base of the neck for extending into the trachea. The leader is attachable to an expanding adapter apparatus which includes a curved relatively rigid outer tubular guide conduit and a relatively flexible inner tapered adapter element detachably fitted within the small tapered end of the guide conduit. The adapter element is designed to project from the guide conduit a short distance generally corresponding to the length of the tracheal lumen.

The inner adapter element and the outer guide conduit held together as one are simultaneously forced into the tracheal lumen with the flexible leader serving as a guide and becoming coiled upon itself when fully extended into one of the bronchi. Thus the needle incision is progressively enlarged first by the small tapered end of the adapter element and then by the relatively large tapered end of the guide conduit.

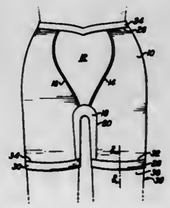
With the guide conduit in a fully advanced position and held stationary by means of a handle, the inner tapered adapter element and attached leader member are disengaged and withdrawn, at which point the outer guide conduit constitutes a breathing passageway of appreciable magnitude. A length of tubular material of a desired size is then inserted through the outer guide conduit and into the tracheal lumen to form a breathing conduit whereupon the guide conduit in turn is withdrawn.

3,511,244
ALDEHYDE, ALUM, AND DIHYDROXYBENZOIC ACID TANNED COLLAGEN ARTICLES AND THEIR PRODUCTION
John Kurilla, Plainfield, N.J., assignor to Ethicon, Inc., a corporation of New Jersey
Continuation-in-part of application Ser. No. 284,049, May 29, 1963. This application Nov. 14, 1966, Ser. No. 593,869
Int. Cl. A61l 17/00
U.S. Cl. 128—335.5 2 Claims



An extruded collagen suture is tanned with formaldehyde, 2,4-dihydroxybenzoic acid and a soluble aluminum salt to produce a colorless tanned suture contatining from about 0.2 to about 1% by weight of aluminum (as aluminum oxide). The resulting suture has the in vivo absorption characteristic of plain tanned catgut sutures.

3,511,245
ARTICLE HAVING GARMENT HOLDING MEMBER
Thomas H. P. Jaggers, Jr., Dover, Del., assignor to International Playtex Corporation, Dover, Del., a corporation of Delaware
Filed Mar. 25, 1966, Ser. No. 537,551
Int. Cl. A41c 1/00
U.S. Cl. 128—535 21 Claims

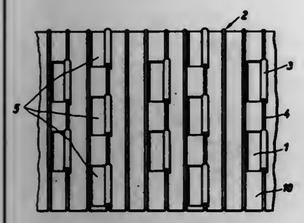


An article adapted to encircle a portion of the body and having at least one stretchable garment-holding member connected to an end thereof which member consists of inner and outer bands defining a pocket therebetween, the open end of which faces toward the end of the article to which the garment-holding member is connected. The inner surfaces of the inner and outer bands both abut and grip the garment received in the pocket which they define and a portion of such garment abuts the outer surface of the inner band; the free edge of the inner band; and the body thereby securely and detachably holding the garment in place on the body.

3,511,246
PERFORATED PIPE AND APPARATUS FOR MAKING IT

Lorenz Westerbarkey, Gutersloh, Germany, assignor to Firma Westaflexwerk L. & F. Westerbarkey, Gutersloh, Germany, a firm of Germany

Filed Aug. 19, 1968, Ser. No. 760,381
Claims priority, application Germany, Mar. 28, 1968, 1,750,083
Int. Cl. F16l *11/16, 9/16*
U.S. Cl. 138—154 3 Claims



A perforated pipe is wound from a ribbed metal strip and is provided with substantially rectangular holes pressed into the pipe from the inside and extending along a longitudinal axis which extends in the direction of the periphery of the pipe. A tongue-shaped burr projecting outwardly from the pipe is folded over adjacent ribs and constitutes a reinforcement.

3,511,247
SMOKING PRODUCT AND METHOD OF MAKING THE SAME

Ronald A. Tamol, Richmond, Va., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia

Filed May 10, 1968, Ser. No. 728,265
Int. Cl. A24d *1/02*
U.S. Cl. 131—15 3 Claims



This disclosure relates to a smoking product and method of making the same. More particularly the disclosure relates to a cigarette or similar smoking article which contains covered ventilation holes adapted to open during the smoking of the product to provide smoke diluted by air during the smoking of the product and which provides means for visibly indicating to the smoker the opening of the ventilation holes. The disclosure encompasses smoking products having ventilation holes which are covered or filled with a substance which is disintegrated by the action of the heat of the burning of the tobacco in said tobacco product. The ventilation holes may be in the wrapper of the smoking product, the holes being spaced some distance away from the end of the smoking product. The holes are closed with a heat-degradable material during the initial stages of smoking but are opened during subsequent stages of smoking due to the action of the heat of the coal and the tobacco smoke on the material which initially blocks said holes. The material which closes the holes, in accordance with the present invention, possesses a cellular structure and may, if desired, have substantially the same white color as the wrapper or filter in which the holes are located, so that it is virtually unnoticeable before the smoking product is smoked. By employing the present cellular heat degradable materials, it is possible to effect better opening of the holes, when exposed to heat, than with non-cellular heat degradable materials. Furthermore, when the holes are opened by degradation of the film during smoking, they assume a darker color which is readily noticeable to the smoker. Thus, the smoker can have visible evidence of the opening of the dilution holes, with the benefit of the full satisfaction from the smoke during the early stages of smoking and the psychological advantages of seeing the dilution holes open during the latter stages of smoking.

ERRATUM

For Class 131—66 see:
Patent No. 3,511,709

3,511,248
EYELASH APPLICATOR

Ronald J. Panda, Los Angeles, Calif., assignor to James P. Westmoreland, Jr., Beverly Hills, Calif.

Filed June 11, 1969, Ser. No. 834,228
Int. Cl. A45d *44/00*
U.S. Cl. 132—1 6 Claims

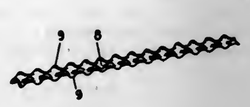


This invention relates to an artificial eyelash applicator, wherein holding the artificial eyelash, aligning the artificial eyelash and applying the artificial eyelash is readily accomplished. The device includes both a means for holding and releasing the artificial eyelash and a means for applying pressure simultaneously and evenly to the entire eyelid via the artificial eyelash.

3,511,249
DEVICE FOR DISLODGING FOOD PARTICLES FROM BETWEEN HUMAN TEETH

Alexander Baltz, South Yarra, Victoria, Australia (Box 50, G.P.O., Melbourne, Victoria, Australia)

Filed May 13, 1968, Ser. No. 728,628
Claims priority, application Australia, May 24, 1967, 22,262/67
Int. Cl. A61c *15/00*
U.S. Cl. 132—89 3 Claims

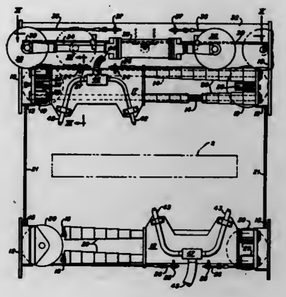


There is disclosed a filament of elastically deformable material for use in cleaning the spaces between human teeth, at least part of the surface of the filament being deformed throughout its length to achieve a mild abrasive action when passed over the surface of the teeth.

3,511,250
DESCALING APPARATUS

Francis Gallucci, North Huntington Township, Westmoreland County, and Gottfried Hofmann, Brentwood Borough, Pa., assignors to United States Steel Corporation, a corporation of Delaware

Filed July 25, 1968, Ser. No. 747,560
Int. Cl. B08b *3/02*
U.S. Cl. 134—122 8 Claims

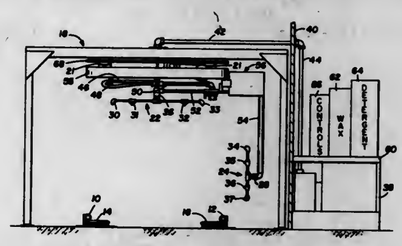


An apparatus for descaling metal slabs produced in a continuous-casting operation. Before the slabs are rolled, they pass through the descaling apparatus. The apparatus includes carriages which are propelled back and forth above and below the slab and high pressure jet nozzles on each carriage. Water from nozzles removes scale from slab surfaces without unduly cooling the slab.

3,511,251
AUTOMATIC CAR WASH

Robert E. Hickman, Dallas, Tex., assignor to Zenith Equipment Manufacturing Co., Dallas, Tex., a corporation of Delaware

Filed May 13, 1968, Ser. No. 728,544
Int. Cl. B60s *3/04*; B08b *3/02*
U.S. Cl. 134—123 6 Claims

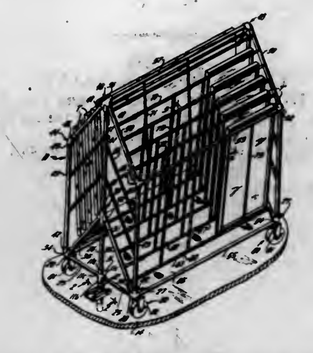


An apparatus for automatically washing a stationary vehicle having a horizontal and a vertical rotating sprinkler moving around the vehicle on a continuous track. A trolley including horizontally and vertically placed rollers riding on and against the continuous track supports the rotating sprinklers as they move around the parked vehicle. Power for driving the trolley around the continuous track is provided by means of an electric motor operated speed reducer with a drive sprocket coupled to the slow speed shaft. Three other sprockets are mounted in a spaced relationship around the continuous track and support a chain connected to the trolley. Rotating the drive sprocket causes the chain to propel the trolley around the track.

3,511,252
DEVICE FOR WASHING PANS OR TRAYS

Richard B. Kennedy, Ridgefield, Conn., assignor to Better Built Machinery Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 26, 1968, Ser. No. 716,144
Int. Cl. B08b *3/02, 9/00*
U.S. Cl. 134—145 11 Claims

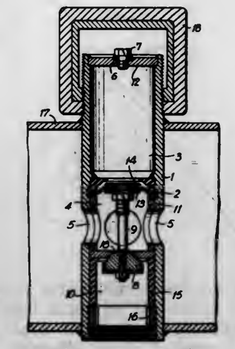


In this rack the pans or trays are supported in a sloping position. Between the pans, tubing containing spray openings are arranged to emit wash solutions to clean the pan surfaces. The spray tubing forms the frame as well as transmitting the washing fluid. The rack is transported on casters, for connection of the hollow tube washing system to a source of washing fluids. The supporting tubes transmit the washing fluid to areas of the adjacent trays for improved washing. A quick lock coupling is automatically connected from a water supply to the wash rack as it is pushed into the wash chamber. Some of the tubing in the rack is provided with spaced collars to space some surfaces of the pans from the tubes.

3,511,253
DEVICE FOR PROTECTING WATER CONDUITS FROM FREEZING

Anatoly Vasilievich Ljutov, Norilsk, U.S.S.R., assignor to Norilsky Goronometallurgichesky Kombinat imeni A.R. Zavenjagina, Norilsk, U.S.S.R.

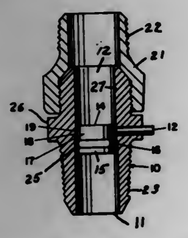
Filed June 8, 1965, Ser. No. 462,229
Int. Cl. E03b *7/00*
U.S. Cl. 137—60 4 Claims



A branch pipe installed in a conduit and including a portion projecting from the conduit exposed to atmospheric air, the branch pipe having lateral openings for

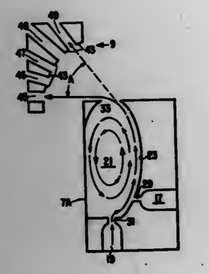
the passage of water, and a closed chamber filled with water at least in part in the projecting portion. An outlet valve is provided in the branch pipe for controlling the passage of water externally of the pipe, and a diaphragm is coupled to the valve and subjected to the pressure of the water in the chamber and the pressure of the water passing through the branch pipe such that normally the valve is closed when the water in the closed chamber is in liquid state and is opened when the water in the closed chamber freezes and turns to ice.

3,511,254
LIQUID CONTROL VALVE
Robert M. Dyer, Leonard J. Nowak, and Leo J. Haulik, Erie, Pa., assignors to Hays Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed May 18, 1967, Ser. No. 639,385
Int. Cl. F16k *13/04*
U.S. Cl. 137—67 7 Claims



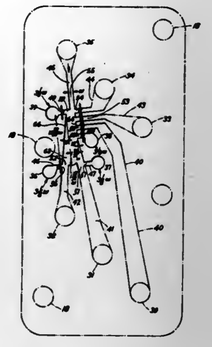
In the present invention, a hollow body having a tapered inside surface is provided with a closure member which is made of a soluble brittle material, so when liquid is turned on in the line the control member will dissolve and the solution of the dissolved member will not contaminate the liquid and render it unpotable.

3,511,255
PROPORTIONAL FLUID VORTEX AMPLIFIER
Peter Bauer, Germantown, Md., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 20, 1963, Ser. No. 325,125
Int. Cl. F15c *1/08*
U.S. Cl. 137—81.5 11 Claims



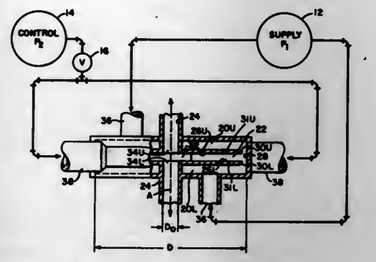
This invention provides a multistable vortex amplifier in which output signals are produced that are proportional to the magnitude of the input signals. The direction of flow is determined by the difference in the magnitude of the two input signals and means for sensing the direction of power stream flow from the amplifier are also provided.

3,511,256
FLUID LOGIC ELEMENT
Joseph H. Abler, Cleveland, Ohio, assignor to Aro Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 627,463, Mar. 31, 1967. This application Mar. 6, 1968, Ser. No. 711,010
Int. Cl. F15c *1/02*
U.S. Cl. 137—81.5 14 Claims



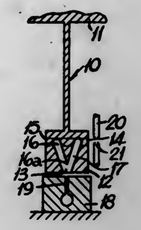
A fluidic NOR amplifier utilizing momentum control. A power stream fluid input passes into a chamber and out through an outlet port substantially opposite the input port. Fluid control signals may pass through any of three control ports normal to the power stream and impinge directly on the power stream to cause switching to a second outlet port. Four vent ports are arranged at various positions in the chamber to promote switching and insure uniform response to control pulses. The NOR amplifier may also be combined with a NOT device to provide an OR output.

3,511,257
VORTEX TYPE THROTTLING VALVE APPARATUS
Shin-Kien Chow, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 12, 1968, Ser. No. 759,289
Int. Cl. F15c *1/16*
U.S. Cl. 137—81.5 3 Claims



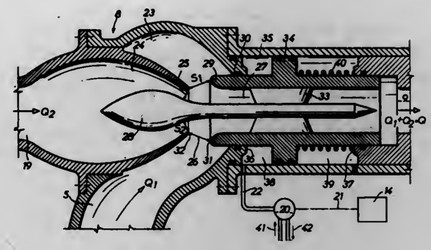
An improved fluidic throttling valve of the vortex type. A disc-shaped vortex chamber is supplied from a plenum chamber arrangement including chamber sections to one and the other axial sides of the vortex chamber. The supply-flow is communicated from the plenum chamber sections to the vortex chamber by annular slits extending continuously around the total periphery of the vortex chamber. Tangential streams of control-flow are introduced along the peripheral wall of the vortex chamber between the confronting slits.

3,511,258
MEANS FOR PRODUCING PULSATING FLUID FLOW
Kenneth Percival Palmer, Barford, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Sept. 11, 1968, Ser. No. 758,986
Int. Cl. F15c *3/00*
U.S. Cl. 137—81.5 5 Claims



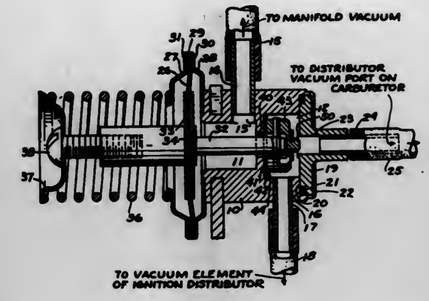
Means for producing a pulsating flow of fluid in a passage comprises a mechanical oscillator device having an inlet and a pair of outlets, the inlet being perpendicular to the path of oscillation and the outlets being presented in opposite directions in said path, flow through at least one of the outlets causing interruption of flow in the passage to be controlled, and the inlet and outlets being connected by passages arranged at the inlet in V-formation so that oscillation of the device whilst fluid is supplied to the inlet from a stationary body causes alternate establishment of flow in the passages and thus in the outlets.

3,511,259
VENTURI PUMP FOR MIXING TWO FLUID STREAMS WITHIN A LARGE RANGE OF FLOW RATES
Kléber Touré, Paris, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed Apr. 3, 1967, Ser. No. 627,932
Claims priority, application France, Apr. 4, 1966, 56,348
Int. Cl. G05d *11/35*
U.S. Cl. 137—114 4 Claims



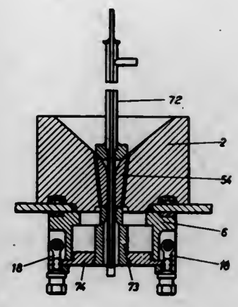
A venturi pump for mixing two fluid streams with variable flow rates the sum of which is substantially constant, comprising a mixing chamber with constant cross-sectional area, two admission channels opening into said mixing chamber, and means responding to the flow rates of one of the fluid streams for increasing the cross-sectional area of one of the channels and simultaneously decreasing the cross-sectional area of the other channel.

3,511,260
DISTRIBUTOR VACUUM ADVANCE VALVE ASSEMBLY
Benjamin C. Benjamin, Flint, Mich., assignor to F. & E. Manufacturing Co., Detroit, Mich., a corporation of Michigan
Filed Oct. 18, 1965, Ser. No. 496,883
Int. Cl. F02p *5/04*
U.S. Cl. 137—119 3 Claims



A valve assembly including a housing having a pair of chambers with an opening therein. A passage extends from one of said chambers to the exterior and a pair of passages extends from the other of said chambers to the exterior. A diaphragm is associated with the first chamber and is operable to move a valve into engagement with a valve seat adjacent the opening providing communication between the chambers. The valve is swivelly mounted for angular movement on a shaft associated with the diaphragm.

3,511,261
CONTROLLABLE TEEMING VALVE FOR STEEL-CASTING LADLES
Klaus Bick and Berhard Tinnes, Paderborn, Germany, assignors to Paderwerk Gebr. Benteler, Neuhaus, Kreis Paderborn, Germany
Filed Nov. 24, 1965, Ser. No. 509,574
Claims priority, application Germany, Nov. 25, 1964, P 35,554
Int. Cl. F16k *3/00*; B65d *47/26*
U.S. Cl. 137—315 24 Claims



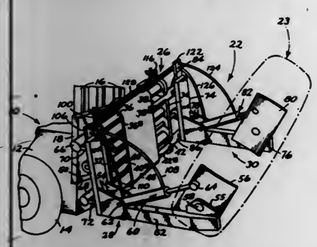
A controllable teeming valve for steel-casting ladles, said valve comprising a longitudinal displaceable slide member disposed at the outlet opening, and a funnel-shaped inlet portion having an apex angle of less than 60° with respect to the axis of the funnel, a free opening of at least 150 square centimeters and a neck portion of at least 30 millimeters in length.

3,511,262
FLUID COOLED VALVE
Joseph A. Victoriz, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,058
Int. Cl. F16k *49/00*
U.S. Cl. 137—315 9 Claims



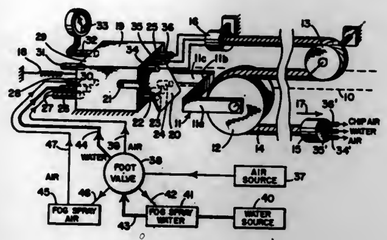
A valve for handling very hot gaseous fluid is protected against radiation exposure and against direct contact with such hot gaseous fluid by means of removable, water-cooled panels that form part of the valve seat, and a water-cooled U-panel located within the valve housing and between the valve seats. Such panels may be readily removed and replaced without having to remove the valve proper while it is in service.

3,511,263
SLACK REDUCER FOR FLEXIBLE LINES
Cornelis A. Emke, Diemen, Netherlands, assignor to Cascade Corporation, Portland, Oreg., a corporation of Oregon
Filed Oct. 26, 1967, Ser. No. 678,445
Int. Cl. B60p *1/46*
U.S. Cl. 137—355.17 8 Claims



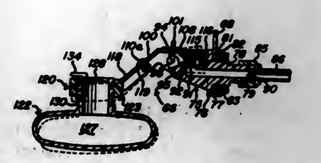
A lift truck attachment including a frame and a pair of relatively movable, laterally shiftable clamping arms mounted for movement on the frame. Extending between the frame and arms for supplying power to equipment mounted on the latter, are spaced pairs of elongated flexible lines with each pair having one set of ends anchored on the frame and an opposite set of ends anchored on one of the arms. A pulley assembly is mounted for riding along the lines in each pair, and the two pairs of lines are pulley toward another, with the lines disposed in opposed reversed bends, by means of an elongated floating spring extending between the pulley assemblies.

3,511,264
SELECTOR VALVE MEANS FOR DENTAL UNITS
John Daniel Krantz, Inglewood, Calif., assignor to Coastal Dynamics Corporation, a corporation of California
Filed Mar. 20, 1968, Ser. No. 714,708
Int. Cl. B65h *75/46*
U.S. Cl. 137—355.18 8 Claims



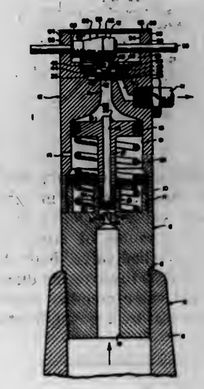
A selector valve in the form of an integral block construction is provided for controlling the passage of drive air, water, and chip air to a suitable hand piece used by a dentist during treatment of a patient. The block itself includes first, second and third inlet passages for connection to sources of drive air, water, and chip air respectively, and first, second, and third outlet passages for connection to suitable outlets in a hand piece through the medium of a retractable hose mechanism. The drive air may be used to drive a dental drill, for example, the water and chip air combined to provide a fog spray in the hand piece, and the chip air alone for blowing away small chips or debris in a treated area in the patient's mouth. The selector block also includes first, second, and third valve bodies having extending stem portions engaged by the retractable hose mechanism when in retracted position to hold the valves in first positions closing off communication between the inlet passages and outlet passages in the block. Withdrawing of the retractable hose means frees the valve stems so that the valve bodies can move to second positions placing the inlet passages in communication with the outlet passages, the valve bodies themselves being moved by the air, water, and chip air pressures respectively. Drive air, water, and chip air are thus available in the dental hand piece at the free end of the retractable hose means automatically in response to withdrawing of the hose.

3,511,265
FLOAT VALVE ASSEMBLY
Warner W. Martin, Olmstead Falls, Ohio, assignor, by mesne assignments, to Lau Incorporated
Filed July 25, 1967, Ser. No. 655,947
Int. Cl. F16k *31/16, 33/00;* F24f *3/14*
U.S. Cl. 137—434 8 Claims



A power operated humidifier adapted to be mounted on a furnace and having an improved float assembly for maintaining a constant level of water in the reservoir of the humidifier. The float is adjustable to compensate for different water pressures, it reduces splash, has a reversible valve member, and can be easily and quickly disassembled for cleaning.

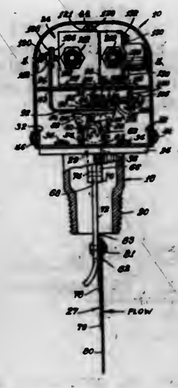
3,511,266
SHUT OFF AND PRESSURE REGULATING VALVE
James R. Philpot, Hamburg, N.Y., assignor to The Firewel Company, Inc., Buffalo, N.Y., a corporation of Ohio
Filed Mar. 13, 1967, Ser. No. 622,729
Int. Cl. G05d *16/10;* F16k *31/524*
U.S. Cl. 137—484.4 3 Claims



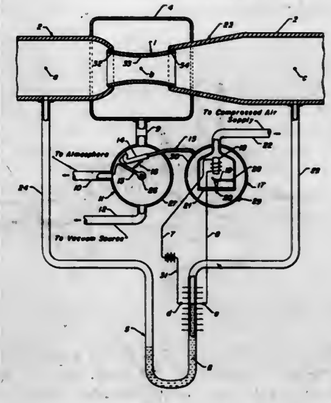
As to the shut off aspect, the valve has a diaphragm moved against a set around an inlet passage by a cam in line with this passage, as is known in the prior art, a feature of the invention being that this cam is mounted on a stem in turn mounted for axial sliding movement transversely of the line of movement of the diaphragm and with its ends projecting outwardly from opposite ends of the valve body to enable it to be pushed in opposite directions. The cam has two conical faces meeting at their large ends to provide a radially projecting edge and acting through a confined ball against the diaphragm, one being a working face and the other being a holding face to retain the valve in a closed position. In this closed position the portion of the diaphragm is sufficiently soft to permit blow-by in response to excessive inlet pressure. As to the pressure reducing aspect, the valve is of the known spring loaded piston and piston rod type with a passage through the piston and its rod rendered operative by a valve body at the end of the rod working in conjunction with a valve seat around an inlet passage, a feature of the invention being the provision of a venturi jet at the outlet end of the passage through the piston and its rod and discharging into a venturi throat, this tending to draw the piston to the open position of its valve body during final opening and closing movements to compensate for inlet pressure losses in the valve itself. The above novel features summarize the invention.

3,511,267
VALVE ASSEMBLY
Elwood H. Stonich, Chicago, Ill., assignor to McDonnell & Miller, Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 20, 1967, Ser. No. 669,030
Int. Cl. F16k *17/20*
U.S. Cl. 137—486 4 Claims

A valve assembly comprising a valve, which includes a non-magnetic housing and an inner member which is effective for opening and closing passageway means of the valve upon movement of the inner member within the housing, and means for actuating the valve in response to fluid displacement within a fluid-confining vessel such as a pipeline, which means includes an outer member which is movable external to the housing and means for moving the outer member in response to fluid displacement in the fluid-confining vessel, one of the inner and outer members comprising permanent-magnet means and the other thereof comprising magnetically attractable means.



3,511,268
APPARATUS FOR VARYING THE CROSS-SECTIONAL AREA OF THE THROAT OF A VENTURI TUBE
Ricardo S. Dubrovsky, Port Chester, N.Y., and James P. Tomany, Darien, Conn., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed July 9, 1968, Ser. No. 743,510
Int. Cl. F15d *1/02;* F16l *55/14*
U.S. Cl. 137—487 5 Claims



This method and apparatus for varying the cross-sectional area of the throat of a venturi tube involves at least partially evacuating the space enclosed between a flexible

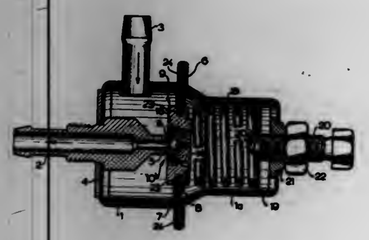
throat of a venturi tube and a rigid shell encompassing the throat and forming an airtight seal with the venturi tube. Evacuation is effected to the degree necessary to maintain a constant pressure differential between the intake and exhaust of the venturi tube at varying process gas flow.

3,511,269
AUTOMATIC VALVE
Herbert W. Kastz, Elyria, Ohio, assignor to Airborne Mfg. Co., Elyria, Ohio, a corporation of Ohio
Filed Sept. 9, 1965, Ser. No. 486,169
Int. Cl. F16k *17/20*
U.S. Cl. 137—498 11 Claims



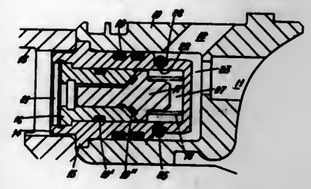
An automatic valve and particularly a flow-sensitive, normally open, two-way valve that closes in response to a predetermined pressure drop across the valve. Specifically, the pressure drop tending to close the valve is produced by "lift" resulting from the increase in velocity of fluid flow produced between two closely spaced surfaces associated with the valve members, which "lift" tends to draw the surfaces and valve members together and into a closed position. The "lift" forces may be augmented by static and dynamic pressures to which the valve members are responsive.

3,511,270
PRESSURE CONTROL VALVE
Siegfried Fehrenbach, Stuttgart-Botnang, Willi Müller, Bad Mergentheim, and Karl-Heinz Schneider, Sontheofen, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany
Filed Sept. 11, 1968, Ser. No. 758,952
Claims priority, application Germany, Sept. 14, 1967, B 94,455
Int. Cl. F16k *25/00*
U.S. Cl. 137—510 10 Claims



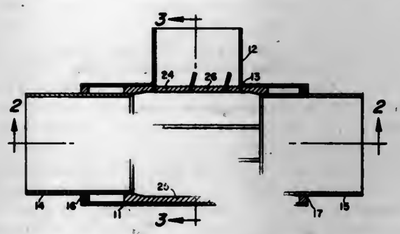
A pressure control valve inserted in a conduit to maintain a constant pressure of the fluid therein; said valve has a movable valve disc which together with a stationary valve seat defines a variable cross-sectional area of a flow passage. The valve disc is rigidly secured to a ball which is swivelably retained in a holder which, in turn, is attached to a membrane. An adjustable spring urges the holder towards the valve seat.

3,511,271
PRESSURE RELIEF VALVES
William Samuel Pollinger and Geoffrey Lionel Ryder, London, England, assignors to Bristol Siddeley Engines Limited, London, England, a British company
Filed Sept. 18, 1967, Ser. No. 668,577
Claims priority, application Great Britain, Sept. 19, 1966, 41,755/66
Int. Cl. F16k *15/06, 15/14*
U.S. Cl. 137—512.3 4 Claims



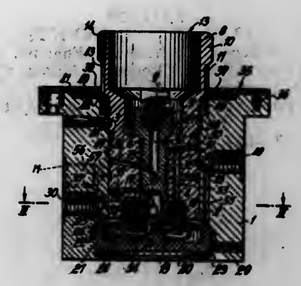
A passage opening into a duct for abrasive or otherwise objectionable fluid contains, in series away from the duct, a one-way valve the valve member of which is constituted by an annulus of stretched elastomer, a space, and a pressure-relief valve, both the valves being arranged to open for flow towards the duct. The pressure-rel ef valve is a rigid valve member urged to closed position against a rigid seat by a spring located in the space.

3,511,272
FLOW-T CONSTRUCTION
Francis M. Lathrop II, Houston, Tex., assignor to M & J Valve Company, Houston, Tex., a corporation of Delaware
Filed Dec. 11, 1967, Ser. No. 689,627
Int. Cl. B01d *35/02*
U.S. Cl. 137—544 5 Claims



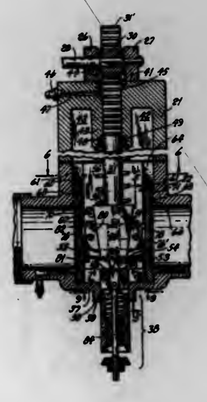
A flow-T construction for connecting the main line of a pipe system with a branch line. The T includes a shell having opposite ends secured to aligned horizontal inlet and outlet conduits. Within the shell the inlet conduit has an upwardly sloped portion which lifts a flow separating sphere before it is delivered into the interior of the shell. The outlet conduit likewise has a portion which is upwardly sloped and which elevates the sphere before it is introduced into the outlet conduit. Downwardly sloped ramp means extends between the two conduit portions, whereby a sphere rolls by gravity from one conduit portion to the other. A branch conduit communicates through one side of the shell and is adapted to be connected to a branch line. Barrier means prevents the sphere from entering the branch conduit.

3,511,273
PRESSURE GAUGE AND VALVE THEREFOR
Rainer Bartholomäus, Lohr (Main), Germany, assignor, by mesne assignments, to Gesellschaft fuer Hydraulikzubehoer m.b.H., Sulzbach, Saar, Germany
Filed Apr. 19, 1968, Ser. No. 722,612
Claims priority, application Germany, Apr. 26, 1967, R 45,870
Int. Cl. F16k *37/00, 11/02*
U.S. Cl. 137—557 8 Claims



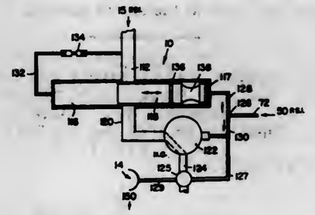
A valve which is provided with an annulus of connections for admission of fluids from several pressure systems and includes a selector rotatable in the valve housing and having a bore which can be moved into registry with a selected connection in response to axial and angular displacement of the selector whereby the selector admits pressure fluid from the selected connection to the pressure port of a pressure gauge which is adjustably installed in the selector or in the valve housing.

3,511,274
SELF-DRAINING AND LOCKING LIQUID VALVE
Michael P. Karzeniowski, 75 Maple St., Yonkers, N.Y. 10701
Filed Feb. 26, 1968, Ser. No. 708,025
Int. Cl. F16k *11/10, 3/14*
U.S. Cl. 137—596.2 9 Claims



A liquid disc valve wherein the sealing movable discs, during operation, are directed in a perpendicular movement toward and away from the fixed element surface against which they seal. When in the closed position the lower portion of the valve body is open so as to permit drainage therefrom of any liquids accumulating therein while automatically sealing when the valve is open. The bottom surface of the valve body is contoured to direct the liquid therein to be discharged through ports provided in the drain member which is activated by the valve stem when in its lowest stage and in contact therewith.

3,511,275
FLUID PRESSURE BIASED VALVE WITH DASHPOT
Carl E. Hewson, Marshfield, Mass. (90 Myrtle St., North Quincy, Mass. 02114)
Original application Oct. 18, 1965, Ser. No. 497,211, now Patent No. 3,351,052, dated Nov. 7, 1967. Divided and this application Aug. 7, 1967, Ser. No. 668,731
Int. Cl. F16k *31/12*; A61h *31/00*
U.S. Cl. 137—596.15 4 Claims

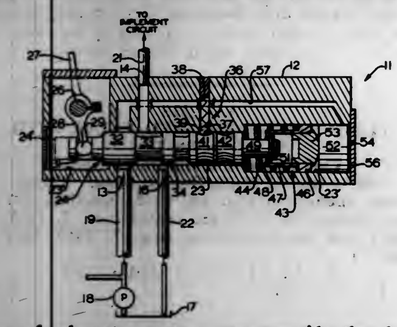


1. A valve comprising,
a casing having an inlet line and an outlet line,
a chamber on the casing connecting the inlet and outlet,
a spool mounted in the chamber and movable axially therein to allow and interrupt flow from the inlet to the outlet, said spool in a first position interrupting the flow and in a second position allowing said flow.
a pilot line connected to the chamber on one side of the spool and when pressurized urging the spool toward the second position,
means including a bleed connected to the chamber on the opposite side of the spool and connected to the inlet line for impeding flow from the chamber back into the inlet line to slow movement of the spool from the first to the second opsition, said bleed providing a pressure source from the inlet line to return the spool to its first position when the pilot line is depressurized,
and a section provided on the spool for allowing a lesser flow and then a greater flow through the casing when the spool moves from the first to the second position,
said section in the spool including an annular groove to allow limited flow through the casing when the spool moves a portion of the way from the first to the second position and said section also including a larger annular groove to allow greater flow through the casing when the spool is in the second position.

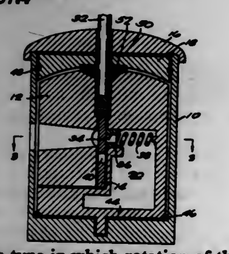
3,511,276
FLUID CONTROL VALVE WITH CONDITIONAL SELF-ACTUATING MEANS
Henry J. Jessen, Manhattan, Ill., and Roger A. Rice, Joliet, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 4, 1968, Ser. No. 718,683
Int. Cl. F16k *11/02, 31/143*
U.S. Cl. 137—624.27 5 Claims

A detented operator controlled spool valve for selectively actuating a fluid operated mechanism automatically closes itself in the absence of adequate fluid pressure for

safely operating the mechanism. The normal fluid pressure in the valve compresses a spring which, in the absence of adequate pressure, can override the detents and force the spool to the closed position.

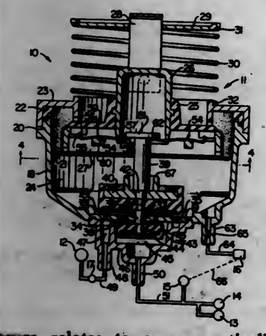


3,511,277
MIXING VALVE FOR A FAUCET
Glenn W. Hicks, 2749 N. 75th St., Milwaukee, Wis. 53210
Filed May 10, 1968, Ser. No. 728,135
Int. Cl. F16k *11/18*
U.S. Cl. 137—637.4 7 Claims



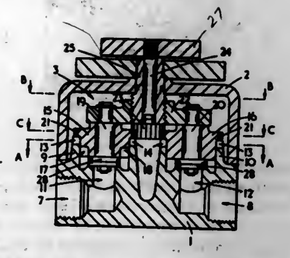
A faucet of the type in which rotation of the valve stem results in a change in the mix between hot and cold water and in which raising and lowering of the valve stem causes change in the flow rate through the faucet.

3,511,278
PNEUMATIC CONTROL SYSTEM AND PNEUMATICALLY OPERATED ACTUATOR THEREFOR OR THE LIKE
Arthur L. Good, Elkhart, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Mar. 15, 1968, Ser. No. 713,367
Int. Cl. F16k *31/12*
U.S. Cl. 137—624.14 20 Claims



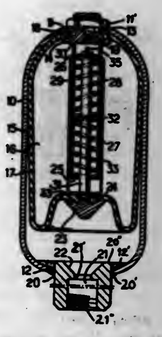
This disclosure relates to a pneumatically operated actuator means that has a movable wall defining a chamber of the actuator, the actuator having first and second passage means leading to the chamber and having means for opening one of the passage means while closing the other passage means when the movable wall is in one position and for closing the one passage means and opening the other passage means while interconnecting the two passage means together when the movable wall is in another position thereof so as to interconnect a pneumatic source at the second passage means to the first passage means.

3,511,279
FLUID MIXING DEVICES
Arnold L. Hancock, Cheltenham, England, assignor to Walker Crosweller & Company Limited, Cheltenham, England, a corporation of Great Britain
Filed Apr. 17, 1968, Ser. No. 722,120
Int. Cl. F16k *11/20*
U.S. Cl. 137—637.4 9 Claims



A fluid mixing device having two pistons which, respectively, fit within two cylinders, are carried by a yoke movable towards and away from the cylinders by rotation of a first operating shaft so as to reciprocate the pistons and open and close inlet ports in ends of the cylinders, and are provided with teeth in constant mesh with teeth on a second operating shaft so as to rotate the pistons by rotation of the latter shaft and thereby vary the relative proportions of the two fluids which may flow from the cylinders, through outlet ports in the cylinder walls, into a mixing chamber preparatory to being discharged from the device.

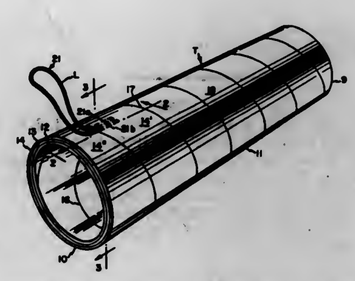
3,511,280
PRESSURE VESSEL
Jean Mercier, 501 Bloomfield, Caldwell, N.J. 07006
Filed Dec. 13, 1967, Ser. No. 690,181
Claims priority, application France, Dec. 23, 1966, 88,609
Int. Cl. F16l *55/04*
U.S. Cl. 138—30 20 Claims



This invention relates to a pressure vessel, more particularly a rigid container having a deformable bladder

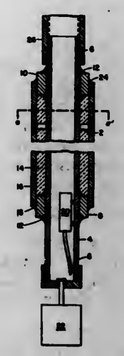
therein to define two chambers in said container for two fluids under pressure. One of said chambers has an outlet port and the bladder carries a valve member designed to seat on said outlet port to close the latter. A pair of coaxial spring portions are associated with the valve member and are designed to exert substantially equal torque in opposed directions respectively as the valve member moves between open and closed position to restrain twisting of said valve member and the bladder to which it is connected.

3,511,281
WOUND TUBE WITH STRING LOOP
Charles K. Dunlap, Jr., and Hurley R. Brooking, Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed Aug. 12, 1968, Ser. No. 751,980
Int. Cl. F16l *55/00*
U.S. Cl. 138—103 5 Claims



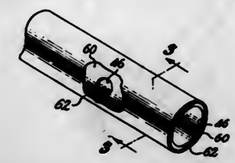
A multi-ply paper tube of fibrous material with the plies wound in overlying relationship with adhesive therebetween and having a seam on the outer surface of the tube under which end portions of a string loop are positioned and retained to provide a tag attaching loop extending outwardly from the tube outer surface.

3,511,282
PRESTRESSED CONDUIT FOR HEATED FLUIDS
Glen Paul Willhite and William L. Martin, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Feb. 7, 1966, Ser. No. 525,573
Int. Cl. F16l *9/18*
U.S. Cl. 138—113 6 Claims



Apparatus and method of constructing the same for conveying heated fluids in conduits comprising an inner fluid conductor tubing, an outer concentric insulating tubing and spacers in the annular space between the two tubings to hold them in a spaced relationship. In assembling the apparatus, the inner tubing is placed in tension with respect to the outer tubing, while the ends of the two tubings are attached to each other.

3,511,283
COPPER-COATED STAINLESS STEEL TUBE
Samuel J. Iannone, 15 W. Willow St., Beacon, N.Y. 12508
Filed Aug. 26, 1966, Ser. No. 575,416
Int. Cl. F16l *9/14*
U.S. Cl. 138—143 3 Claims

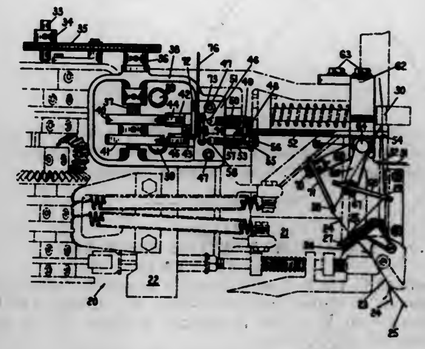


A composite tubing as a substitute for copper tubing in all places of use in which the base of the tubing is a stainless steel and having on only the outer surface thereof a layer of nickel which has been electrolytically deposited on the steel and an outer layer of copper which has been electrolytically deposited on the nickel layer.

ERRATUM

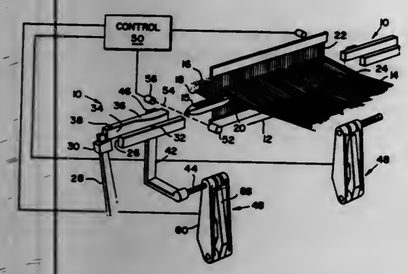
For Class 138—154 see:
Patent No. 3,511,246

3,511,284
FILLING SELECTIVE DEVICE FOR SHUTTLELESS LOOMS
Anthony J. Tosches, Milford, Mass., assignor to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed July 30, 1968, Ser. No. 748,732
Int. Cl. D03d *47/34*
U.S. Cl. 139—122 11 Claims



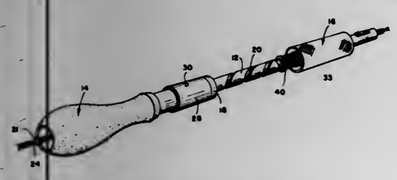
Mechanism for presenting either of two strands of filling being drawn from outside sources of supply for insertion into warp sheds to form a fabric having alternating stripes of predetermined widths.

3,511,285
SOLENOID ACTUATOR
William J. Stephens, Bedford, Mass., assignor to Z & D Industries, Inc., Woburn, Mass., a corporation of Massachusetts
Filed May 22, 1968, Ser. No. 731,207
Int. Cl. D03d 49/56
U.S. Cl. 139—187 8 Claims



A durable solenoid actuator is provided having particular utility in operating the binder for the shuttle box of a high speed loom. A pair of cooperating pivoted arms forming a rolling link are positioned in proximity to a solenoid with a solenoid clapper mounted on one of the arms. When the solenoid is energized one arm bears against the other with the line of contact between the arms changing as the arms pivot according to the contours of the working surfaces of the arms. One of the arms is drivingly connected to the binder for the shuttle box and a high mechanical advantage is obtained by the rolling link connection. The rolling link and solenoid assembly is able to produce a force output which is different from that of a conventional solenoid actuator.

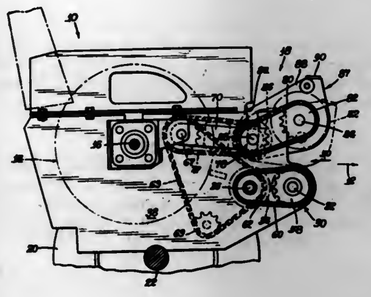
3,511,286
HAND STRIP SCREW DRIVING GUN
Herbert C. Branchik, Fremont, Ohio, assignor of one-half to J. D. Guernsey, Fostoria, Ohio
Filed Oct. 3, 1966, Ser. No. 583,774
Int. Cl. B25b 15/06
U.S. Cl. 145—53 3 Claims



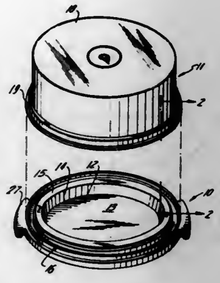
Automatic screw drivers, particularly a hand operated "gun" for driving screw strips comprised of a plurality of integrated longitudinally aligned screws.

3,511,287
FORAGE HARVESTER DRIVE FOR FEED ELEMENTS
Manfried L. Hoch, Lockport, and Carmen S. Phillips and Ronald F. Zitko, Downers Grove, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 2, 1967, Ser. No. 680,120
Int. Cl. A01d 57/00
U.S. Cl. 146—120 9 Claims

A forage harvester having means for positively feeding crop plants from the gathering unit to the processing unit including rolls movable toward and from other rolls wherein the movable rolls are mounted for movement in arcs about fixed axes, the driving means being concentric with those axes, and the movable rolls remaining the same distance from the driving means.



3,511,288
CONTAINER FOR PASTRIES OR THE LIKE AND METHOD OF DISPLAYING PASTRY
James B. Swett, Barrington, and Robert F. Bateman, Providence, R.I., assignors to Dart Industries Inc., Los Angeles, Calif., a corporation of Delaware
Filed Apr. 23, 1968, Ser. No. 723,384
Int. Cl. B65d 5/52; A47g 19/32
U.S. Cl. 150—.5 1 Claim

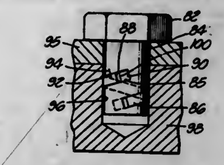


A container for pastries including a base member and a cover member and a pie plate. The base member has a recessed central portion adapted to receive the pie plate and the cover member has an upwardly raised central portion to provide clearance for the contents of the pie plate. The base member has a bottom edge portion adapted to interfit with the cover so that the base member can be positioned on the cover which then serves as a pedestal to display the pastry. A method of displaying a pastry is also provided.

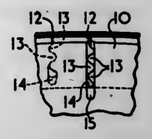
3,511,289
FASTENER ASSEMBLY
Jan R. Coyle, San Dimas, Calif., assignor to Brown International Corporation, Covina, Calif., a corporation of California
Filed Dec. 28, 1967, Ser. No. 694,212
Int. Cl. F16b 19/02
U.S. Cl. 151—19 6 Claims

The shank of a fastener extends into a bore of a member to engage the member and is provided with a circumferentially extending groove the bottom of which

is circular but eccentric. An eccentric insert is seated in the groove for relative rotation into radial binding engagement with the surrounding bore. The shank may be plain or threaded. The groove may be a continuous circumferential groove or may be helical. The insert may be a solid ring or a split ring or may be helical to cooperate with a helical groove. The eccentric insert may be in screw engagement with the bottom wall of the groove.

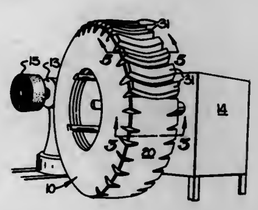


3,511,290
TIRES
Rudolf Kutsmichel, Langendiebach uber Hanau, Germany, assignor to The Dunlop Company Limited, London, England, a British company
Filed Aug. 30, 1966, Ser. No. 576,024
Claims priority, application Germany, Sept. 7, 1965, D 48,144
Int. Cl. B60c 11/12, 7/24
U.S. Cl. 152—209 16 Claims



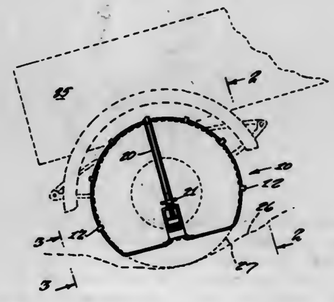
A vehicle tire having a tread comprising generally circumferential ribs and grooves, the ribs being provided with slots extending radially inwardly from the ground-contacting surface of the rib and generally transversely of the rib, each slot having a channel at its radially inner end, the radial relative movement between the opposed walls of each slot being substantially reduced by interengaging regions between the walls of the slots.

3,511,291
RENEWED HEAVY-DUTY TIRE WITH A LUGGED TREAD THEREON
Bradley E. Ragan, Spruce Pine, N.C., assignor to Brad Ragan, Inc., Spruce Pine, N.C., a corporation of North Carolina
Original application Dec. 20, 1966, Ser. No. 603,340, which is a continuation-in-part of application Ser. No. 569,863, Aug. 3, 1966, now abandoned. Divided and this application Feb. 25, 1969, Ser. No. 802,186
Int. Cl. B60c 11/08
U.S. Cl. 152—209 6 Claims



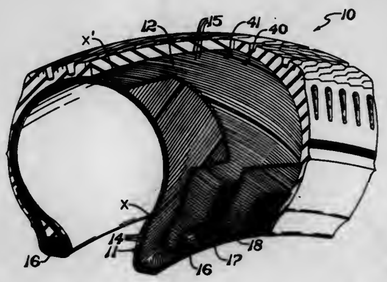
A renewed heavy-duty tire of the off-the-road type having a lugged tread thereon composed of a first body of tread renewal material entirely encircling and intimately adhered to a previously used tire carcass and a plurality of additional and discrete bodies spaced about and intimately adhered to the first body of tread renewal material.

3,511,292
TIRE TRACTION DEVICE
Sheldon W. Guthrie, 2109 Dartmouth St., Terrytown, La. 71285
Filed Jan. 31, 1968, Ser. No. 702,093
Int. Cl. B60c 27/10, 27/20
U.S. Cl. 152—225 3 Claims



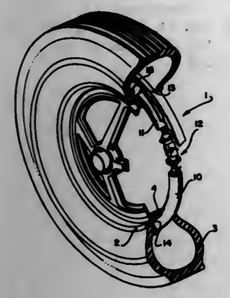
An automobile tire traction device for getting a stuck vehicle out of a ditch, the device comprising a unit that can be slipped over the tire without need of jacking up the car, and including a take up harness carrying cleats, that can be tightened so firmly around an automobile tire that it is not necessary for the cleats to hang over the outer side or the inner side of the tire.

3,511,293
PNEUMATIC TIRES
Harry P. Matthews, Miami, Okla., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Mar. 20, 1968, Ser. No. 718,973
Int. Cl. B60c 9/06, 9/12
U.S. Cl. 152—330 11 Claims



A tire and method of analyzing a tire which has built into it X-ray opaque cords which lie in the same direction as the other cords in the fabric such that an X-ray of the tire will aid in the analysis of cord angle, the tread thickness, and construction features thereof.

3,511,294
EMERGENCY TIRE INFLATION SYSTEM
Andrew J. Bepristis, Santa Clara, and Irvin Trowbridge, Jr., Mountain View, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 18, 1967, Ser. No. 691,578
Int. Cl. B60c *23/00*
U.S. Cl. 152—418 14 Claims



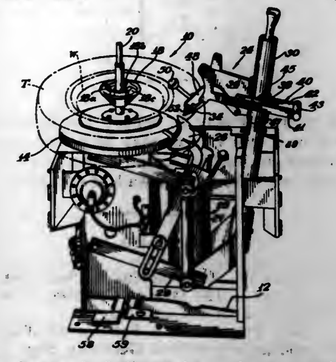
A system is shown for maintaining pressure, form and firmness in a pneumatic tire which protects from "slow leaks" and which also protects from sudden blowouts, the system including pressurized cylinders of fluid (air or chemical reagents) which are adapted to fit within the tire about the periphery of the wheel rim so that, upon automatic actuation by a drop in air pressure, the contents of the cylinders are released to reinflate or maintain proper inflation and form of the tire.

3,511,295
TIRE VALVE
Louis Edward Kilmarx, Dickson, Tenn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Feb. 9, 1968, Ser. No. 704,323
Int. Cl. B60c *29/00*
U.S. Cl. 152—427 8 Claims



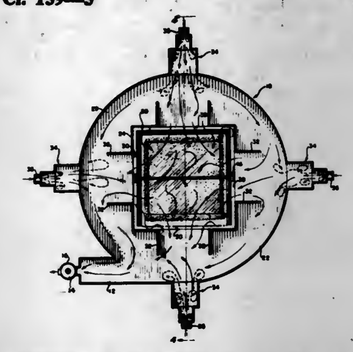
A tire valve for tubeless pneumatic tire comprises a plug of rubber or the like mounted in the rim hole opening, and a rigid valve stem having plug engaging means and adapted to be adjustably fixed in the plug to extend out for the desired stem length. This arrangement makes it unnecessary to inventory snap-in valves of a variety of lengths.

3,511,296
TIRE CHANGER HAVING FRICTION LOCK
Robert W. Houston, Cincinnati, Gaylord B. Haviland, Maineville, James L. Wykoff, Cincinnati, and Donald R. Center, Maineville, Ohio, assignors, by mesne assignments, to Big Four Automotive Equipment Corporation, a corporation of Delaware
Filed Apr. 29, 1968, Ser. No. 725,108
Int. Cl. B60c *25/08*
U.S. Cl. 157—1.24 5 Claims



A tire changer including a frame for supporting a tire and wheel, means for retaining the tire and wheel in place on the frame, and bead breaker mechanism for breaking the bond between the bead on the tire and the rim of the wheel. The bead breaker mechanism comprises a power column, a pivot tube movably carried on the power column for movement toward and away from the tire and the wheel secured on the frame independently of the power column, means pivoted on the pivot tube including a lock shoe for locking the pivot tube to the power column for movement therewith, engaging means and bead breaker means on the lock plate cooperating with one another to move the lock plate to lock the lock shoe against the power column and to break the bond between the rim and the bead. A handle is secured to the bead breaker means to release the lock shoe from the power column after the bond between the bead and rim have been broken to permit the pivot tube to be moved on the power column away from the tire and wheel.

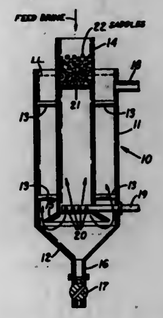
3,511,297
APPARATUS FOR DEHYDRATION OF ORGANIC LIQUIDS-SOLIDS COMPOSITES
George C. Webb, 711 Parker Blvd., Buffalo, N.Y. 14223
Filed June 5, 1968, Ser. No. 734,698
Int. Cl. B01d *1/14*; F26b *21/00*
U.S. Cl. 159—5 8 Claims



A combination dehydrator and purifier for organic liquids-solids composites, featuring means providing an

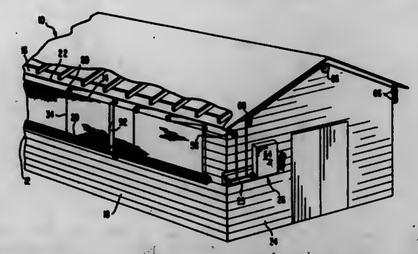
improved "idle" flow pattern of treatment air (or gas) travel over the material being treated.

3,511,298
APPARATUS FOR CONCENTRATION OF AND RECOVERY OF CONSTITUENTS FROM LIQUID SOLUTIONS
Robert C. McConnell, 408 Red Haw Road, Dayton, Ohio 45405, and Walter R. Barrett, Apt. 3, 108 S. Hubert Ave., Springfield, Ohio 45505
Filed May 25, 1967, Ser. No. 641,353
Int. Cl. B01d *1/14, 23/00*
U.S. Cl. 159—16 2 Claims



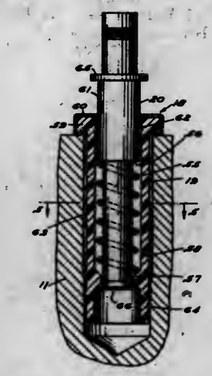
Apparatus for concentrating and for recovery of various constituents from a liquid solution by reversing the direction of flow of the solution within a container and by blowing air through the solution to evaporate a portion of the liquid in the container. A baffle is positioned near the point of flow reversal to confine settleable constituents to an area below the baffle from which they may be removed, concentrated soluble constituents being removed from the area above the baffle. Air and vaporized liquid arising from the free surface of the solution in the container may be collected and chilled to recover the vaporized liquid.

3,511,299
CONDITION RESPONSIVE CLOSURE OPERATING DEVICE
Alfred T. Newell III, 324 Redwood St., Birmingham, Ala. 35210, and Larry Winfred Wolfe, 454 Boulevard, Gainesville, Ga. 30501
Filed Sept. 1, 1965, Ser. No. 484,360
Int. Cl. E05f *15/20*
U.S. Cl. 160—1 1 Claim



This disclosure relates to curtain raising and lowering mechanisms in general, and more particularly to automatic and manual mechanisms employed in connection with cable or rope suspension systems for curtains on poultry houses. When temperatures are sufficiently high, the curtain is automatically raised to allow ventilation of the poultry house. During periods of prolonged coldness, the curtain is normally closed to conserve heat within the house and automatically open when the humidity reaches a high level that is injurious to the health of the poultry.

3,511,300
FOLDING DOOR CONSTRUCTION
John W. Matyas, 11300 Schaefer, Detroit, Mich. 48227
Filed Nov. 12, 1968, Ser. No. 775,062
Int. Cl. E05d *15/26, 7/04*
U.S. Cl. 160—206 8 Claims



The folding door construction disclosed herein comprises an upper pivot assembly and a lower pivot assembly for pivoting a panel of a multipanel door in a door opening. A guide assembly guides another of the panels along a track. The lower pivot assembly comprises a sleeve frictionally held in the panel and a pivot pin which is threaded on a nut journalled on the sleeve and slidable in an opening in the sleeve. The upper pivot assembly comprises a sleeve frictionally held in the panel and a pivot pin which is yieldingly urged outwardly from the sleeve for engagement with an opening in one of the door panels.

3,511,301
DOOR SECTIONS HAVING UNITIZED HARDWARE
John R. Graham, Chagrin Falls, Walter K. Malek, Hinckley, Robert H. Comp, Cleveland Heights, and Henry Z. Substelny, Cleveland, Ohio, assignors, by mesne assignments, to Graham Door Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 26, 1967, Ser. No. 678,239
Int. Cl. E05d *5/08, 15/16*
U.S. Cl. 160—209 4 Claims



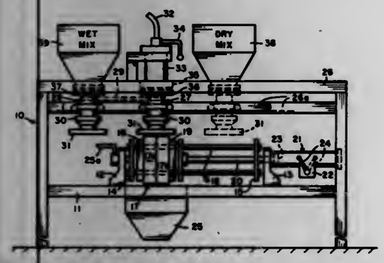
Overhead door sections have top and bottom rails which have backward extensions acting as trusses and pro-

viding optional placements for track wheel shafts. At intermediate positions, the rails have mating rabbets, which provide double air seals, and respectively have mating male and female continuous hinge portions readily assembled from the back without extraneous hardware and forming a third air seal.

3,511,302
METHOD FOR PRODUCING A SHELL FACED MOLD

Robert H. Barron, 8414 Buckthorn, Berkeley, Mo. 63134

Filed Feb. 27, 1967, Ser. No. 618,772
Int. Cl. B22c 9/12
U.S. Cl. 164—24 6 Claims



The subject shell mold consists of applying dry molding sand the granules of which are coated with a resin binder to a heated pattern to render the sand capable of faithfully reproducing the shape of the pattern with as thin a facing layer of the binder treated sand as is possible so that the least amount of finer grades of sand are used to make a mold as thin as possible. The subject shell mold is the product or the result of a process in which the formation of the shell mold, before its removal, has applied thereto a wet backfill mixture of refractory media and an air-set binder as a backing to the shell to render it rigid for withdrawal from the pattern and strong enough to stand up during the pouring of molten metal and its solidification. Thereafter the mold is intended to break down so that the material may be easily separated from the solidified casting. The resulting shell mold is gas permeable and obtains high fidelity of pattern shape reproduction and dimensions.

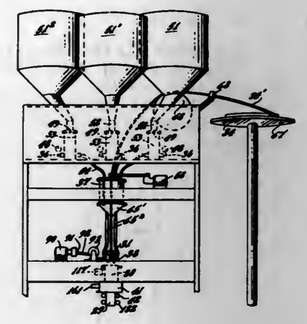
3,511,303
ELECTROSLAG MELTING AND CASTING PROCESS

Robert C. Parsons, Wallingford, Pa., assignor to Arcos Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 27, 1966, Ser. No. 605,044
Int. Cl. B22d 27/02
U.S. Cl. 164—50 16 Claims

The present disclosure relates to electroslag melting employing a crystallizer to surround molten slag, a molten metal pool and a solidified metal product which is being withdrawn therefrom. In one aspect a crystallizer is electrically insulated from the electrode and from the ground. In another aspect a crystallizer of minimal length is used, to permit direct application of water spray to the solidified metal product below the crystallizer in order to remove slag and produce a nearly vertical dendritic pattern. In another aspect the electrode is traversed in a rectangular crystallizer to form a heat pattern of large cross section and refine the metal most effectively.

In another aspect a mixture of combined powders of controlled composition is fed to the slag pool adhereing to the electrode. Steam and slag particles are preferably collected below the crystallizer so that they will not interfere with electrically conducting feed rollers engaging the solidified metal product. The invention contemplates that

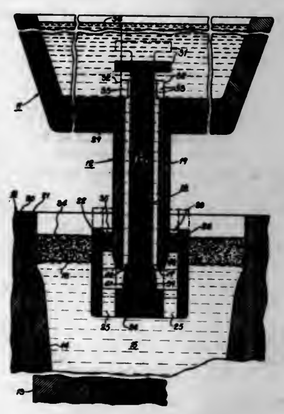


the slag level can be automatically controlled. The mixing of the powders is best accomplished by a rotary chop mixer.

3,511,304
FLOAT CONTROL VALVE FOR CONTINUOUS CASTING

Richard Baier, New Brunswick, and Paul John Kranz, Westfield, N.J., assignors to American Smelting and Refining Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 13, 1967, Ser. No. 667,566
Int. Cl. B22d 11/10
U.S. Cl. 164—82 4 Claims

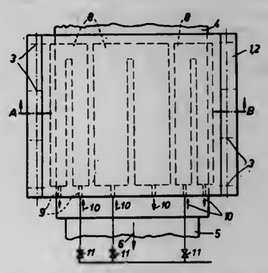


This application is concerned with a float control valve for continuously casting metals. The valve has a tube which extends from the bottom of a container for molten metal into the top of a mold in which the metal is to be cast. The lower end of the tube serves as a valve seat. Within the tube is a shaft which extends into the molten metal container and which has at its bottom a cup which surrounds the bottom of the tube. The lower portion of the shaft adjacent the tube is tapered. The tapered portion of the shaft and the bottom of the cup together with the lower end of the tube provide a throttle opening for throttling the delivery of molten metal into the mold.

3,511,305
METHOD FOR COOLING A CONTINUOUS CASTING

Alfred J. Wertli, Poststr. 15, EH-8406, Winterthur, Switzerland

Original application Apr. 25, 1966, Ser. No. 544,946, now Patent No. 3,447,592, dated June 3, 1969. Divided and this application Oct. 23, 1968, Ser. No. 793,626
Claims priority, application Switzerland, May 3, 1965, 6,275/65
Int. Cl. B22d 11/00
U.S. Cl. 164—82 4 Claims

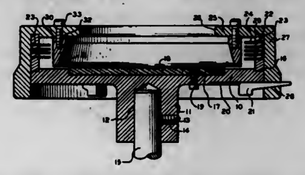


The casting is continuously cooled in a differential manner by passing separate cooling streams through the cooling apparatus in order to obtain different rates of cooling in each coolant passage to effect a homogeneous structure in the casting, the cooling apparatus is formed with U-shaped coolant passages and the temperature or rate of flow of the coolant through each coolant passage is adjustably varied.

3,511,306
METHOD AND APPARATUS FOR CENTRIFUGALLY CASTING PERFORATED RINGS

Joseph T. Warkoczewski, Overland Park, Kans., assignor to Certain-Teed Saint Gobain Insulation Corporation, Bala Cynwyd, Pa., a corporation of Maryland

Original application Oct. 25, 1966, Ser. No. 589,444. Divided and this application Mar. 17, 1969, Ser. No. 816,475
Int. Cl. C03b 37/04; B22b 19/00
U.S. Cl. 164—105 4 Claims



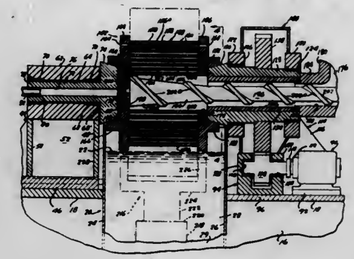
A method and apparatus for centrifugally casting metal rings adapted especially for use in glass fiber spinning rotors, the molten metal of the ring being delivered to the inner surface of an annular holder from which tubes project radially inwardly so that the molten metal flows around and between the tubes and is solidified with the tubes imbedded therein.

3,511,307
APPARATUS FOR THE CONTINUOUS CASTING OF A METAL SHEET OR STRIP

Frank A. Russo, 1741 Bears Den Road, Youngstown, Ohio 44511

Filed Sept. 7, 1967, Ser. No. 666,067
Int. Cl. B22d 11/06, 11/10
U.S. Cl. 164—276 19 Claims

The apparatus for practicing the process comprises a rotatable drum having an internal involute metal casting chamber which is center charged from a continuous source of molten metal, a water cooling jacket for the chamber to effect solidification of the molten metal as it travels



its volute path to a discharge opening communicating with the chamber, together with apparatus externally located relative to the drum to effect a cooling of the cast metal.

3,511,308
PROCESS FOR COOLING HOT GASEOUS SUSPENSIONS OF FINE SOLIDS

Ludwig F. Nerlinger, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

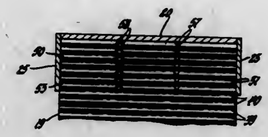
No Drawing. Filed May 9, 1968, Ser. No. 728,060
Int. Cl. F28b 3/00
U.S. Cl. 165—1 3 Claims

The cooling efficiency of externally cooled conduits through which a hot gaseous suspension of fine solids is passed for cooling, is improved by introducing into the hot suspension a minor amount of particulate, solid, water-soluble salt and after cooling, separating the fine particles from the salt by solution of the latter. The invention is particularly directed to the cooling of pigmentary titanium dioxide suspended in hot gaseous reaction products from the oxidation of titanium tetrachloride vapor.

3,511,309
ROTARY REGENERATOR

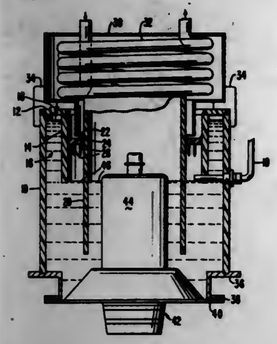
Hugh J. Clifford, Lockport, and George H. Johnson, Newfane, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 20, 1968, Ser. No. 777,264
Int. Cl. F28d 19/00
U.S. Cl. 165—9 2 Claims



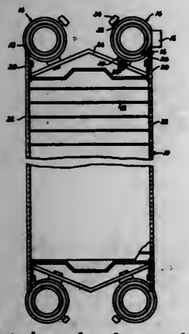
An annular matrix in an axial-flow regenerator which cooperates with circumferential seals bearing against the faces of the matrix at the outer rim has an impervious ring in the matrix structure blocking communication of pressure from one face of the matrix to the matrix-engaging face of the seal at the other face. The blockage is produced by a circumferential corrugation or crimp in the sheets of the matrix which have corrugations extending axially of the matrix.

3,511,310
INTEGRAL VAPOR COOLING SYSTEM
Coenraad van Loo, San Jose, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Apr. 15, 1968, Ser. No. 721,330
Int. Cl. F28d 15/00; H24j 7/28
U.S. Cl. 165—105 6 Claims



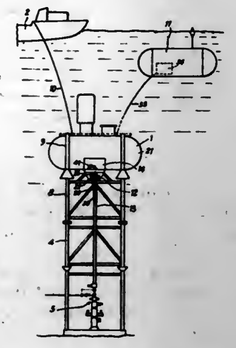
An integral vapor cooling system comprising a tubular shell, a tubular boiler housed within the shell in spaced relationship therewith, and means for sealing the lower end of the shell with an object to be vapor-cooled housed within the boiler. Portions of the shell and boiler are adapted to be filled with a liquid cooling agent to a predetermined level with liquid communication between the portions under the predetermined level. Condensing means are disposed circumferentially about the boiler above the liquid level. Means are provided for deflecting vapor rising above the liquid level within the boiler to the condensing means. Means within the integral system are also disclosed for controlling the level of liquid coolant and for electrically insulating the condensing means from the object to be cooled.

3,511,311
CORNER BLOCKS FOR INTERMEDIATE PLATES IN PLATE HEAT EXCHANGERS
Bjørn Pedersen, Kolding, Denmark, assignor to De Danske Mejeriers Maskinfabrik A.m.b.A., Kolding, Denmark, a limited liability company of Denmark
Filed Mar. 11, 1968, Ser. No. 712,056
Claims priority, application Denmark, Mar. 17, 1967, 1,434/67
Int. Cl. F28b 7/00
U.S. Cl. 165—78 7 Claims



A connecting plate in a plate heat exchanger has transverse end members and longitudinally extending side members, the side members having an extension that projects beyond the end members and engages a conduit section. The conduit section is also connected to the end member at a point spaced from the extension, with the conduit section and the end member spaced apart between the extension and this latter point of connection.

3,511,312
CABLE WORKING ARRANGEMENT ON SUBMARINE WELL-HEADS
Maurice Laffont, 19 Les Engoulvents-Domaine de St. Francois 78, La Celle-St.-Cloud, France, and Claude Duvet, 21 Rue Rollin, Paris, 5 eme, France
Filed Apr. 23, 1968, Ser. No. 723,431
Claims priority application France, Apr. 24, 1967, 103,872; Apr. 9, 1968, 147,515
Int. Cl. E21b 33/035
U.S. Cl. 166—.5 4 Claims



A cable working device for use at the head of a submerged well comprised of a submergible nacelle or vessel capable of positioning at the well-head beneath a body of water for servicing of the well.

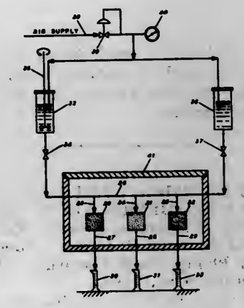
3,511,313
CEMENTITIOUS COMPOSITIONS AND METHODS
Louis H. Ellers and Christ F. Parks, Tulsa, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 10, 1965, Ser. No. 486,530
Int. Cl. E21b 33/14; C08f 45/22, 45/34
U.S. Cl. 166—295 6 Claims

The sealing of void spaces, e.g. as in geological formations and/or between metal shapes is accomplished with a liquid slurry of a particulate, water-soluble organic polymer in an organo solvent. The mixture of the polymer and solvent has a controlled set time to allow the emplacement of the slurry as a liquid. The slurry then sets to form a sealing cementitious material. Depending upon the class of organo solvent employed, the set time of the slurry is controlled by temperature manipulation, mixing the organo solvent with a second organic liquid of different solvency properties or mixing with water.

3,511,314
CEMENTING COMPOSITION AND WELL CEMENTING PROCESS EMPLOYING SAME
L. J. Scott, Jr., Norman, and Daniel L. Gibson, Fred E. Hook, and Clare H. Kucera, Tulsa, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 28, 1968, Ser. No. 771,332
Int. Cl. C04b 7/00, 7/12; E21b 33/13
U.S. Cl. 166—293 4 Claims

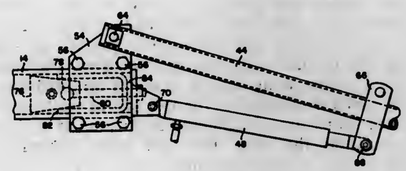
(A) A novel aqueous hydraulic cement slurry comprising hydraulic cement, water, and a turbulence inducing, fluid-loss, control agent consisting of the reaction product of (1) an amino compound selected from the class consisting of polyalkylinepolyamines, polyalkylenimines, and mixtures thereof and (2) an acidic compound selected from the class consisting of carboxylic acids, sulfonic acids, polymers having a carboxyl substituent, and polymers having a sulfonate substituent; and (B) The method of performing cementing operations in geologic formations comprising emplacing said aqueous cement slurry in such formation for bonding and plugging purposes.

3,511,315
METHOD OF CONSOLIDATING EARTH FORMATIONS USING DIVERTING AGENT
Ralph S. Millhone, Brea, Chester L. Love, La Habra, Alexander S. Allen, Jr., Santa Monica, and Coral L. De Priester, Fullerton, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed May 20, 1968, Ser. No. 730,513
Int. Cl. E21b 33/13
U.S. Cl. 166—295 4 Claims



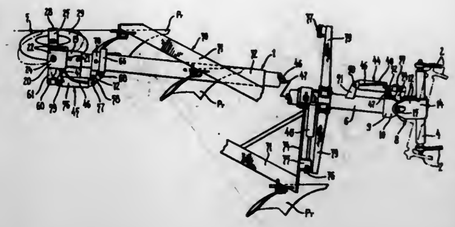
A composite diverting agent and water scavenger for use before resin in a method of consolidating incompetent earth formations.

3,511,316
HYDRAULIC MARKER FOR AGRICULTURAL IMPLEMENTS
Orey William Oerman and John Isaac Cantral, Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,535
Int. Cl. A01b 35/32
U.S. Cl. 172—126 2 Claims



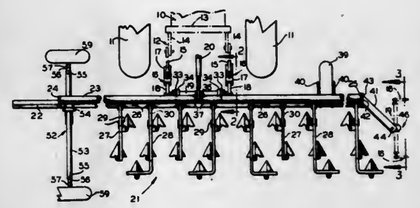
Apparatus for mounting hydraulically actuated row markers on agricultural equipment, including a marker arm mounting bracket securable to the exterior of a hollow toolbar and a cylinder mounting device securable within the toolbar, the marker arm and cylinder being pivotally secured to their respective mounting structures. Also, a hydraulic circuit for operating a hydraulically driven fertilizer attachment in conjunction with the markers in such a fashion that the attachment can only be driven when at least one of the markers is down.

3,511,317
TURNOVER SEMI-MOUNTED PLOW
Clarence B. Richey, Fresno, Calif., assignor to Massey-Ferguson Inc., Detroit, Mich.
Filed Apr. 19, 1967, Ser. No. 632,008
Int. Cl. A01b 3/28, 69/00
U.S. Cl. 172—212 1 Claim



A semi-mounted, two-way, turnover plow having a ground wheel that is hydraulically steered in accordance with changes in the direction of the tractor, and in which the hydraulic steering system is interconnected with the turnover plow to cause the wheel to steer the trailing end of the plow respectively to the left or right of the tractor longitudinal axis when the left-hand or right-hand plow bottoms are in plowing positions, and to steer the trailing end of the plow in line with the tractor longitudinal axis when the plows are in transport position.

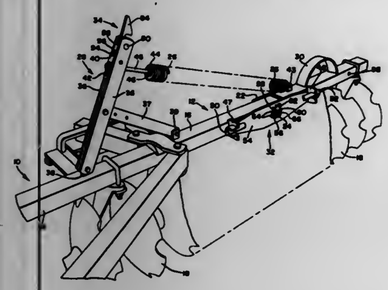
3,511,318
IMPLEMENT TRANSPORT ATTACHMENT
Charles Boetto, Naperville, Donald E. Connor, Plainfield, and John F. Stufflebeam, Lockport, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,153
Int. Cl. A01b 73/00
U.S. Cl. 172—240 1 Claim



An agricultural implement to be drawn by a tractor or the like, the implement comprising, a transverse tool-carrying frame, a first and second set of wheels connected to the frame, said second set of wheels being laterally spaced with respect to the longitudinal axis of the frame and movable to engage the ground to elevate the frame to an effective endwise transport position, and a first and second hitch to selectively connect the implement to the tractor for field operation or highway transport.

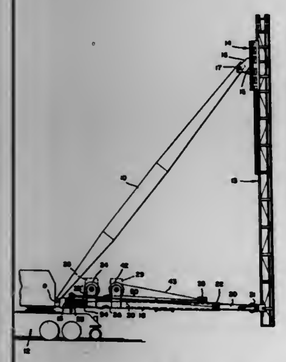
3,511,319
LIFT ASSIST MECHANISM
Harold Valentine Hansen, Cordova, Charles Harold Youngberg, Moline, and George Frederick Oelschlaeger, Rock Island, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,181
Int. Cl. A01b 23/00, 35/28
U.S. Cl. 172—662 7 Claims

A mechanism to assist in moping outrigger frames between their extended working position and their folded inoperative position utilizing a spring mounted between the main frame of the implement and the outrigger frame such that when the outrigger frame is in its working position the spring is in tension and urges the outrigger frame toward its inoperative position, and when the out-



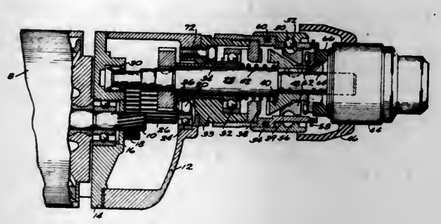
rigger is in its inoperative position, a member rigidly mounted on the outrigger frame displaces the center portion of the spring laterally, causing the spring to then urge the outrigger frame toward its working position.

3,511,320
BOTTOM BRACE WITH REVERSELY ACTING POWER CABLE CONNECTIONS FOR SHIFTING AND HOLDING PILE HAMMER LEADS FORWARD AND BACKWARD AND IN LATERALLY INCLINED BATTER POSITIONS
James O. Miller, Cranford, N.J., assignor to Horn Construction Co. Inc., Merrick, N.Y., a corporation of New York
Filed Dec. 3, 1968, Ser. No. 780,797
Int. Cl. E02d 7/14, 13/04
U.S. Cl. 173—43 6 Claims



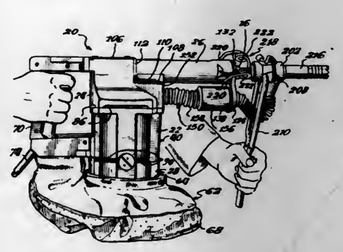
Pile hammer leads are shifted outward and inward and to either side by pull cables extending from opposite sides of reversible drums and acting to hold the leads during shifting movements as well as in finally adjusted positions.

3,511,321
HAMMER DRILL
Jerome L. Schnettler, Milwaukee, Wis., assignor to Milwaukee Electric Tool Corporation, Brookfield, Wis., a corporation of Wisconsin
Filed Sept. 4, 1968, Ser. No. 757,330
Int. Cl. E02d 7/02
U.S. Cl. 173—48 6 Claims



A hammer drill with a quick acting ball locked shift spacer to hold the spindle in nonhammering rotating position and a heat insulator between the ratchets and the motor casing and motor.

3,511,322
PERCUSSIVE HAMMER WITH VACUUM SYSTEM FOR CLEANING DEBRIS FROM WORKPIECE
Thomas G. Bixby, Valparaiso, Bruce L. Kaufman, Michigan City, and Harrison R. Holman, South Bend, Ind., assignors to Phillips Drill Company, Michigan City, Ind., a corporation of Illinois
Filed Sept. 14, 1967, Ser. No. 667,812
Int. Cl. B25d 17/14; E21c 3/00
U.S. Cl. 173—75 13 Claims



A percussive hammer of the type which has a vertically oriented motor and a barrel mounted adjacent the top of the motor housing and connected therewith having the barrel axis normal to the axis of the motor. The hammer having a reciprocating ram for applying repeated blows to a tool which is mounted in the free end of the barrel with the tool shank extending inwardly to present its interior axial end to the ram. The ram being pneumatically coupled with a crank-operated piston, the crank being driven by the motor. An impeller connected to the bottom end ofthe motor shaft and an impeller chamber formed in the interior of the housing with the impeller rotating therein to produce a vacuum at the chamber entrance and a high pressure at the outlet port of the chamber. A cloth bag connected to a handle secured in turn

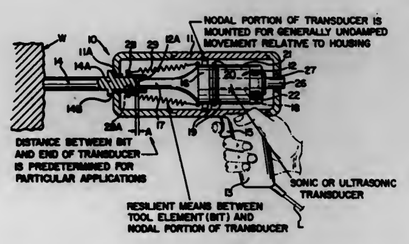
to the housing, the bag having internal connection with the outlet port of the chamber and having an opening which is normally closed by being pressed into a slot formed in the handle, but readily opening by sliding the lips of the opening out of the slot. An interior debris passage disposed generally vertically and interior of the same housing that carries the motor, with its bottom end connected to the chamber entrance and opening out of the housing at the root of the barrel and spaced below the same. An end bracket on the barrel end which holds the tool shank guide in the barrel and alos provides support for a debris pipe which connects from the debris passage opening to the bracket. The pipe is flexible and extensile and biased to hold itself removably in position with one end against the pipe support and the other end secured to the debris passage opening. The pipe may be flexed laterally to give access to its interior and has a sieve for catching rubble during use of the hammer. From the opposite side of the support a second flexible pipe extends to the work piece to suck the debris from the work while the hammer is being used.

The interior of the hammer has a ram arrester in the form of a helical coil of wire capable of being expanded and elongated, the coil being cylindrical in configuration and formed of rectangular wire to present a flat surface on its interior. The ram end is normally outside of the spring when a tool shank is in the end of the barrel but will engage into the spring when the tool shank is removed, the ram having a tapered nose to pilot its movement, and thereafter being held in place and out of coupled relation with the piston until once more a tool shank is inserted and pushes the ram end out of engagement with the spring.

The tool shank bushing and ram arrester are both mounted in a suitable seat which is formed interior of the barrel adjacent its front end, both being removable from the end, but held in place by the bracket which is turn is secured to enlarged lateral formations provided on the barrel adjacent its front end. The bushing may be engaged by a threaded connection or a simple slide fit. Modifications of said bushing are provided.

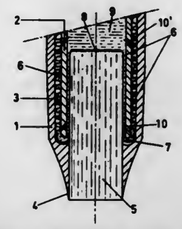
Other structures include vents cast into the barrel to prevent air lock and a novel wrist pin clip.

3,511,323
SONIC TOOL WITH GENERALLY UNDAMPED MOUNTING OF NODAL PORTION OF TRANSDUCER
Robert H. Riley, Jr., Towson, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Feb. 23, 1968, Ser. No. 707,597
Int. Cl. B25d 9/00, 11/00, 13/00
U.S. Cl. 173—117 21 Claims



A sonic tool houses a transducer and has means mounting the nodal portion of the transducer to accommodate a generally undamped movement of the nodal portion relative to the tool housing, and in the direction of cyclic elastic deformation of the transducer, during the operation of the tool.

3,511,324
METHOD AND SAMPLER FOR TAKING AN UNDISTURBED SOIL SAMPLE
Herman Pieters, Delft, and Heinrich K. S. P. Begemann, Den Haag, Netherlands, assignors to Stichting Waterbouwkundig Laboratorium of Delft, Netherlands, a corporation of the Netherlands
Filed Apr. 12, 1966, Ser. No. 542,125
Claims priority, application Netherlands, Apr. 14, 1965, 6504741
Int. Cl. E21b 49/02, 9/20
U.S. Cl. 175—59 7 Claims

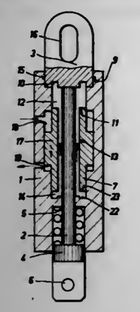


The sampling means is comprised of a hose, an outer tube, an inner tube, means for inserting the sampling means into soil, means for closing off the hose end, a supporting liquid and means for removing the soil sample from the soil. The hose is deformable in the transverse direction and has little deformability in the longitudinal direction. The deformation in the transverse direction is inversely dependent upon the amount of stress on the hose in the longitudinal direction. The inner tube is disposed within the outer tube. The hose is partially contained in the annular chamber formed between the inner and outer tubes. The inner tube has a circumferential exit port through which the annular chamber communicates with the interior of the inner tube. Upon insertion of the sampling means into the soil, the soil sample penetrates within the inner tube, pulls the hose through the exit port and out of the chamber and contains itself at one end within the hose. The hose is closed off at the other end so as to encase the soil sample within a portion of the hose without exerting a substantial pressure on the sample and while maintaining the closed end of the hose at a constant level in respect of the surrounding soil. The supporting liquid is contained between the inner tube and the hose. The hose is substantially impervious to the supporting liquid and to the components of the sample. The supporting liquid causes the hose to be pressed against the chamber wall. The sample is removed from the soil while maintaining sufficiently high friction between the hose and the exit port so that the longitudinal tensile load of the hose together with the hydrostatic pressure of the supporting liquid is sufficient to prevent outward deformation of the sample.

3,511,325
DEVICE FOR EXTRACTING PILES OR THE LIKE
Paul Schmidt, Saalhausen, Sauerland, Germany, assignor to Tracto Technik Paul Schmidt, Saalhausen, Sauerland, Germany
Filed Nov. 8, 1968, Ser. No. 774,427
Claims priority, application Germany, Nov. 15, 1967, T 35,252
Int. Cl. E02d 7/06, 9/00
U.S. Cl. 173—131 6 Claims

An extractor device for extracting piles, sheet piles, jammed drill rods or like structures of the kind comprising a tension rod for attachment to the structure to be extracted, a crosshead fixed to the top of the tension rod and an impact hammer in the form of an annular piston

which surrounds the tension rod and moves upwards and downwards within a cylinder mounted on the tension rod to provide impacts on the crosshead at each upward stroke, is provided with a buffer chamber at the top of the cylinder, the chamber being filled with buffer liquid



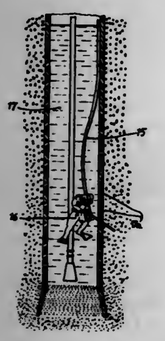
with which the piston comes into contact at the end of its working stroke so that the impact is applied to the crosshead through the liquid. This provides a cushioning effect which greatly reduces the noise produced by the device.

ERRATUM

For Class 175—59 see:
Patent No. 3,511,324

3,511,326
PROCESS AND DEVICE FOR THE RESTORATION OF CLOGGED-WELLS

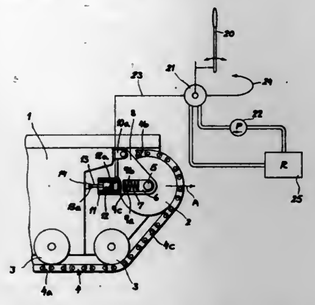
Bernard Bonnevalle, 91–93 Avenue Roger Salengro, Villeurbanne, Rhone, France
Filed Oct. 28, 1968, Ser. No. 771,258
Claims priority, application France, Nov. 2, 1967, 49,288; Dec. 7, 1967, 49,413
Int. Cl. E21b *7/18, 37/00*
U.S. Cl. 175—61 5 Claims



When the water-bearing stratum which surrounds a well is clogged by fine particles (sand, mud) the well is restored to its original capacity by injecting a mixture of air and water under pressure into the stratum through the drain openings of the well lining and by eliminating the injected water from the stratum together with the particles dislodged therefrom and retained in suspension in this injected water. The injection rod used for this purpose comprises an air tube and a water tube parallel to each other, and in an embodiment a suction tube to eliminate the injected water from the stratum. The tubes may be disposed concentrically.

3,511,327
BRAKE SYSTEM FOR TRACKED VEHICLES

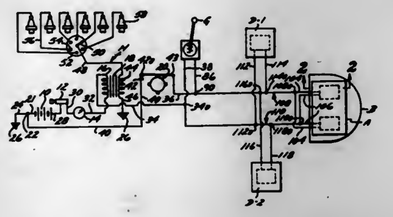
Karl Schlör, Biebesheim (Rhine), Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Jan. 8, 1968, Ser. No. 696,349
Claims priority, application Germany, Jan. 11, 1967, T 32,957
Int. Cl. B62d *11/02*
U.S. Cl. 180—6.7 8 Claims



A steering-brake mechanism for track vehicles in which the compensating roller between the return pass and the working pass of the endless-chain track is mounted upon a triangular bracket pivotally connected with the vehicle body and in a journal block shiftable in the triangular support against a compression spring; the support has a hydraulic cylinder whose piston acts upon the chassis at another pivot to adjustably tension the track in response to the command of the operator of the vehicle to reduce the speed of the track by increasing the resistance of its rollers and coupling it more effectively to the engine in its engine-braking mode.

3,511,328
POWER VEHICLE SAFETY DEVICE

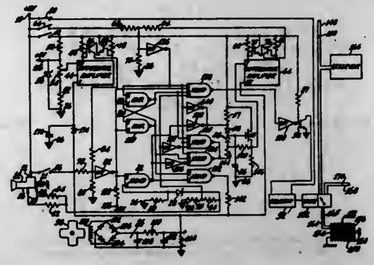
Eldon L. Webb, 1934 E. Wilson, Orange, Calif. 92667
Substituted for abandoned application Ser. No. 646,081, June 14, 1967. This application Aug. 18, 1969, Ser. No. 851,032
Int. Cl. B60k *27/08*
U.S. Cl. 180—101 2 Claims



A portable device that permits a power vehicle to continue in operation and move only so long as pressure is exerted on the device such as when a user sits or stands thereon. Plural pressure switches responsive to the user can complete the ignition circuit or open a valve in the fuel line.

3,511,329
SPEED CONTROL FOR AUTOMOTIVE VEHICLES

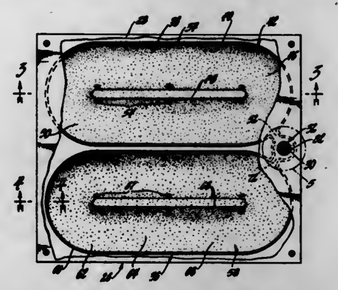
Daniel A. Wisner, Detroit, Mich., assignor to RCA Corporation, a corporation of Delaware
Filed Feb. 14, 1968, Ser. No. 705,378
Int. Cl. B60k *31/00*
U.S. Cl. 180—105 10 Claims



A speed control apparatus for an automotive vehicle. While the speed control includes mechanically actuated means to operate the throttle, electronic elements are provided to sense the speed of the vehicle and to cause the mechanically actuated means to adjust the position of the throttle to keep the speed of the vehicle at a desired value. Electronic means are also provided to deactivate the speed control apparatus by depressing the brake pedal, to reactivate the speed control when desired, and also to increase or decrease the desired speed.

3,511,330
UNBALANCE COMPENSATED FLUID CUSHION DEVICES

J. D. Livesay, Tipp City, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 20, 1968, Ser. No. 738,649
Int. Cl. B60v *1/04*
U.S. Cl. 180—118 4 Claims



In preferred form, a ground proximate fluid cushion device including a platform, flexible diaphragm means located horizontally beneath the platform defining a plurality of pads for forming distinct and separate fluid cushions beneath the platform, each of the pads including an inflatable cavity formed in part by a depending continuously curved convolution in said diaphragm means progressing from a peripherally attached point on the platform to a narrow annular throttling gap located in close spaced relationship with the ground, the throttling gap zone having a perimetrical shape to form the boundary of a plenum cavity between the diaphragm means and the ground at each pad, and a fluid supply system including automatic flow proportioning valve means for controlling the air supply to each of the plurality of pads for varying the fluid cushions formed by the pads to compensate for unbalanced loads on the platform.

3,511,331
SKIRTS FOR VEHICLES PROPELLED ON AIR CUSHIONS

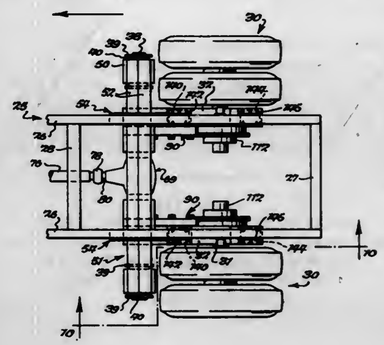
Roger H. Landry, Asnieres, France, assignor to Pneumatiques, Caoutchouc Manufacture et Plastiques Kleber-Colombes (Societe Kleber-Colombes), Paris, France
Filed July 25, 1967, Ser. No. 655,940
Claims priority, application France, July 25, 1966, 70,792
Int. Cl. B60v *1/16*
U.S. Cl. 180—127 10 Claims



The present disclosure relates to skirts provided for vehicles propelled on cushions of air which comprises at least two sheets separated from each other by an elastomeric layer, each sheet being formed by flexible elements separated from each other and having a direction oriented to resist specific forces and stresses, the flexible elements of said sheets being interconnected by the elastomeric layer which separates these sheets. The flexible elements of the sheets are disposed in the direction of the stresses or the components of the stresses to which the skirt is subjected.

3,511,332
COMPRESSION RUBBER SPRING SUSPENSION FOR TRAILING ARMS SUPPORTING DRIVEN WHEELS

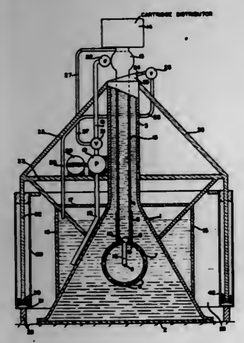
Albert F. Hickman, Eden, N.Y. 14057
Continuation-in-part of application Ser. No. 591,899, Nov. 3, 1966. This application Apr. 28, 1967, Ser. No. 634,561
Int. Cl. B60k *17/00*
U.S. Cl. 180—73 8 Claims



While not limited to any particular service, the suspension is shown as being a so-called independent wheel suspension between a vehicle frame and its rubber tired ground engaging drive wheels which can be single wheels on opposite sides of the frame or tandem wheels. Each wheel rotatably supports a stub axle at the free end of an arm, which arm is journalled at its other end on the frame on a horizontal axis extending transversely of the line of travel. A rubber block is compressed between the frame and a seat on a longitudinal extension of the free end of the arm, and in one form of the invention this rubber body is compressed directly against a frame bracket. In the tandem axle suspension form, the free ends of the arms of the tandem wheels at each side of the vehicle project horizontally toward each other and

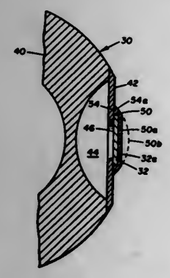
the rubber body at the outboard end of each arm is compressed against the corresponding end of a walking beam journalled on the frame. Another aspect of the invention resides in the transmission of driving power to the wheels, this being from a differential gear fixed to the vehicle frame and including differential output shafts extending coaxially through the hubs of the wheel arms at opposite sides of the vehicle frame. Each shaft drives a train of gears journalled on and extending along each arm, the last of these gears being drivingly connected to its rubber tired drive wheel.

3,511,333
APPARATUS FOR SEISMIC PROSPECTING ON LAND
Jacques Cholet, Rueil-Malmaison, and Gerard Grau, Paris, France, assignors to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, France
Continuation of application Ser. No. 540,720, Apr. 6, 1966. This application Aug. 26, 1968, Ser. No. 755,459
Claims priority, application France, Apr. 13, 1965, 13,127; Aug. 31, 1965, 30,023
Int. Cl. G01v *1/12*
U.S. Cl. 181—.5 **1 Claim**



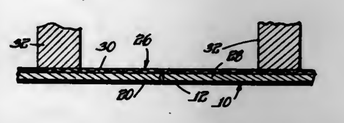
A container with a deformable bottom and filled with liquid rest on the ground. A cartridge is fired within the container for seismic prospecting. A tank filled with liquid is associated with the container. Liquid is withdrawn from the tank to move the cartridge into the container. Liquid passes from the container back to the tank.

3,511,334
ACOUSTIC WELL LOGGING TOOL
Joseph Zemanek, Jr., Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Dec. 2, 1968, Ser. No. 780,510
Int. Cl. G01v *1/40*
U.S. Cl. 181—.5 **2 Claims**



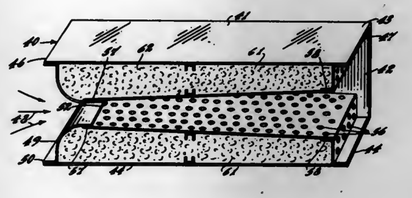
This specification discloses an acoustic well logging tool. The logging tool includes a transducer which is secured to a support member in the tool by means of bonding material covering the active face of the transducer. The bonding material has a flattened outer face opposite the active face of the transducer in order to provide an increased directivity of the survey signal and signal-to-noise ratio.

3,511,335
INSULATING WALLPAPER
Rikard Uddenborg, 5154 N. Clark St., Chicago, Ill. 60640
Filed Apr. 21, 1966, Ser. No. 544,250
Int. Cl. E04b *1/99*
U.S. Cl. 181—33 **4 Claims**



A wall covering having three layers of flexible material, the intermediate layer comprising a thin film, preferably of plastic, having a plurality of intersecting rows of small closely-spaced apertures which border a multiplicity of imperforate panels. The inner and outer layers, which may be formed of paper, are adhesively secured to each other through such apertures, leaving the thin imperforate panels of the intermediate layer free to vibrate independently of the inner and outer layers in response to sound waves impinging on the wall covering.

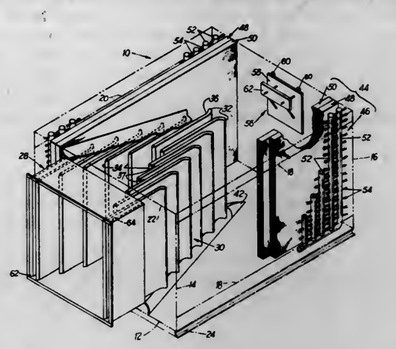
3,511,336
SOUND ATTENUATOR FOR AIR FLOW
Charles N. Rink, Hazleton, and August Sauter, Jr., Conyngham, Pa., assignors to Rink Corporation, Hazleton, Pa., a corporation of Delaware
Filed June 10, 1969, Ser. No. 832,882
Int. Cl. F01n *1/04, 1/10*
U.S. Cl. 181—42 **1 Claim**



A sound attenuator for insertion in a duct conveying air. The attenuator has an outer housing and an inner air passageway having, in line, an arcuate converging leading section and a constantly diverging, trailing section, which results in a minimum pressure drop through the attenuator with a maximum noise attenuation in the lower frequencies.

3,511,337
GAS TURBINE NOISE ATTENUATOR
Alvah C. Pease, and Howard King Pelton, Shreveport, La., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 16, 1968, Ser. No. 698,290
Int. Cl. F01n *3/04, 1/14*
U.S. Cl. 181—52 **11 Claims**

This invention relates to a noise attenuator which can be used in combination with an air conditioning or air processing means to reduce the intake noise of a gas turbine, the attenuation being effected by means of sound



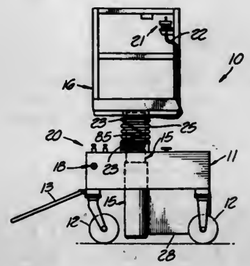
absorbing plates having offset sections to form a bend for noise paths.

3,511,338
LADDER STAND
Edwin H. Chapman, P.O. Box 265, West Union, W. Va. 26456
Filed Jan. 3, 1969, Ser. No. 788,891
Int. Cl. E06c *7/16*
U.S. Cl. 182—121 **3 Claims**

A device for attachment to ladders to form a scaffold so to allow a person to place his feet thereupon in safety and comfort while upon a ladder, the device comprising a platform between the ladder runners, the platform being positioned over one of the rungs of the ladder while a pair of diagonally upward braces secure the opposite end of the platform to an upper rung.

3,511,339
HYDRAULICALLY POWERED TOWER ASSEMBLY WITH PNEUMATIC DRIVE AND CONTROL ACCESSORIES
Albert E. Blanchard, Temple City, and Earl E. Nofzinger, Azusa, Calif., assignors to G. W. Galloway Company, Baldwin Park, Calif., a corporation of California
Filed Jan. 8, 1968, Ser. No. 696,387
Int. Cl. E04g *1/18*
U.S. Cl. 182—148 **6 Claims**

A self-contained, fluid-powered, mobile tower assembly which can be operated in dangerous atmospheres without risk of causing fire or explosion and having provision for controlling and driving all components without electrical energy and solely from a supply of pressurized fluid. The tower is actuated by hydraulic means powered and controlled pneumatically via a flexible hose connection to an air source. Flexible tubing is employed to interconnect

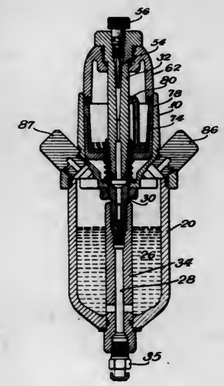


all pneumatic components which include one and preferably two control stations, one being at ground level and one being on the extendable tower structure.

3,511,340
METHOD OF LUBRICATING A TIMEPIECE MOVEMENT
André Simon-Vermot, Le Locle, Switzerland, assignor to Les Fabriques d'Assortiments Reunies, Le Locle, Neuchatel, Switzerland
No Drawing, Filed Nov. 20, 1968, Ser. No. 777,455
Claims priority, application Switzerland, Dec. 9, 1967, 17,243/67
Int. Cl. F16n *15/02*; G04b *43/00*
U.S. Cl. 184—1 **12 Claims**

A method for lubricating a timepiece movement. The surface of the pieces are given a rugosity lying between a preferred range. The pieces are then treated in a centrifugal barrel wherein lubricant carried by a mass is deposited onto the pieces. A pressurizing mass fixes the solid lubricant onto the pieces.

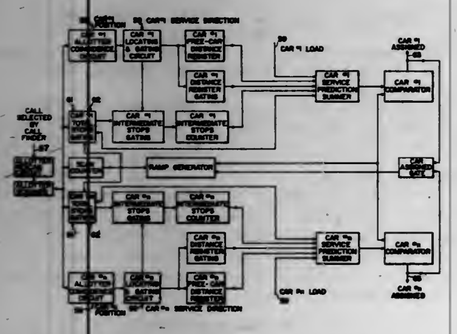
3,511,341
AIR LINE LUBRICATOR
Dale F. German, Bryan, and Wilbert G. Kautz, West Unity, Ohio, assignor to The Aro Corporation, Bryan, Ohio, a corporation of Ohio
Filed June 6, 1968, Ser. No. 735,038
Int. Cl. F16n *7/34*
U.S. Cl. 184—55 **20 Claims**



A convertible air line lubricator adapts to provide a "fog" oil mist or a "drop" oil mist to a pneumatic line. Air pressure at the lubricator inlet forces oil from a first chamber through a conduit into a seond chamber

to be fogged or directly sent into the air stream as "fog" oil mist or a "drop" oil mist to a pneumatic line. droplets of the lubricator. Oil entering the second chamber passes into a venturi type atomizer which subsequently introduces a "fog" oil mist through the outlet of the lubricator. A spring biased compensator plate provides a variable orifice in a passage leading from the air inlet to the air outlet and insures a pressure drop between the first and second chamber and a linear increase or decrease in the quantity of oil supplied to the air pressure outlet in response to air flow increases or decreases.

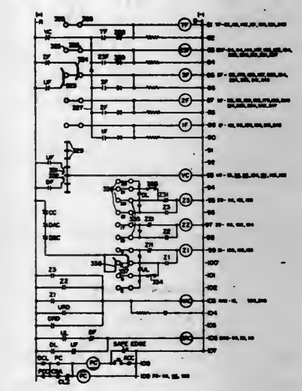
3,511,342
ELEVATOR CONTROL FOR ASCERTAINING THE CAPABILITY OF CARS TO SERVE HALL CALLS
Donivan L. Hall, Toledo, William C. Susor, Oregon, and James A. Kuzara, Sylvania, Ohio, assignors, by mesne assignments, to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 8, 1965, Ser. No. 494,194
Int. Cl. B66b *1/18*
U.S. Cl. 187—29 **44 Claims**



A control system actuated by the presence of a hall call for elevators in a plural car system to evaluate the capability of a plurality of cars in the system to serve the hall call. The evaluating means considers a number of service criteria and their relationship between the floor of the hall call and the individual cars subject to the evaluation. Typical service capability citeria which are related to the call under consideration are the travel distance of each car to the selected call, the number of stops required of the car in traveling from its current position to the selected call, or if no calls are assigned to a car, the distance between the car and the selected call. Other service criteria include the total stops required of each car and the loading of each car. Analogue signals of these service capability criteria are generated as current which may be scaled to service time for the factors and may be summed to give a total service time of each car with respect to the call. One application of the system is to assign the hall call to the car having the optimum service capability with respect to the registered call.

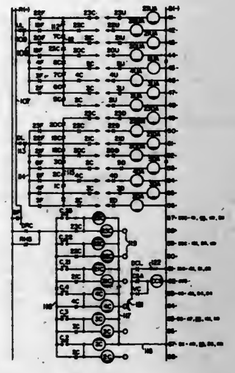
3,511,343
ELEVATOR CONTROL
Paul F. De Lamater, Toledo, Ohio, assignor to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed July 15, 1966, Ser. No. 565,551
Int. Cl. B66b *1/20*
U.S. Cl. 187—29 **43 Claims**

A system for controlling a plurality of elevators wherein cars are individually set to run to individually registered hall calls based upon spatial relationships of the cars to the landings of the hall calls and the service requirements currently imposed on the several cars. Cars are promptly responsive to the closest hall call requiring travel in the direction the call is spaced from the car provided an idle car has not established a barrier to such response by virtue of its proximity to the call or another car in active service in the direction of the call is not between the car and the call. Cars are more slowly responsive to the farthest hall call requiring travel in the



direction opposite that in which the call is spaced from the car, a reversal demand, whereby a preference of a car requiring no reversal is established. Idle car zones defined by hall call exclusionary limits exist concurrently with active cars defining at their current location hall call exclusion limits for cars behind the active car with respect to hall calls ahead of that car. Cars are arranged to relinquish assignments where other cars are conditioned to serve the calls prior to the service by the assigned car.

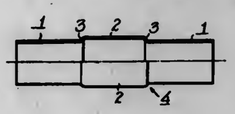
3,511,344
ELEVATOR CONTROL HAVING CAR CALL LOCKOUT OF HALL CALL STOPPING MEANS
Paul F. De Lamater, Toledo, Ohio, assignor, by mesne assignments, to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed July 15, 1966, Ser. No. 565,552
Int. Cl. B66b *1/20*
U.S. Cl. 187—29 **11 Claims**



An elevator control for a plural car elevator system which prevents stops of cars in response to hall calls when a car within a given range of travel of the landing

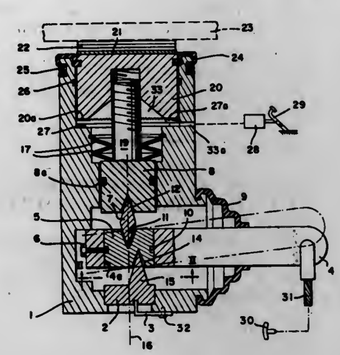
of the hall call is set to travel in the direction of the hall call and has a car call for the landing of the hall call. The range of travel between the landing and the car locking out its hall call is a distance less than the total travel from the upper to lower terminal and greater than the slowdown distance from the landing, e.g. three landings plus the slowdown distance to the landing.

3,511,345
ENERGY ABSORBER BY MEANS OF PLASTIC DEFORMATION
Masanobu Takamatsu, Yokohama-shi, and Motoo Ando, Tokyo, Japan, assignors to Tokyu Sharyo Seizo Kabushiki Kaisha, Yokohama-shi, Japan, a corporation of Japan
Filed Feb. 20, 1968, Ser. No. 706,937
Claims priority, application Japan, Feb. 25, 1967, 42/11,950
Int. Cl. F16d *63/00*
U.S. Cl. 188—1 **12 Claims**



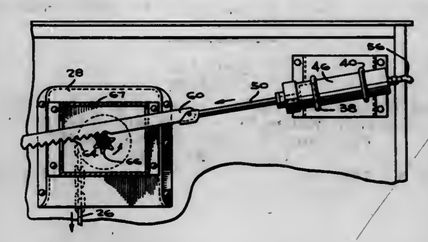
An energy absorber having at least two axially aligned tubular portions of different diameters joined by a round stepped intermediate portion. Said energy absorber is adapted upon the application of an axially directed compression force on the ends of said energy absorber to permit the plastic deformation of at least one of said tubular portions. The deformed part of said tubular portion defines a tubular region of a diameter intermediate the diameters of the original tubular portions.

3,511,346
BRAKE-ACTUATION DEVICE
Erwin Schlitz, Heusentamm, Germany, assignor to Alfred Teves, G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Sept. 6, 1968, Ser. No. 758,042
Claims priority, application Germany, Sept. 18, 1967, T 34,809
Int. Cl. F16d *55/22*
U.S. Cl. 188—71.9 **10 Claims**



A brake-actuating device for a brake equipped with a self-adjusting mechanism has a rotatable body mounted in an end of a hand-actuated brake lever. This body is coupled to the back of the adjustment mechanism so that actuation of the the lever moves the body and actuates the brake. The other side of the body is engaged by a fulcrum plug which can be rotated, thereby entraining the rotatable body and the adjustment mechanism to reset the brake.

3,511,347
AUTOMATIC BRAKE RELEASING MEANS
William T. Pritchard, Beckley, W. Va., assignor of one-fourth each to John C. Ashworth and Robert J. Ashworth, both of Beckley, W. Va.
Filed Feb. 8, 1968, Ser. No. 703,940
Int. Cl. F16d *65/32*; F16h *21/44*
U.S. Cl. 188—216 **8 Claims**

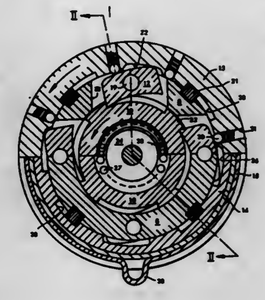


A pneumatic cylinder having a piston rod with an end-attached rack mounted adjacent the manual mechanical brake setting means of a railroad car to be actuted to engage the manual mechanical brake setting means upon connection of the main air supply coupling of the car so as to automatically disengage the mechanical brakes of the car.

ERRATUM

For Class 192—7 see:
Patent No. 3,511,920

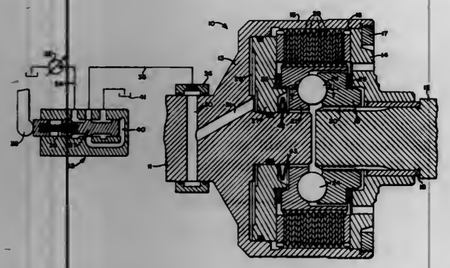
3,511,348
REVERSIBLE FREEWHEEL CLUTCH MECHANISM HAVING AUTOMATICALLY ACTING PAWL RELEASE MEANS
Sven O. I. Jonsson, Storebro, and Rune B. Jonsson, Vimmerby, Sweden, assignors to Aktiebolaget Hagelsrums Mekaniska Verkstad, Malilla, Sweden, a corporation of Sweden
Filed June 6, 1968, Ser. No. 735,159
Claims priority, application Sweden, Dec. 27, 1967, 17,840/67
Int. Cl. F16d *13/04, 43/00*
U.S. Cl. 192—43.1 **7 Claims**



An automatically reversing freewheel clutch mechanism having an input driving hub and an output driving hub, a pawl cylinder on one hub and a ratchet cylinder

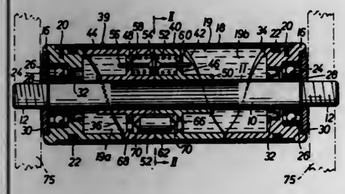
on the other, pawls for establishing a power wheel between the hubs, a reversing ring between the hubs and rotatable a limited amount in relation to the driving hub, the reversing ring forcing the pawls in one direction or the other depending on the rotational direction of the clutch mechanism, clutch mechanism intended to be interconnected between a driving shaft and an idle shaft which is normally rotating at a higher speed than the driving shaft. The clutch mechanism comprises an input driving hub, an output driven hub and pivotally mounted pawls between said input and output hubs for establishing a power transmitting axle between said two hubs. The pawls will at a reversion of rotational direction automatically cause a reversion of the function of the clutch mechanism.

3,511,349
CLUTCH
Saul Herscovici, Waterloo, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Aug. 30, 1968, Ser. No. 756,551
Int. Cl. F16d *17/02*
U.S. Cl. 192—56 **11 Claims**



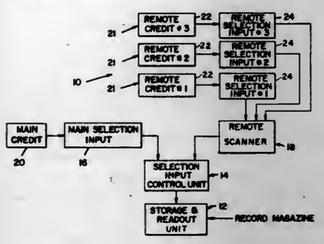
A hydraulically actuated selectively engageable and disengageable multiple disk torque limiting clutch in which the clamp-up pressure provided on the disks is varied inversely proportional to the transmitted torque so that variations in the friction coefficient of the disks are counteracted by the clutch pressure to reduce torque fluctuations such as the fluctuation between breakaway torque and slip torque.

3,511,350
BRAKING ROLLER
Hans vom Stein, Wermelskirchen, Germany, assignor to Hans vom Stein, o.H.G., Dhunn, Rhineland, Germany
Filed Oct. 2, 1968, Ser. No. 764,464
Claims priority, application Germany, Oct. 19, 1967 St 27,484
Int. Cl. B65g *13/00*
U.S. Cl. 193—35 **21 Claims**



A braking roller for use in roller conveyor systems comprises a shaft which is fixedly mounted in the frame of the conveyor system, a liquid-filled housing having a cylindrical shell and two end walls which are rotatable on the shaft so that the shell can rotate in response to frictional engagement with an article which is caused to travel along the rollers of the conveyor system, a piston installed in the housing against rotation with reference to the shaft and dividing the interior of the housing into a pair of chambers which can communicate by way of one or more passages in the piston, cams provided on the piston and on the end walls of the housing to cause reciprocatory axial movements of the piston in response to rotation of the shell, and one or more automatic regulating valves provided in the passage or passages of the piston to offer to the flow of liquid a resistance which increases proportionally with rotational speed of the housing.

3,511,351
STORAGE AND RETRIEVAL CONTROL APPARATUS AND METHOD
James R. Jones, Mountain View, Calif., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Delaware
Filed May 8, 1968, Ser. No. 727,536
Int. Cl. G11b *19/08*
U.S. Cl. 194—15 **18 Claims**

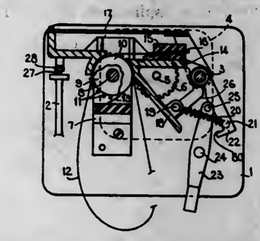


Apparatus and a method for controlling the operation of mechanical or other equipment having a plurality of information storage members arranged in preselected positions in an array and an actuatable information retrieval mechanism movable relative to the array wherein selective access to the information of any one of such storage members can be achieved by generating output signal groups representing, respectively, the position of a selected storage member and its number in the array, whereby simplified counting techniques can be used to store such number and thereafter use it for positioning said retrieval mechanism adjacent to the selected member itself for effecting the readout of the information on the member. The unit uses solid state electronic elements to minimize cost and to provide for optimum reliability. The invention is adapted for a number of different uses but is especially adapted for use in controlling a phonograph unit having a plurality of record disks or magnetic tape means on which is recorded a number of musical selections or the like.

3,511,352
AUTOMATIC BAR TYPEWRITERS AND THE THE LIKE HAVING ROLL-CAM TYPE DRIVE MECHANISMS
George B. Greene, 2501 Anniversary Lane, Newport Beach, Calif. 92660
Continuation of application Ser. No. 693,250, Dec. 26, 1967. This application Nov. 25, 1968, Ser. No. 778,481
Int. Cl. B41j *23/12*
U.S. Cl. 197—20 **13 Claims**

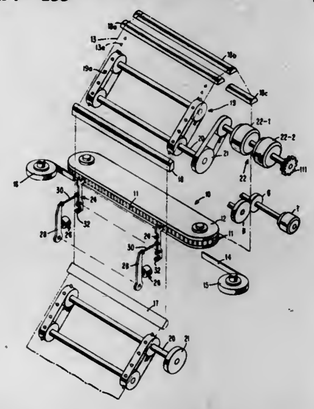
An automatic bar typewriter in which the timing mechanism is arranged to operate the reader and translator during automatic operation at a rate or rates such that repeated impressions of the same character are substantially equal in print quality. A preferred form of type bar drive mechanism is one in which the cam is capable of return motion while the type bar is still moving toward its printing position.

3,511,353
TAPE CONTROLLED APPARATUS
Terence Edmond Darlow, St. Albans, Albert John Keen, Letchworth, and Henry Ronald Lee, Stevenage, England, assignors to International Computers and Tabulators Limited, London, England, a British company
Filed May 25, 1966, Ser. No. 552,926
Claims priority, application Great Britian, June 1, 1965 23,216
Int. Cl. B41j *15/00*; G06k *7/10*
U.S. Cl. 197—133 **7 Claims**



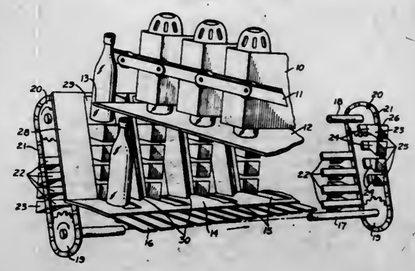
A tape controlled recording apparatus in which indicia in various channels of a control tape determine different operations of a recording device, is disclosed. A drive arrangement is energised to produce relative movement between a recording device and a recording medium, and a signal generator supplies an electrical signal for each increment of such relative movement. A tape feed motor receives each signal to advance the control tape in synchronism with relative movement between the recording device and recording medium. Also, indicia in the control tape for arresting the relative movement are sensed. Line printers and graphical plotting devices are disclosed as exemplary of various recording devices.

3,511,354
FORMS VELOCITY CONTROL FOR PRINTERS
James G. Barcomb, Endwell, and Frederick W. Schaaf, Owego, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 21, 1967, Ser. No. 692,338
Int. Cl. B41j *15/00*
U.S. Cl. 197—133 **3 Claims**



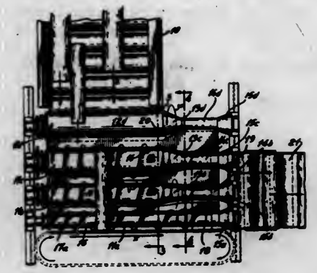
In a multi-speed carriage drive for a printer, control of a high speed latch is effected by a forms velocity control circuit which turns off a high speed latch whenever operation of the printer carriage at the high speed occurs for a long enough time to provide such an excess of forms between the forms tractor and the stacker feed rolls that a forms jam is imminent.

3,511,355
DISCHARGING DEVICE FOR BOTTLE CLEANING MACHINES
Manfred Schlaupitz, Meisenheim (Glan), Germany, assignor to Seitz-Werke G.m.b.H., Bad Kreuznach, Germany
Filed Aug. 14, 1967, Ser. No. 660,495
Claims priority, application Germany, Aug. 22, 1966, S 105,463
Int. Cl. B65g *47/00*
U.S. Cl. 198—20 **5 Claims**



The present invention relates to a discharging device for bottle cleaning machines with circulating bottle unloading means arranged below a bottle exit, according to which a first conveyor conveys the bottles in individual compartments to and individually releases the bottles through said exit onto said unloading means from where the bottles are deposited on a depositing plate and subsequently are transferred from said depositing plate onto a second conveyor.

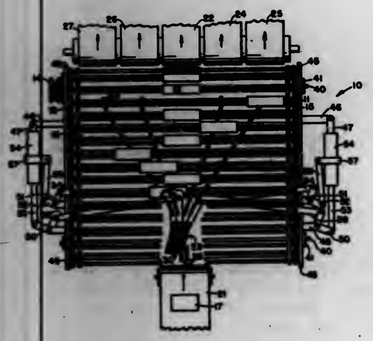
3,511,356
DEVICE FOR RECEIVING, ALIGNING AND CONVEYING WOOD LOGS
Georges A. Bilocq, Plessisville, Quebec, Canada, assignor to Forano Limitee, Plessisville, Quebec, Canada
Filed July 5, 1968, Ser. No. 742,668
Int. Cl. B65g *47/22*
U.S. Cl. 198—29 **7 Claims**



Device for receiving, aligning and conveying wood logs comprising a series of parallel rotatable rollers with a helical ridge on their surface having a progressively increasing pitch in the direction of movement of the logs across said rollers; the rollers have also increasing diameters over a portion thereof so that the stresses produced by the impact of logs falling thereon are substantially equalized among said rollers; an additional roller with the largest diameter and without a helical ridge can be provided to bridge the gap between the rollers

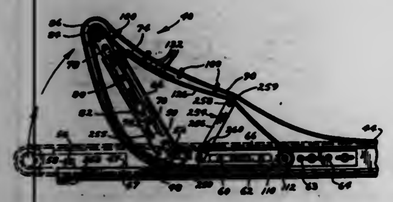
with the helical ridge and the discharge end of the infeed conveyor from which the logs fall; and a movable upstanding bumper wall alongside said rollers against which the logs abut during their displacement and alignment.

3,511,357
CONVEYOR SWITCHING DEVICE
Frank B. Vanderhoof, Lake Hopatcong, N.J., assignor to Scale Specialties Co., Boonton, N.J., a corporation of New Jersey
Filed Apr. 8, 1968, Ser. No. 719,564
Int. Cl. B65g 47/26
U.S. Cl. 198—31 3 Claims



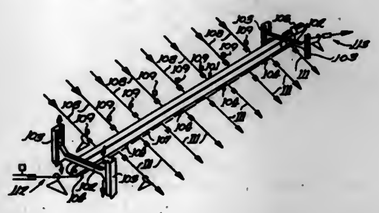
A switching device for separating packages of merchandise or similar articles into a plurality of groups. The separation is controlled by some particular property of the articles, such as weight, and the separation is made by switching supporting carriers away from a normal path on a conveyor. The selection of the carriers is made prior to the deposition of the packages on the carrier supports so that any interference between the switching blades and the carrier followers can be rectified.

3,511,358
SANITARY QUICK OPENING DROP PLATE CONVEYOR FOR BAKERY GOODS
Vincent R. Peterson, Minneapolis, Minn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed June 4, 1968, Ser. No. 734,306
Int. Cl. B65g 21/00
U.S. Cl. 198—119 5 Claims



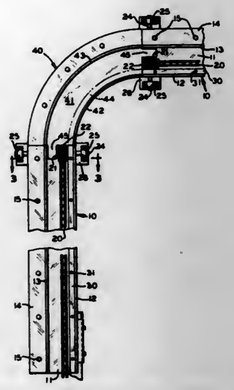
An endless flexible slat conveyor adapted to form a flat supporting surface upon which bakery products are dropped. The conveyor is composed of parallel shafts over which conveyor chains are entrained. The shafts are supported on an articulated framework that allows one shaft to swing upwardly and thereby move toward the other shaft thus causing the upper and lower reaches of the conveyor to become slack. A spreading assembly is raised by hand to lift up the top reach of the conveyor away from the lower reach so that its inside can be readily cleaned, inspected or repaired.

3,511,359
ARTICLE TRANSPORTING SYSTEM
Rudolph F. Gerisch, 1317 Portsmouth Ave., Westchester, Ill. 60153
Continuation-in-part of application Ser. No. 499,421, Oct. 21, 1965. This application Dec. 4, 1968, Ser. No. 781,203
Int. Cl. B65g 21/00, 19/00
U.S. Cl. 198—126 36 Claims



A conveyor unit comprising a support rail structure and driven pusher members for pushing hanger hooks or the like along the rail structure is mounted for bodily movement in vertical and/or horizontal directions. The conveyor unit is adapted to cooperate with a plurality of sets of hanger inserter assemblies and hanger release assemblies at various insertion and release stations spaced along the rail structure. These stations may be arranged in one or more stacks or groups of vertically spaced tiers with the conveyor unit movable to any selected position in the system. Several embodiments of conveyor units, inserter assemblies, and release assemblies are described.

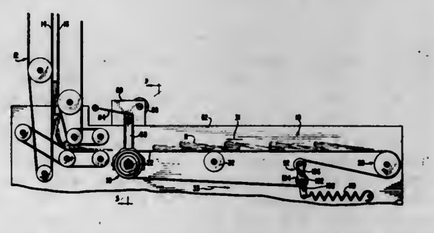
3,511,360
TROUGH CONVEYOR FOR CONTAINERS
Zigmund J. Jagiel, Toledo, Ohio, assignor of one-half to Hugh A. Kirk, Toledo, Ohio
Filed May 31, 1968, Ser. No. 733,396
Int. Cl. B65g 17/38, 15/62
U. S. Cl. 198—189 21 Claims



A rectangular U-shaped trough conveyor for containers, such as bottles and cans, made of a low coefficient of friction material, such as a fiber glass reinforced plastic, having a sprocket type chain guided usually off-

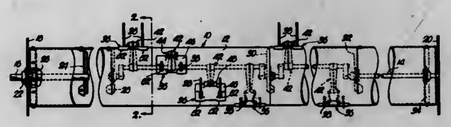
center along the bottom of the trough so that the containers are tilted slightly in their movement as they rest on the chain. The sides of the trough may be adjustable laterally for different sized containers. Means may also be provided for varying the speed of the conveyor chain, and at the ends of the trough the chain may be centered, or supports may be provided on both sides of the chain so that the containers will not tip over when they leave the supporting sides of the trough. Troughs may be multipled in parallel or in series, and adjacent ends of troughs in series may be connected by short straight or arcuate trough sections without the need for a conveyor chain in such sections.

3,511,361
CONVEYING APPARATUS WITH DRIFT CORRECTION FEATURE
Ernest F. Urban, 7950 SW. 184th St., Miami, Fla. 33157
Filed Dec. 4, 1967, Ser. No. 687,620
Int. Cl. B65g 15/62
U.S. Cl. 198—202 9 Claims



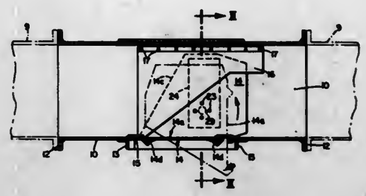
Conveying apparatus includes an endless conveyor for transporting articles such as folded newspapers along a prescribed path. The endless conveyor is trained over rollers, one of which is axially movable to correct deviation of the articles from the path.

3,511,362
ROTOR HAVING RANDOMLY SPACED FOLDING TINES
Melvin V. Gaeddert, and David J. Jordan, Newton, Kans., assignors to Hesston Corporation, Inc, Hesston, Kans, a corporation of Kansas
Filed Jan. 31, 1968, Ser. No. 702,071
Int. Cl. B65g 29/00; A01d 89/00
U.S. Cl. 198—211 5 Claims



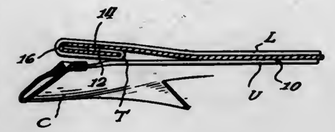
A rotatable, bearing supported, coil spring has opposed extensions, one of which presents a tine that is folded back and projected alternately as the other extension is caused to swing. Use of a pair of such springs and bridging together the extensions to be actuated presents a double tine unit. A plurality of such units are randomly located on a rotatable tube and operably coupled with actuating apparatus in the tube so as to be responsive to tube rotation. When used in a harvester to handle cut crops the tines project outwardly from the tube during crop movement and lie back tangentially to slip smoothly from the crop when the tines are folded.

3,511,363
DISCHARGE VALVE FOR VIBRATORY CONVEYORS
Alfred Sibitz, Graz, Austria, assignor to Binder and Company, Gleisdorf, Austria, a corporation of Austria
Filed Oct. 9, 1967, Ser. No. 673,858
Claims priority, application Austria, Dec. 23, 1966, 11,841/66
Int. Cl. B65g 27/00
U.S. Cl. 198—220 5 Claims



A discharge valve or flap for tubular or trough-shaped vibratory conveyors or chutes is disclosed for opening and closing a delivery opening on the underside of the conveyor. The flap has a bottom portion and upstanding side walls which decrease in height toward the rear or exit edge of the delivery opening. The flap is rotatable about a pair of horizontal axles or trunnions which are located on the center line of gravity of the flap, or at least close thereto. The flap is driven by means, such as a hydraulic cylinder, mounted on the vibratory conveyor and vibrating therewith. The discharge flap and its drive mechanism are set into the conveyor by flange connections.

3,511,364
SHIRT PACKAGE AND METHOD OF MAKING
Joseph N. Airdo, Skokie, Ill., assignor to Bishop Freeman Co., a corporation of Illinois
Filed Jan. 15, 1968, Ser. No. 697,993
Int. Cl. B65d 85/18
U.S. Cl. 206—46 13 Claims

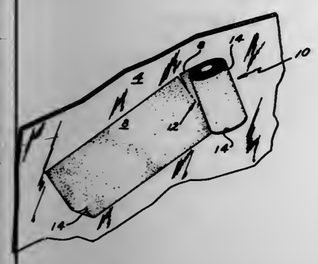


Described herein is a method for folding a shirt or like garment, a shirt board and a shirt or like object assembled with a shirt board. The shirt is folded around the shirt board into a shirt package. The shirt board has a tail tuck segment that is folded with the tail of a shirt downwardly between the back of the shirt top and the upwardly folded lower portion of the shirt, the shirt tail being secured in that position by the shirt board and without pinning.

3,511,365
DISPOSABLE SUN SHADES FOR VEHICLE WINDOWS
Walter K. Dow, Longmeadow, Mass.
Filed Dec. 3, 1968, Ser. No. 780,632
Int. Cl. B65d 85/67
U.S. Cl. 206—56 2 Claims

A roll of disposable sun shades of pliable sheet material for use on automobile side windows, the individual

shades being defined by longitudinally spaced transverse tear lines and having opposing marginal edges on one face thereof provided with strips of pressurre sensitive bond-



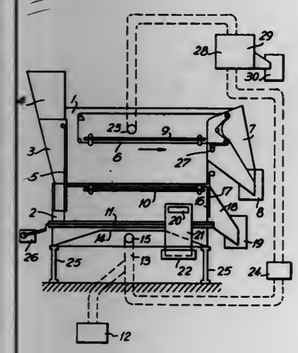
ing material to removably mount the same against the glass of a car window and eliminate objectionable rays of sun.

3,511,366

ELECTRIC SEPARATOR FOR THE SEPARATION OF LOOSE MATERIALS ACCORDING TO THEIR SIZE AND COMPOSITION

Nifont Nikolaevich Dolgopolov, 1 Spasonalivkovsky per., 12, kv. 12, Moscow, U.S.S.R.

Filed Sept. 12, 1966, Ser. No. 578,674
Claims priority, application U.S.S.R., Oct. 29, 1965, 1,033,632
Int. Cl. B07b 9/02; B03c 7/04
U.S. Cl. 209—12 4 Claims



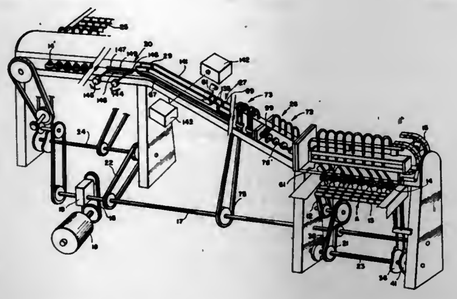
An electrical separator for the classification of loose materials as to size and composition, in which the material to be classified is introduced into an enclosed working space in which a pressure gas is supplied to produce in the lower portion of the working space a fluidized layer of the material being separated. Electrodes are disposed in the working space to provide an electrical field of corona discharge, and a porous belt of a dielectric material passes between the electrodes to receive and discharge product being separated. A suction device is connected to the working space at a level above the belt to remove expended gas together with fine fractions of loose material passing through the belt. The fine fractions are recovered externally of the working space and the gas is recycled back into the working space together with fresh pressure gas.

3,511,367

QUALITY SELECTOR AND TRANSFER MACHINE

George N. Bliss, Franklin, Mich., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 30, 1967, Ser. No. 664,436
Int. Cl. B07c 5/344
U.S. Cl. 209—73 11 Claims



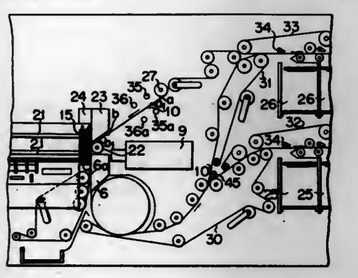
A machine for transferring eggs from a side-by-side formation on a conveyor to a single file on a faster moving conveyor, using mechanical finger means. The single file conveyor is comprised of formed wire cradles, each pair of cradle wires operable clam shell fashion so as to be capable of carrying an egg, releasing an egg, or picking up an egg from a track on which the egg may be rolling or from a conveyor traveling beneath said wire cradle conveyor. Eggs are automatically inspected for blood, cracks, and presence of albumen, which may be smeared on the shells. Defective eggs are subsequently released from the wire cradles. The machine may be coded so as to release cracked eggs into one category, eggs both cracked and smeared with albumen into a second category, and passing eggs merely smeared with albumen on the assumption that they are sound eggs which have been smeared by other broken eggs.

3,511,368

READING AND CONVEYING APPARATUS FOR RECORDING MEDIUMS AS ENVELOPES AND POSTCARDS

Seinosuke Kajitani, Kimiaki Noro, and Yoshiyuki Mizunuma, Yokohama-shi, Sou Kamimura, Kawasaki-shi, and Kazuyuki Kawasaki and Shunichi Nakajima, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Jan. 30, 1968, Ser. No. 701,746
Claims priority, application Japan, Feb. 4, 1967, 42/7,124; Mar. 20, 1967, 42/17,240, 42/22,954; Sept. 9, 1967, 42/76,850
Int. Cl. B07c 3/14
U.S. Cl. 209—73 9 Claims



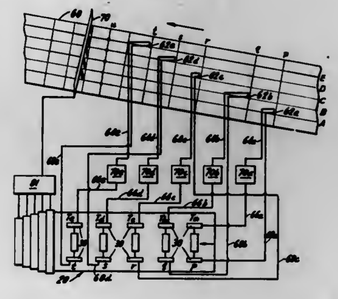
A plurality of stacked written mediums are successively paid out one after the other from the front end of the stock. An information item is read on the foremost written medium while it is held stationary before it is paid out and a conveyor conveys the written medium along a predetermined path according to the read out information.

3,511,369

CONVEYOR AND AUTOMATIC PARAMETER TESTER EMPLOYING SAME

George E. Chilton, 144 Valley Road, Haworth, N.J. 02503

Filed Feb. 14, 1968, Ser. No. 705,369
Int. Cl. B07c
U.S. Cl. 209—73 8 Claims



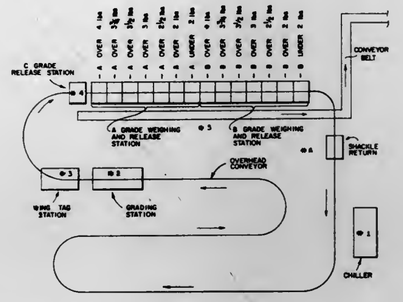
A recycling non-traveling transport and an automatic means for sequentially testing, or testing and sorting, articles as, for example, two terminal electrical components.

3,511,370

APPARATUS AND METHODS FOR SEGREGATING FOWL IN ACCORDANCE WITH QUALITY AND WEIGHT

Donald K. Taylor, 489 Hemlock Terrace, Woodbury, N.J. 08096

Filed Apr. 28, 1969, Ser. No. 819,617
Int. Cl. B07c 5/24
U.S. Cl. 209—73 7 Claims



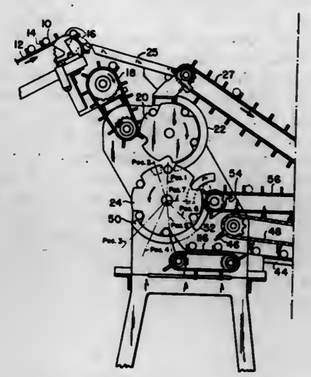
Poultry carcasses are conveyed from a chiller by spaced carriers suspended from an overhead conveyor, the carriers being manually set to select the lateral position of the carcasses relative to the conveyor in accordance with a quality determination and the carcasses being weighed and released automatically at different locations in accordance with quality and weight categories.

3,511,371

MACHINE FOR AUTOMATICALLY INSPECTING AND PACKAGING TUBULAR ARTICLES

Theodore L. Giusti, Donald P. Horn, and John A. Seifert, Providence, R.I., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Dec. 26, 1967, Ser. No. 693,307
Int. Cl. B07b 13/04
U.S. Cl. 209—74 7 Claims



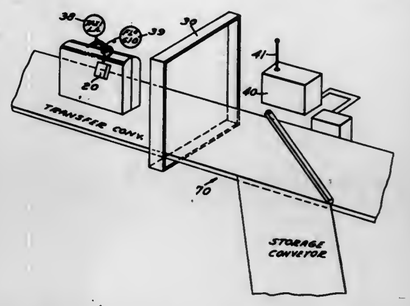
A machine including rotatable chucks for holding tubular articles near their ends, gauging means in the vicinity of each chuck and movable along with it during its rotation for detecting defects in the ends of the tubular articles and a reject gate associated with each chuck for diverting defective articles from their normal path in the machine. After inspection, those articles which are not rejected are stacked in a jig, end caps are placed around the ends of the stacked tubes, the end caps are tied and the resultant bundles art ejected from the machine.

3,511,372

ARTICLE HANDLING MEANS, SYSTEMS, AND DEVICES

Edward T. Kantarian, 4325 Arlington Drive, Royal Oak, Mich. 48067, and Donald F. Staub, 3570 Walbridge Drive, Bloomfield Hills, Mich. 48013

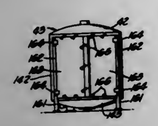
Filed Feb. 26, 1968, Ser. No. 708,279
Int. Cl. B07c 5/34
U.S. Cl. 209—111.5 16 Claims



Article handling system means, and devices such as for airlines which receive passenger baggage at random at a plurality of receiving locations at the origin air terminal for a plurality of flights for shipment by various planes to a plurality of destination air terminals

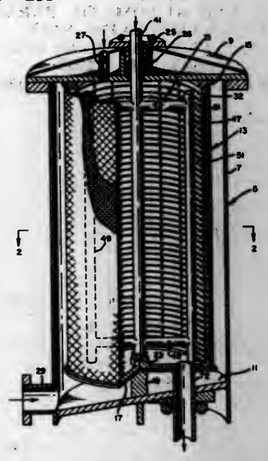
and distribution to a plurality of pick-up positions at each destination air terminal, including determining for each article of baggage at receiving location of the origin air terminal the information of the departing flight and departing plane location, the destination air terminal and the pick-up position for each item of baggage at the destination air terminal identifying at the origin air terminal each article such as by tag or label as to destination air terminal and a pick-up position thereat; including at the origin air terminal attaching a coded signal device to each item of baggage for emitting signals, such as sound or R.F., with the signal identified with the departing flight; placing the baggage items so identified by signal device in a conveyor system at the origin air terminal; sorting the baggage at the original air terminal by signal for outgoing flights; optionally accumulating, holding and later releasing baggage items on storage conveyors in a group for outgoing flights or directly sending the baggage items to the departing flight location; loading the baggage on the outgoing flight; unloading the baggage at the destination air terminal including attaching at the destination air terminal from the information on the tag or label a coded signal device to each item of baggage with the signal identified with the pick-up position at the destination air terminal; placing the baggage items at the destination air terminal in a conveyor system so identified by signal sorting the baggage by signal and conveying it to the pick-up position; including central control means and system operation; receiving and distributing position means and operation, and signal means devices, signal activating means, and signal reading and actuating means, and also including memory means for controlling a system, central control panels, racks for holding signal devices in bins; and means on the panels, racks and bins providing advisory information to those working the system; the system and devices also being applicable for handling items other than baggage and suitable for other uses such as manufacturing, warehousing, etc.

3,511,373
DIVERSE SCREENS WITH CLEANING AND DISTRIBUTION MEANS
Richard K. McKibben, La Canada, Theodore R. Westfall, Glendale, and Carlton E. Presnell, Pasadena, Calif., assignors to Sweco, Inc., a corporation of California
Filed May 22, 1967, Ser. No. 640,239
Int. Cl. B07b *1/08, 1/28, 1/50*
U.S. Cl. 209—234 9 Claims



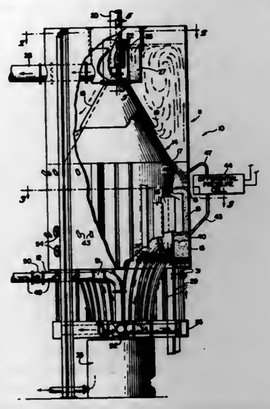
A screening separator including a first planar vibrating screen positioned in a vibratory housing structure and a pair of concentric rotating cylindrical screens positioned above the planar screen and detached from the vibratory housing structure, and means for feeding a liquid slurry to the innermost of the cylindrical rotating screens, and means for conducting material rejected by the cylindrical screens to the planar screen, and means for separately discharging material passing through the screens and material rejected by the screens, each of the cylindrical screens having inoperative positions and means for cleaning the cylindrical screens through the inoperative positions while the screens are rotating.

3,511,374
SCREENING DEVICE
Clifford W. Beal, San Francisco, Calif., assignor to California and Hawaiian Sugar Company, a corporation of California
Filed Nov. 1, 1968, Ser. No. 772,537
Int. Cl. B07b *1/18, 1/50*
U.S. Cl. 209—258 3 Claims



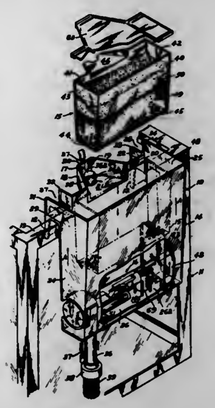
A pressure screen is provided for removing oversize particles from a fluid. A cylinder screen is employed with flow to the center of the cylinder from the outside. After the screen blinds and the throughput decreases to an undesirable rate, the fluid is emptied from the device and a high speed jet is directed at the screen from the inside which flushes off the solids, leaving a clean screen ready for further screening. Preferably the device has an automatic cleaning cycle.

3,511,375
PROCESS AND APPARATUS FOR HYDRAULICALLY SEPARATING PARTICULATE SOLIDS ACCORDING TO PARTICLE SETTLING RATE
Warren H. Lang, Bartow, Fla., assignor to Wellman-Lord, Inc., a corporation of Florida
Filed Oct. 2, 1968, Ser. No. 775,977
Int. Cl. B03b *3/34*
U.S. Cl. 209—454 28 Claims



A process and apparatus for hydraulically separating particulate solids according to particle settling rate is disclosed. The process comprises introducing the feed pulp to an upper, or fine sizing, region of a vertically disposed sizing zone, which upper region is of increasingly larger cross-sectional area from its bottom to its top, and simultaneously introducing driving liquid into the bottom of the lowermost, or coarse sizing, region of the zone, which lowermost region is of uniform cross-sectional area throughout its height. A minimum amount of accumulated coarse material is maintained in the lowermost region at all times; excess accumulated material is periodically removed therefrom. A preferred apparatus for performing the process is a hindered hydraulic settling vessel which has a plurality of coarse sizing chambers arranged in a vertically cylindrical, annular tank, the coarse sizing chambers being separated by an equal number of vertically disposed baffle plates. The outer wall of the tank rises vertically above the tops of the baffle plates but the upper portion of the inner wall inclines inwardly in a frusto-conical shape, thereby defining an upper zone of gradually increasing cross-sectional area. Feed slurry is introduced to the upper zone, preferably as a downward flow along the side of the conically shaped inner wall. The time and duration of discharge of sized coarse material from each, or a group, of the coarse sizing chambers is preferably controlled independently of conditions existing in the remaining chambers.

3,511,376
AQUARIUM FILTER AND HEATER
Walter Sesholtz, Park Ridge, N.J., assignor to Sterneo Industries, Inc., Harrison, N.J., a corporation of New Jersey
Filed Oct. 28, 1968, Ser. No. 771,060
Int. Cl. E04h *3/20*
U.S. Cl. 210—169 10 Claims



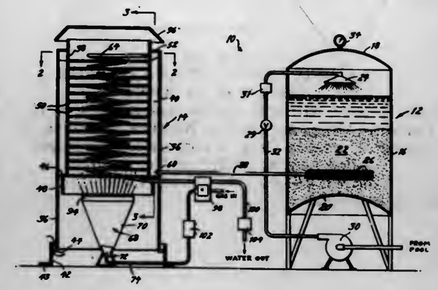
A home aquarium filter and heater device for positioning exteriorly of the aquarium. A casing, suspended from the rim of the aquarium on the outside thereof, contains in its upper portion a removable filter tank, the lower portion of the casing having an electric heating element connected to a thermostat float switch assembly. Water from the aquarium is pumped into the filter tank where it is purified, the water then flowing down directly into engagement with the heater and the float switch control components, and then upwardly through passageways formed by the filter tank and walls of the casing, over discharge spillways and back into the aquarium in filtered and heated condition. The filtered aquarium water that is to be heated performs the heat controlling operations itself by actuating a float member.

3,511,377
CLOSURE OF COLUMNS, PARTICULARLY OF CHROMATOGRAPHIC COLUMNS
Jiri Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia, a corporation of Czechoslovakia
Continuation of application Ser. No. 684,597, Nov. 14, 1967, which is a continuation of application Ser. No. 400,499, Sept. 30, 1964. This application May 8, 1969, Ser. No. 835,855
Claims priority, application Czechoslovakia, Oct. 2, 1963, 5,384/63
Int. Cl. B01d *15/08*
U.S. Cl. 210—198 17 Claims



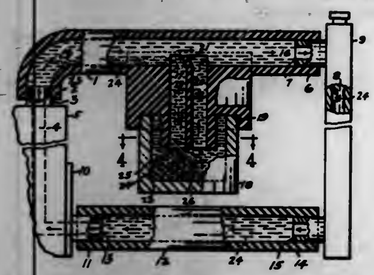
A closure means for a chromatographic column containing a packing material and receiving a stream to be analyzed, the closure means including a sealing member located above the packing material in the entrance portion of the column and provided with an axially extending capillary duct feeding the stream into the column, and a porous body filling the space between the exit opening of said duct and the upper level of said packing material to distribute and spread the stream into the column and to equalize and flatten the wave fronts therein.

3,511,378
HEATING AND FILTERING APPARATUS FOR USE WITH SWIMMING POOLS
Arsenius N. Goreglad, 157 Fernbrook Ave., Wyncote, Pa. 19095
Filed Jan. 23, 1968, Ser. No. 699,864
Int. Cl. B01d *35/18*
U.S. Cl. 210—181 12 Claims



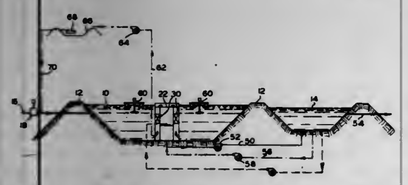
A heating and filtering apparatus, suitable for use with swimming pools, is provided; and includes a filter bed, and a heater wherein filtered water is circulated in indirect heat exchange relation to a heat source and simultaneously provides thermal insulation for the heater, and wherein the water is counter-currently passed through tubular members passing close to the heat source for final heating.

3,511,379
DIRT TRAP
Raymond C. Miller, 3349—25th St., Port Arthur, Tex. 77640
Filed Mar. 27, 1967, Ser. No. 626,667
Int. Cl. B01d *21/02*
U.S. Cl. 210—194 2 Claims



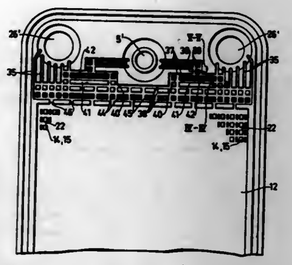
The invention discloses a dirt trap structure which is particularly adapted for use in connection with diverting, separating, catching and retaining unwanted foreign matter such as fragments of materials such as dirt, sand, iron scale and the like, as well as grease or oils that get into the liquid or coolant in a circulating system which liquid or coolant is forced under pressure by means of a pump from the water jacket or hollow liquid chamber surrounding the cylinders in the block of an internal combustion motor or the like and said liquid circulated under pressure through a conduit with the lower portion of the liquid encountering baffle diverting means extending upwardly through hole in the bottom of said conduit to divert the lower portion of the liquid and foreign matter therein and direct the same downwardly into a trap comprising a hollow bowl with retaining means therein to separate, catch and retain the foreign matter in retaining means in said bowl and allow the diverted portion of the liquid which has been cleaned of the foreign matter to be forced and returned upwardly into the main stream of the liquid passing over the baffle through the passageway in the conduit and through the outlet into a radiator to be cooled and forced downwardly through said radiator through the bottom thereof and thence through connecting conduit to the bottom of the water jacket in the block of the motor in a continuous circulating stream of clean liquid to cool the motor block and working parts therein to prevent the motor from overheating.

3,511,380
CLARIFICATION APPARATUS FOR AERATED LAGOON
Archie H. Rice, Alfred F. Slechta, and Andrew K. Hsiung, Corvallis, Oreg., assignors to Neptune Microfloc, Incorporated, Corvallis, Oreg., a corporation of Oregon
Filed Aug. 6, 1969, Ser. No. 847,978
Int. Cl. B01d *21/00, 23/16;* C02c *1/18*
U.S. Cl. 210—202 14 Claims



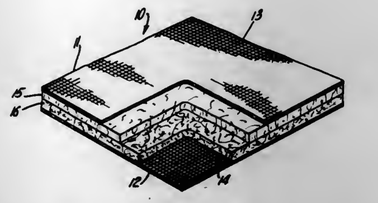
Aeration basin for sewage treatment has upright open top container therein with liquid removal system connected to lower end. Baffle system surrounds container extending above liquid level but open at bottom with settling devices comprising inclined settling tubes mounted between baffles and container to permit separation of solids. Water drawn from lower end of container is substantially clarified due to removal of solids in settling devices.

3,511,381
DIALYSIS BLOOD DISTRIBUTION GROOVES
Nils Alwall, Bo Lennart Östergren, and Nils Olov Vilhelm Hagström, Lund, Sweden, assignors to AB Gambro, Lund, Sweden, a company of Sweden
Filed Mar. 4, 1968, Ser. No. 710,255
Claims priority, application Sweden, Mar. 6, 1967, 3,014/67
Int. Cl. B01d *31/00, 13/00*
U.S. Cl. 210—321 6 Claims



A dialysis device having pairs of semi-permeable membranes between spacing discs and inlet channels passing transversely therethrough and a dialysis zone, and having channels for distributing the liquids so introduced to the dialysis zone, the channels being so arranged that the distance from the inlet to the dialysis zone is substantially the same for each of the channels so that velocity and pressure of flow throughout the dialysis zone is substantially uniform.

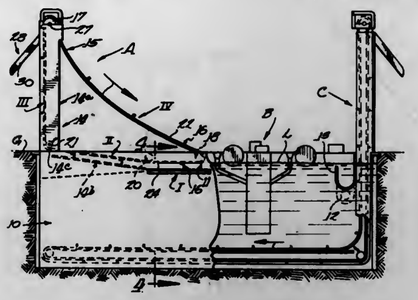
3,511,382
DEVICE FOR DETECTION OF ABNORMAL MILK
Frederick K. Mesek, Downers Grove, Ill., assignor to Johnson & Johnson, a corporation of New Jersey
Filed May 22, 1967, Ser. No. 640,021
Int. Cl. B01d *25/04*
U.S. Cl. 210—489 1 Claim



The preferred filter media described consists of a first filter zone having a fiber weight of about 250 grains per square yard and formed of cellulosic fibers having a denier of about 15, followed by a second filter zone having a fiber weight of about 1.5 ounces per square yard and formed of cotton fibers having a weight of 5.5 micrograms per linear inch. The first zone filters out gross impurities in the milk but allows most of the pustules and flakes indicative of high leukocyte count in the milk to pass therethrough. The second zone acquires a yellow color when the milk containing the pustules and flakes

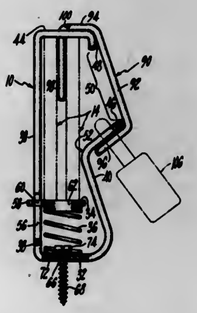
are passed through the same. Because of the difference in fiber denier, the first zone and second zone are easily split apart so that the color of the surface of the second zone may be examined or compared to a standard to determine the leukocyte count in the milk.

3,511,383
WASTE HANDLING APPARATUS
Robert W. Clyne, 5701 Sheridan Road, Chicago, Ill. 60626
Filed Jan. 23, 1969, Ser. No. 793,501
Int. Cl. B01d *21/04*
U.S. Cl. 210—526 6 Claims



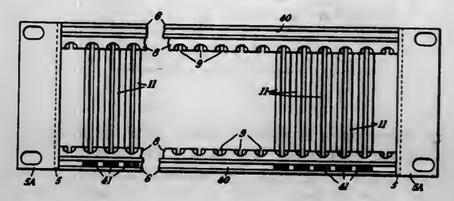
An apparatus is provided for handling waste floating on the surface of a liquid product which has been collected in a settling tank or the like. The apparatus includes a power driven, endless, flighted carrier member which is mounted to move the flights thereof through successive segments of travel whereby each flight first engages the floating waste and moves same along the surface of the liquid product to an upwardly inclined frame section. The engaged waste is moved by the flight up the inclined frame section to a location above the liquid product surface whereupon it is then elevated vertically to a discharge station disposed a substantial distance above the top of the tank.

3,511,384
SKI MOUNTING DEVICE
Leon J. Pratt, Trailsend Drive, Canton, Conn. 06019
Continuation-in-part of application Ser. No. 681,347, Nov. 8, 1967. This application Oct. 14, 1968, Ser. No. 767,410
Int. Cl. A47f *7/00*
U.S. Cl. 211—60 11 Claims



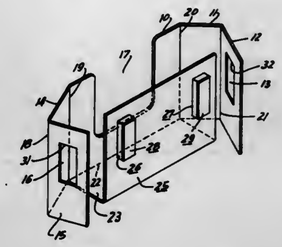
A ski mounting device includes a mounting bracket having a one piece bracket body of G-shaped cross section, a ski clamping plate slidably mounted on the body for compressively holding the edges of a pair of skis between the plate and the top of the bracket body and a compression spring constantly biasing the plate into contact with the edges of the skis when the skis are mounted on the bracket. A cover plate cooperates with the bracket to facilitate secure locking of the skis within the bracket.

3,511,385
FRAMES FOR ACCOMMODATING CIRCUIT CARDS OR MODULE FRAMES
Anthony John Ayling, Colden Common, England, assignor to Vero Electronics Limited, Southampton, Hampshire, England, a British company
Filed June 11, 1968, Ser. No. 736,216
Int. Cl. A47g *19/08;* H05k *1/00*
U.S. Cl. 211—41 10 Claims



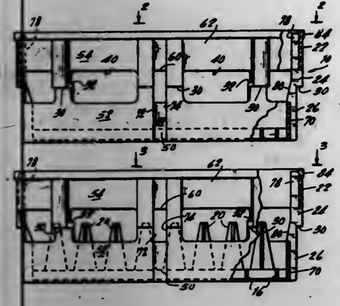
A rack for accommodating circuit cards or module frames comprising end plates, two pairs of longitudinal members joining the end plates and rack plates formed with opposed grooves for the reception of the cards or frames, the rack plates and longitudinal members having cooperating tongues and grooves providing sliding engagement between them.

3,511,386
DISPLAY LITERATURE DISPENSER
William Greenberger, White Plains, N.Y., assignor to The Hopp Press Incorporated, New York, N.Y., a corporation of New York
Filed July 1, 1968, Ser. No. 741,431
Int. Cl. A47f *5/08*
U.S. Cl. 211—88 4 Claims



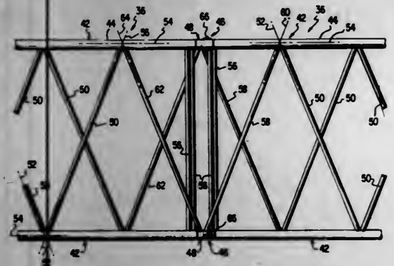
A display literature dispenser for disseminating advertising literature, recipes and the like in supermarkets or other places which attract large numbers of persons is of folded unitary construction. The dispenser includes front, bottom, rear and side panels, and a pair of closure flaps extending laterally from the side panels. Scored folding lines separate the panels and closure flaps. Also included are means for securing the dispenser in the assembled condition and for mounting the dispenser on a wall, counter or the like for display purposes.

3,511,387
AUTOMATIC DISHWASHER RECEIVING MEANS
Louis Maslow, Huntsville Road, Dallas, Pa. 18612
Filed Jan. 26, 1968, Ser. No. 700,889
Int. Cl. A47f 3/14
U.S. Cl. 211—126 18 Claims



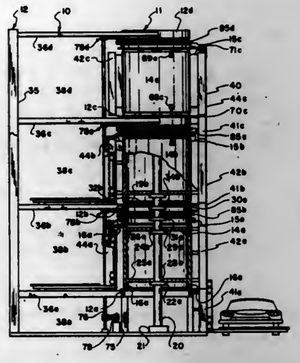
The invention is directed to novel receiving means for an automatic dishwasher. Specifically, the receiving means comprise trays or carriers, for holding the crockery and utensils to be washed, which carriers are each associatingly adapted to be simultaneously detachably engageable and slidingly unengageable when so detachably engaged to one another, with the result that they are readily stackable outside said dishwasher when the soiled articles contained therein have been washed.

3,511,388
PIN CONNECTION FOR ELONGATE LOAD SUPPORTING BOOM STRUCTURE
Donald C. Markwardt, Manitowoc, Wis., assignor to The Manitowoc Company, Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed Sept. 18, 1967, Ser. No. 668,482
Int. Cl. B66c 23/70, 23/06
U.S. Cl. 212—144 12 Claims



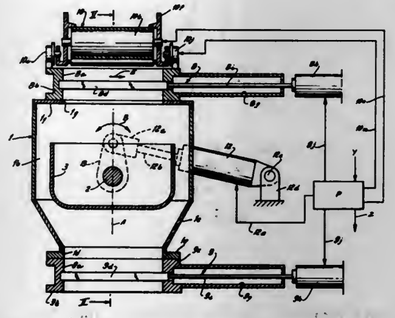
The instant invention comprises a pin connection for boom segments in which the centerlines of the terminal lacing elements intersect within the confines of the chords thereby achieving the desiderata of easy assembly and disassembly of the boom segments, avoidance of localized eccentric loading of the chord, and general predictability of force diagrams drawn at the junction of the terminal lacing element and the chord. This is effected by recessing a female connector socket within the terminal end portion of the chord and securing the terminal lacing element as near as possible to the chord terminus. By constructing male and female connectors independently of the chord and fixedly securing them to the chord, it has been found that various economies in boom structure production may be made consistent with structural strength. Since the pinned male and female connectors of the instant invention peripherally abut, additional bearing area is provided to resist angular relative movement between adjacent boom segments and to transmit compressive loads on the chords.

3,511,389
VEHICLE PARKING APPARATUS WITH A PLURALITY OF ROTATABLE SUPPORT MEMBERS
Lee R. Carter, 1160 Ewing Place SW., Atlanta, Ga. 30331
Filed June 24, 1966, Ser. No. 560,204
Int. Cl. E04h 6/06, 6/12
U.S. Cl. 214—16.1 2 Claims



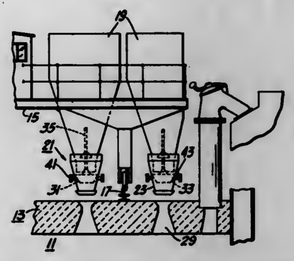
A vehicle parking apparatus comprising a vertically extending sectional track and vertical spaced storage areas positioned beside the track. Alternate sections of the track are removable from the track and platforms mounted on substitute tracks sections are movable from the storage areas onto the track for movement along the track.

3,511,390
APPARATUS FOR CHARGING SHAFT-TYPE FURNACES
Heinz-Dieter Pantke, Essen, Ulrich Pohl, Oberhausen-Osterfeld, Herbert Hickmann, Oberhausen, and Werner Starossa, Duisburg, Germany, assignors to Huttenwerk Oberhausen AG., Oberhausen, Rhineland, Germany, a corporation of Germany
Filed Mar. 6, 1968, Ser. No. 711,102
Claims priority, application Germany, Mar. 7, 1967, H 62,049
Int. Cl. F27b 1/20
U.S. Cl. 214—21 10 Claims



A device for charging blast and cupola shaft-type furnaces with metallurgical agglomerates in which an upper horizontal slide plate forms a closure between a conveyer and a tray tiltable about a horizontal axis to discharge its contents past a second horizontal-plate closure, the conveyer being displaceable in the direction of the horizontal tilting axis of the tray to ensure uniform distribution of the charging furnace.

3,511,391
FLOW CONTROL AND SHUT-OFF VALVE FOR GRAVITY TYPE LARRY CAR
Linwood G. Tucker, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Mar. 10, 1969, Ser. No. 805,663
Int. Cl. C10b 35/00
U.S. Cl. 214—36 4 Claims



A larry car is provided with a plurality of vertically movable boots that mate with charging hole openings in the coke oven, and within each boot there is a vertically movable bell that coacts with the boot structure to control the flow of coal from the larry car into the coke oven chamber.

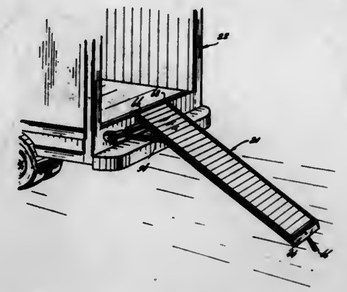
3,511,392
LOADING AND TRANSPORT SYSTEM FOR TRUCKS
Donald J. Blunden, Southfield, and Paul N. Erickson, Detroit, Mich., assignors to Whitehead & Kales Company, River Rouge, Mich., a corporation of Michigan
Filed Nov. 29, 1968, Ser. No. 780,056
Int. Cl. B65g 67/00
U.S. Cl. 214—38 15 Claims



This invention relates to a loading, unloading and transport system for vehicles and comprises a vehicle transport such as a rail car or trailer having tracks extending lengthwise above the deck of the transport, and a plurality of supports movable alonng the tracks and adapted to support the front ends of vehicles in raised position. Preferably the supports are secured in adjusted position such that the front end of each inclined vehicle, except the first in line, is disposed over the rear end and wheels of the vehicle ahead of it.

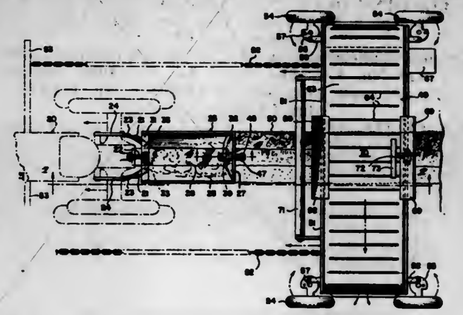
Apparatus is also provided for transferring vehicles to or from the transport, such apparatus comprising a dock having rails respectively extending in end-to-end continuation of the tracks on the transport when the transport is moved to a vehicle transfer position adjacent the dock so that the supports can be moved from the tracks to the rails and vice versa.

3,511,393
RAMP ASSEMBLY
John C. Abromavage, Tempe, and Henry S. Shattles, Phoenix, Ariz., assignors to Arcoa, Incorporated, Phoenix, Ariz., a corporation of Oregon
Filed Dec. 26, 1968, Ser. No. 787,188
Int. Cl. B60p 1/00
U.S. Cl. 214—85 10 Claims



Automotive vehicles, particularly an extensible load-in ramp assembly which is supported upon the vehicle chassis and is extensible through the rear of the vehicle.

3,511,394
DRAINAGE DITCH MACHINE
Jack R. Cox, P.O. Box 1104, Myrtle Beach, S.C. 29577
Filed Sept. 29, 1967, Ser. No. 671,847
Int. Cl. E02f 5/02
U.S. Cl. 214—90 6 Claims

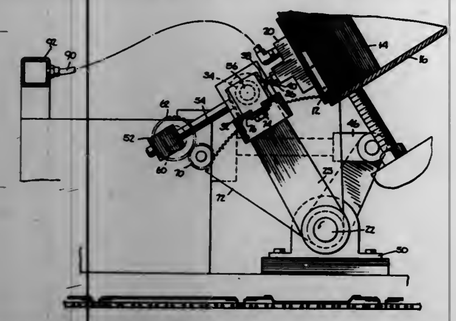


A machine for forming drainage ditches and the like and for clearing existing ditches of debris. A conventional farm tractor carries a scoop and draws a transverse conveyor by means of flexible chains. The chains enable the tractor to back up relative to the conveyor for dumping the scoop. The dumping is effected by a latch operator which coacts with an abutment on the conveyor. Soil and debris taken from the ditch is thus deposited on the conveyor which discharges the material in a substantially continuous operation beyond one side of the ditch.

3,511,395
METHOD FOR HANDLING BLISTERS OR THE LIKE
Fred P. Brown, Jr., Centerville, Mass., assignor to Packaging Industries, Inc., Hyannis, Mass., a corporation of Massachusetts
Filed Apr. 4, 1968, Ser. No. 718,791
Int. Cl. B65g 59/10
U.S. Cl. 214—152 6 Claims

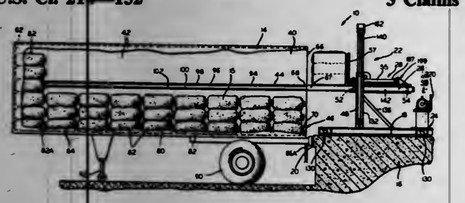
A machine and method for destacking a storage magazine containing items such as cards, blisters or the like

used in the packaging industry in a predetermined manner. The machine and method of operation requires that a pickup carrier, follow an eccentric path of movement in a controllable arc, in removing cards blisters and the like from a storage position and placing them in a work position. Here, a pickup carrier device rotates about a keyed shaft in a manner so as to first remove a packaging



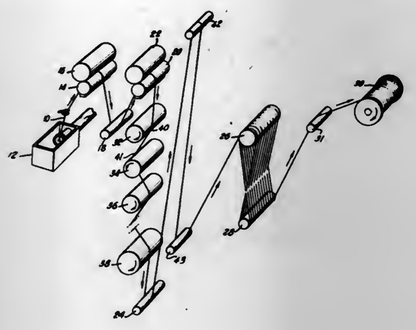
blister from its storage magazine and then rotate the blister about an eccentric axis so as to be in a position to deposit the blister in a plane, different than the plane, from which it was removed. The stroke of the pickup carrier device is adjustable for use with a wide range of different types of blisters as well as similar blisters with different depths of indentation.

3,511,396
METHOD FOR LOADING BAGGED MAIL FROM A LOADING DOCK INTO A HIGHWAY VEHICLE
Joseph E. McWilliams, 1345 Canterbury Lane, Glenview, Ill. 60025
Original application Mar. 30, 1967, Ser. No. 627,217, now Patent No. 3,458,064, dated July 29, 1969. Divided and this application Dec. 23, 1968, Ser. No. 810,419
Int. Cl. B65g *67/04*
U.S. Cl. 214—152 3 Claims



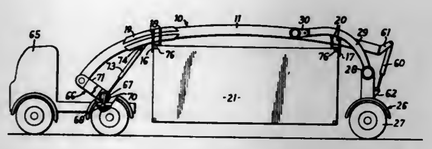
The disclosure relates to a method and apparatus for loading bagged mail from a loading dock into an end loading highway vehicle, employing hand trucks of the type comprising a sideless demountable hand truck body supported on a wheel base on which the body mail bags are placed in tier fashion, in which a wheeled frame including a self-propelled carriage riding on a horizontally disposed vertically movable trackway carried by the frame is disposed at the loading position of the vehicle in alignment with the rear end of same, and the demountable hand truck bodies are one by one separated from their bases and applied to the carriage for movement into the vehicle along the frame trackway that is selectively vertically aligned with vertically spaced longitudinally extending trackways mounted along the vehicle side walls. The carriage includes a pusher plate arrangement for discharging the mail bag load as a unit at the desired unloading point in the vehicle, whereupon the carriage returns to the loading dock to discharge the thus unloaded hand truck body and have another loaded one applied to same for unloading in like manner.

3,511,397
METHOD FOR THE MANUFACTURE OF COLLAGEN TAPE
Emil Borysko and Arthur A. Gertzman, Somerville, and Ernest J. Griset, Jr., Bound Brook, N.J., assignors to Ethicon, Inc., a corporation of New Jersey
Filed Nov. 16, 1967, Ser. No. 683,504
Int. Cl. D01f *9/04*
U.S. Cl. 264—202 5 Claims



In the manufacture of a collagen tape which may be twisted to form a round strand that is useful as an absorbable surgical suture, an acid dispersion of collagen fibrils is extruded into a dehydrating bath to form a multifilament. The multifilament, while still wet from the dehydrating bath, is compressed to form a ribbon-like tape in two or more steps by passage between two or more sets of squeeze rolls, the space between succeeding sets of rolls decreasing so that the compression of the multifilament is accomplished in two or more increments. A certain amount of stretch is imparted to the tape as it passes between the sets of squeeze rolls to assist in the orientation of the collagen fibrils. By varying the total compression of the wet multifilament, the width and thickness of the tape can be controlled providing that the wet tape is dried in a controlled manner and simultaneously given additional stretch in small increments by passing the tape in a sinusoidal path around a series of driven godets, each revolving at a greater peripheral speed than the preceding godet in the series.

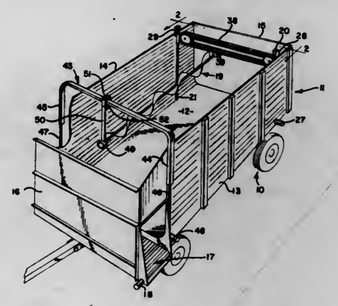
3,511,398
ROAD VEHICLES
John F. Lyster, Merstham, Surrey, and Christopher S. J. Gunner, Seaford, Sussex, England, assignors to Cow & Gate Limited
Filed Jan. 10, 1968, Ser. No. 696,748
Claims priority, application Great Britain, Jan. 13, 1967, 1,899/67
Int. Cl. B66f *9/00*
U.S. Cl. 214—394 15 Claims



A road vehicle, for transporting containers, has a chassis arranged to straddle a container resting on the ground, locking means on the chassis expandible within corner

castings on the container, and jacks for raising the chassis on its wheels so as to suspend a container secured to the chassis.

3,511,399
FORAGE FEEDER
Peter Sammarco, Bellwood, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Continuation-in-part of abandoned application Ser. No. 589,595, Oct. 26, 1966. This application May 14, 1968, Ser. No. 728,974
Int. Cl. B60p *1/42*
U.S. Cl. 214—520 14 Claims



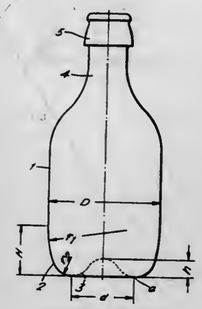
A self-unloading wagon having a power operated auger extending longitudinally along the wagon, above the load of forage to be unloaded from the wagon. The auger is operable to convey the forage from the top of the load toward a cross conveyor extending across the bottom of the wagon. The cross conveyor is arranged to unload the forage through a side wall of the wagon. Means are provided for moving the auger vertically and transversely with respect to the wabon so as to convey the forage from the top of the load onto the cross conveyor in a uniform flow.

3,511,400
NESTABLE, CORRUGATED FORKLIFT AND SLING PALLET
William N. Oswald, Dallas, Tex., assignor to Standard Manufacturing Company, Inc., Dallas, Tex., a corporation of Texas
Original application May 22, 1967, Ser. No. 639,946, now Patent No. 3,430,586. Divided and this application Feb. 3, 1969, Ser. No. 796,140
Int. Cl. B66f *9/12*
U.S. Cl. 214—621 3 Claims



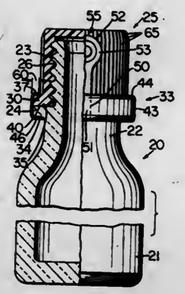
A material handling system for airborne ordnance such as bombs, rockets, and napalm which is carried on externally mounted, multiple weapon racks including a general purpose, lightweight cardle formed from a unitary sheet that is corrugated for strength and fully nestable to conserve space. A number of accessories are also disclosed for use with the cradle so that the cradle can be adapted to handle substantially all weapons now used by tactical aircraft.

3,511,401
PRESSURE-RESISTANT PLASTICS BOTTLE
Otto Lachner, Kempten, Allgau, Germany, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed July 11, 1968, Ser. No. 744,020
Claims priority, application Germany, July 20, 1967, N 30,935
Int. Cl. B65d *1/40*
U.S. Cl. 215—1 6 Claims



In a plastic bottle for carbonated liquids, a planar main part of the bottle wall is contiguous with a curved transition zone of somewhat hyperbolic form which merges into a curved bottom zone with a concavely recessed central portion, the height of the transition zone and its curvature, the curvature of the bottom zone and the height of the concave recess all being in specified proportion to the diameter of the main part to give optimum pressure resistance.

3,511,402
PILFER-PROOF CONTAINER CLOSURE
William E. Cheeley, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Jan. 29, 1968, Ser. No. 701,414
Int. Cl. B65d *41/04, 55/08*
U.S. Cl. 215—43 9 Claims



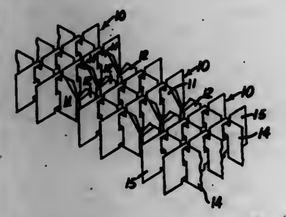
This disclosure relates to a container having a threaded closure cap which is threaded thereon and is held in sealed relation by a sealing band which must be severed and removed from the container to enable removal of the closure cap whereby removal of the sealing band is readily detected and discourages pilfering of the contents of the container.

3,511,403
CLOSURES FOR BOTTLES AND THE LIKE
Morris Braun, Chicago, Ill., assignor to W. Braun Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 30, 1967, Ser. No. 664,490
Int. Cl. B65d *41/04*
U.S. Cl. 215—44 11 Claims



A container having a neck portion having external helical threads and a mating screw-type closure cap formed of resilient material, the continuity of the threads on the neck portion being interrupted at spaced points to form gaps and abutment shoulders adjacent the gaps. When the cap is screwed tightly on the neck portion the cooperating threads of the cap are deformed into the gaps in the threads of the neck portion to cooperate with the abutment shoulders to lock the cap against inadvertent displacement.

3,511,404
PARTITION ASSEMBLY FOR CARTON PACKING
Reinhold A. Pearson, % R. A. Pearson Company, E. 304 2nd Ave., Spokane, Wash. 99202
Filed July 18, 1968, Ser. No. 745,820
Int. Cl. B65d *25/02, 81/00, 5/48*
U.S. Cl. 217—31 6 Claims



A partition assembly for packing of cartons wherein separating partition walls are required between adjacent articles or containers in the carton, such as bottles or jars. The assembly comprises a continuous string of foldably joined partition units, each unit including interlocked walls pivotable relative to one another between a collapsed condition wherein the walls abut one another and an expanded condition wherein the walls form a perpendicular grid. Adjacent partition units are foldably joined so that they will pull one another to an expanded condition. Provision is made for longitudinal bending of the expanded assembly and for facilitating severance of adjacent units.

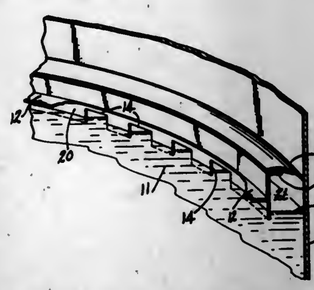
3,511,405
LAMP ENVELOPE WITH INTEGRAL COOLING CHAMBER AND METHOD OF MAKING SAME
Vernon L. Plagge, East Orange, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 15, 1965, Ser. No. 439,538
Int. Cl. C03b *23/14*; H01j *61/33*
U.S. Cl. 220—2.1 10 Claims

A fluorescent lamp envelope of tubular open-ended configuration is provided with a depending tubulation which serves as a cooling chamber and mercury-vapor pressure control center in the finished lamp. The tubulation protrudes into a reentrant cavity formed in the bulb wall and is preferably recessed therein and, thus, within the envelope periphery to permit the envelope to roll freely during the various lamp-making and testing operations. A preselected part of the envelope side



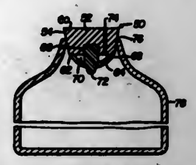
wall is first heat softened and displaced inwardly to form a reentrant cavity, and then a part of the deformed wall portion is reheated to the working point of the glass and shaped into an axially-extending recessed tubulation by a tool that is inserted into the open end of the envelope.

3,511,406
FLOATING ROOF
Lou C. Creith, Allentown, Pa., and Frank J. Daniels, Baldwin, N.J., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Continuation of application Ser. No. 538,077, Mar. 28, 1966. This application Dec. 23, 1968, Ser. No. 786,856
Int. Cl. B65d *87/18*
U.S. Cl. 220—26 4 Claims



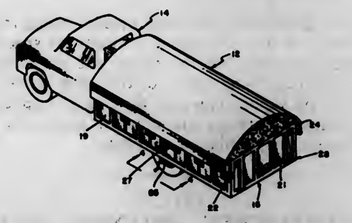
A floating deck for use in a liquid storage tank having a vertically extending tank shell, comprising a peripheral edge spaced inwardly from said tank shell and including a downwardly projecting vertical web, a sealing ring secured to said peripheral edge, and at least one slot in said vertical web extending upwardly above the surface of the stored liquid.

3,511,407
VALVE FOR CONTAINERS
James R. Palma, 1502 Curry Road, Schenectady, N.Y. 12306
Filed Mar. 22, 1968, Ser. No. 715,379
Int. Cl. B65d *51/16*
U.S. Cl. 220—44 4 Claims



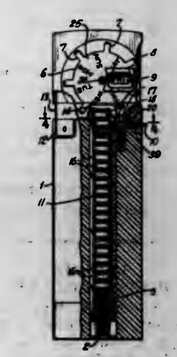
A valve for use with a container having an opening therein, the valve including a closure for closing the container opening, a passageway through the closure smaller than the opening, and a yieldable flap connected to the closure for sealing off the passageway. The flap prevents flow of fluid in one direction through the passageway, but yields to allow flow of fluid in the other direction through the passageway. The closure may be a plug or a cap, and in either case it is shaped to fit the container opening to seal the opening except for the passageway. The flap is resiliently flexible and has a continuous edge which is biased against a surface of the container or against a surface of the closure itself, thereby sealing off the passageway. The closure may be reversible so that the flap can be positioned either inside or outside of the container to determine the direction in which fluid can flow through the passageway. The valve can be used to equalize pressure in a nursing bottle, or may be used with other containers as will be described.

3,511,408
TRUCK BED COVER APPARATUS
Edward Hughes, 207 N. Gow, Wichita, Kans. 67204
Filed Jan. 21, 1969, Ser. No. 792,527
Int. Cl. B65d *45/00*; B60p *7/04*
U.S. Cl. 220—55 8 Claims



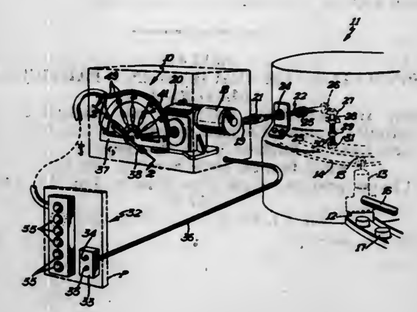
This invention is a cover apparatus mountable over the open, upper end of truck beds having a cover member biased into the covered or closed condition to hold a load therein and includes a cover retraction means operable to retract the cover member when desired to expose the truck bed. More particularly, this invention is a truck bed cover apparatus having cover attachment means connected to opposite sides of a cover member movable from a relaxed condition to a spring biased condition to hold any material contained within the truck bed with the entire structure being readily adjustable.

3,511,409
TABLET DISPENSER WITH HINGED TOP AND INDICATOR EJECTING WHEEL
Charles M. Huck, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey
Filed Oct. 9, 1968, Ser. No. 766,217
Int. Cl. G07f *11/00*
U.S. Cl. 221—7 3 Claims



A vertical cartridge type tablet dispenser with date referencing means is provided in which after the cartridge is inserted into the dispenser, the date referencing means may be adjusted without the ejection of a tablet. This is accomplished by providing a "snap top" configuration in which the tablet cartridge is disposed in the bottom of the dispenser and the date referencing mechanism, and, preferably, the tablet ejection mechanism, is disposed in the top of the dispenser.

3,511,410
CONTROL DEVICE FOR USE WITH A DISPENSING MACHINE
Lyndon R. Leining, Mapleview, Minn., assignor to Geo. A. Hormel & Company, Austin, Minn., a corporation of Delaware
Filed Aug. 28, 1968, Ser. No. 755,866
Int. Cl. B67d *5/22*; G08b *21/00*
U.S. Cl. 222—45 5 Claims

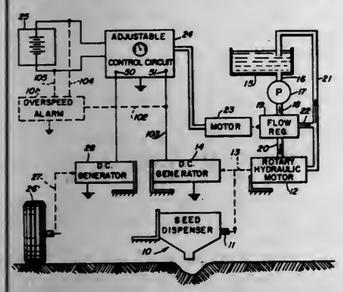


A control device for adjusting the quality of flowable material dispensed from a dispensing machine during operation thereof. The dispensing machine, including a revolvable multi-cavity unit having a plurality of plungers revolvable with the multi-cavity unit, each plunger being vertical shiftable in a cavity to dispense the flowable food product therefrom. An adjustable shaft connected in driven relation with a reversible electric motor and connected with the stroke adjusting means of the dispensing machine to permit adjustment of the stroke of the plungers. A plurality of indicator switches controlled by revolving movement of the adjustment shaft and being connected with indicator lights located remotely from the machine. A control switch positioned adjacent the indicator lights for controlling operation of the reversible electric motor.

3,511,411
APPARATUS FOR CONTROLLING PLANTING AND MATERIAL SPRAYING AND SPREADING DEVICE
Paul C. Weiss, Evanston, Ill., assignor, by mesne assignments, to AMBAC Industries, Incorporated, Garden City, N.Y., a corporation of New York
Filed Dec. 11, 1967, Ser. No. 689,503
Int. Cl. B67d *5/08*
U.S. Cl. 222—52 5 Claims

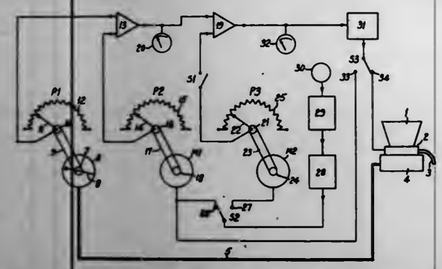
The voltage from a tachometer driven by a ground wheel is compared with the voltage from a second tachometer driven by a rotary hydraulic motor which powers an agricultural implement or the like. A control circuit

adjusts a fluid flow regulator in response to departure of said voltages from a given ratio. The flow regulator, in turn, controls the supply of power to the hydraulic mo-



tor for determining its speed. An auxiliary circuit provides an alarm indication when the hydraulic motor speed exceeds a predetermined magnitude.

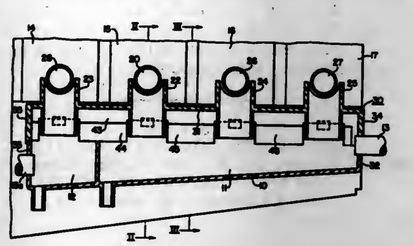
3,511,412
APPARATUS FOR DISCHARGING PARTICULATE MATERIAL
Philip H. Wolfenden, Coventry, and Michael J. Hare, Balsall Common, England, assignors to Courtaulds Limited, London, England, a British company
Filed Jan. 16, 1968, Ser. No. 698,331
Claims priority, application France, Jan. 17, 1967, 2,392/67
Int. Cl. B67d *5/08*; G01g *19/22*
U.S. Cl. 222—58 **5 Claims**



Particulate material discharging apparatus comprising a discharger driven by a driving mechanism for discharging the material from a hopper, a weighing machine for continuously weighing the material in the hopper, means responsive to the weighing machine for producing a first potential proportional to the weight of material in the hopper, a generator for generating a second potential which varies at a controlled rate according to the desired discharge rate, a comparator for comparing said potentials and for emitting a third potential when the first and second potentials are unequal, and a controller, actuated by the third potential, for controlling said driving mechanism so that the first and second potentials tend to become equal.

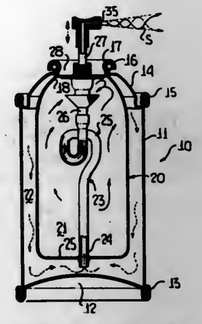
3,511,413
VENDING MACHINE MIXING TRAY VENTILATION
Norman L. Fuqua, Wilbraham, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 5, 1968, Ser. No. 719,146
Int. Cl. B67d *5/56*
U.S. Cl. 222—129.1 **2 Claims**

A ventilation arrangement for the mixing tray of a beverage dispensing machine wherein powdered foods are mixed with vaporous liquids and including a cover for the tray with a top wall and depending end and sidewalls together with spaced apart powder conveying spouts extending through the top wall and with the depending end walls of the cover engaging the tray end walls. The adjacent sidewalls of the tray and cover are formed to



provide an elongated ventilation opening along the length of the tray on one side and a plurality of spaced apart ventilation openings on the other side at points intermediate the depending spouts of the cover so as to minimize flow of vapors upwards through the spouts when ventilating gas currents are induced across the mixing tray through the ventilation openings.

3,511,414
TWO COMPARTMENT DISPENSING CONTAINER FOR ADMIXABLE PRODUCTS
James W. Kinnavy, Westmont, and Robert E. Orser, Worth, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 26, 1968, Ser. No. 708,416
Int. Cl. B67d *5/54*
U.S. Cl. 222—136 **8 Claims**

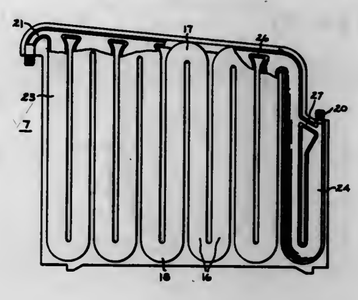


This disclosure relates to a dispensing container for admixing two products that includes an inner collapsible bag housing a conduit which extends between a dispensing valve and a second outermost compartment, the conduit further including a port in fluid communication with the innermost compartment whereby upon the opening of the valve the products of the compartments are drawn into the conduit, admixed therein and dispensed to atmosphere.

3,511,415
WATER COOLER
William P. Crowe, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 3, 1968, Ser. No. 756,914
Int. Cl. B67d *5/62*
U.S. Cl. 222—146 **7 Claims**

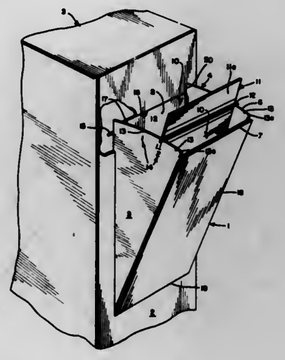
A water cooler particularly adapted for household refrigerator application includes a storage volume in the

form of a serpentine passage comprising a plurality of passes series connected at their upper and lower ends to form a series flow passageway with a restricted outlet at the upper end of the last pass. A flow controlling valve means connects the first pass to a source of high



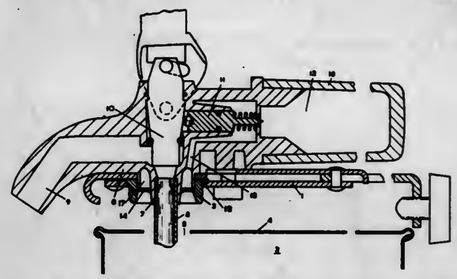
pressure water. The uppermost portion of each successive pass is higher than the uppermost portion of any preceding pass and these portions are interconnected to one another and to the outlet by flow restricting passages for purging air directly to the outlet.

3,511,416
METERING SPOUT
Alethea N. Michie, 166 E. 96th St., New York, N.Y. 10028
Filed Jan. 31, 1968, Ser. No. 702,081
Int. Cl. G01f *11/00*
U.S. Cl. 222—305 **11 Claims**



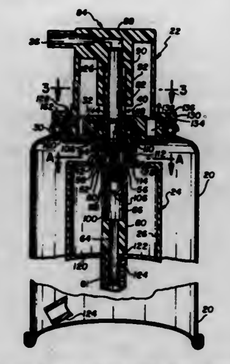
A metering spout is provided for a container of a free-flowing particulate solid, for metering out a pre-determined quantity of the contents of the container. The metering spout, which is integral with the container may be pre-set to meter out any desired quantity of the contents. To meter out a given quantity, the metering spout is adjusted to that quantity and the container is tilted to permit its contents to fill the spout from within the container. The metering spout is then moved to an open position in which the container is sealed against leakage through the spout and in which the metered quantity in the spout may be conveniently discharged exteriorly of the container.

3,511,417
LIQUID DISPENSING DEVICES
Rene P. Rousset, Potters Bar, England, assignor to The British Oxygen Company Limited, a British company
Filed Feb. 16, 1968, Ser. No. 706,118
Claims priority, application Great Britain, Mar. 1, 1767, 9,752/67
Int. Cl. B65d *83/14*
U.S. Cl. 222—399 **2 Claims**



A device for dispensing liquids from containers introduces gas under pressure into the space above the liquid to force liquid up a tube. Immediately before entering the container the gas passes through a valve of resilient material. The valve prevents dispensed or washing liquid from entering and corroding the interior of the device.

3,511,418
VARIABLE CAPACITY AEROSOL METERING VALVE
Frank Venus, Jr., Watertown, Conn., assignor to The Risdon Manufacturing Company, Naugatuck, Conn., a corporation of Connecticut
Filed July 29, 1968, Ser. No. 748,269
Int. Cl. B65d *83/00*
U.S. Cl. 222—402.20 **10 Claims**

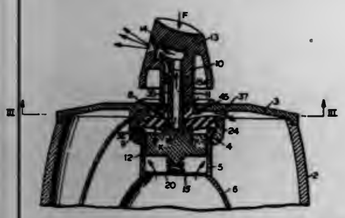


An aerosol valve of the metering type having selectively positionable means to effect dispensing of any one of several different predetermined measured volumes of fluid upon each operation of the valve.

3,511,419
PUSH-BUTTON DISPENSER
Felix Rousselot, Liguge, Vienne, France, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
Filed Apr. 15, 1968, Ser. No. 721,276
Claims priority, application France, Apr. 13, 1967, 102,568
Int. Cl. B65d *25/40*
U.S. Cl. 222—490 **15 Claims**

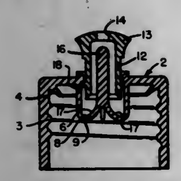
A pushbutton type dispenser for dispensing a product in a liquid or powder phase in a finely divided form. A

product container for containing the product to be dispensed has a propellant cartridge within it. The propellant cartridge is suspended from a cap for the container, and a pushbutton actuated valve assembly is provided on said cap and includes a pushbutton having a Venturi nozzle therein and a stem on which said pushbutton is mounted. The assembly has three flow paths, one for the propellant and extending from said cartridge to said nozzle, a second for the product to be dispensed and extending from said container to said nozzle, and a third for air and extending from within said container to



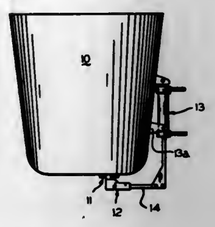
the outside of said container. A single gasket of flexible material having a plurality of projections projecting therefrom is provided, a portion of the plurality of projections being free to flex and being engaged by said stem for being flexed upon depression of said stem and being positioned in at least some of the said flow paths to obturate them, and the remainder of said plurality of said projections being supported in said valve means against flexure and engaging said valve stem. There is at least one projection of the remainder of the projections between each projection of said portion for sealing off the flow paths from each other.

3,511,420
PUSH-PULL DISPENSING CAP WITH DOUBLE SEAL
Milton Kessler, 6690 Harrington, Youngstown, Ohio 44512
Filed June 29, 1967, Ser. No. 649,988
Int. Cl. B67d *3/00*
U.S. Cl. 222—525 1 Claim



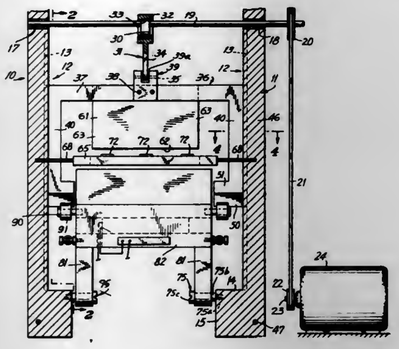
A push-pull dispensing and closure cap for containers of liquids such as detergents, the cap having a fixed central axial closure post which closes a hole in an axially slidable outer dispensing spout when the spout is pushed toward the cap; the spout has a cylindrical lower sleeve which slides telescopically in a slightly larger diameter sleeve fixed to the cap and in the lowermost or closed position makes a tight abutting seal between the lower portion of the said cylindrical sleeve and a lower portion of said larger diameter sleeve, which seal prevents leakage of fluid between the two sleeves.

3,511,421
STOPPER AND NOZZLE CONSTRUCTION FOR METAL LADLES
William H. Smith, Lansing, Ill.
(163 Orchard Drive, McMurray, Pa. 15317)
Continuation-in-part of application Ser. No. 569,954, Aug. 3, 1966. This application Apr. 29, 1968, Ser. No. 736,890.
Int. Cl. B65d *47/00*
U.S. Cl. 222—559 9 Claims



A stopper construction for metal teeming ladles wherem a stopper head for the outlet aperture in the ladle is supported and controlled for movement by a rod extending outwardly through the outlet of the ladle. An operating arm is fixed to and carried by the rod to cause reciprocation of the stopper head and to control flow of metal to and from the ladle.

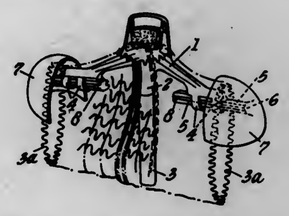
3,511,422
MECHANISM FOR AND METHOD OF FOLDING AND CREASING PIECES OF RIBBON
Siegfried Godel, Norwalk, Conn., and William Rosenzweig, Roslyn Heights, N.Y., assignors to Fashion Development Corporation, New York, N.Y., a corporation of New York
Filed Mar. 25, 1968, Ser. No. 715,748
Int. Cl. A41h *33/00*
U.S. Cl. 223—37 11 Claims



Pre-cut lengths of ribbon are fed onto a plate formed with a slot. A push blade mounted on a frame moves up and down with the frame. The frame is guided on guides as it moves up and down. On its downward motion the blade pushes the fed ribbon into the slot in the plate to fold the ribbon. At the same time, wedge shaped members on the frame pry apart hinged heated pressure members which are biased together by tension springs. When the blade is raised out of the slot the folded and creased ribbon remains in place, but the wedge shaped portions

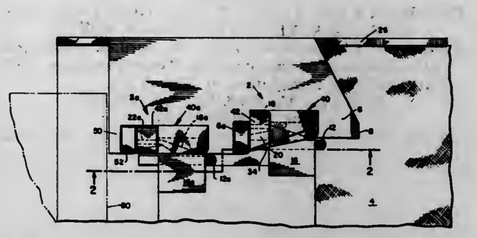
are withdrawn to permit the heated members to be pressed together by the springs against opposite sides of the folded ribbon to crease the fold. On the next cycle when the blade comes down a new piece of ribbon is folded and the heated members are again separated to permit the previously folded and creased piece of ribbon to fall down into a receptacle.

3,511,423
DRESS FORMS
Eric R. Arthur, 94 Baston Road, Hayes, Kent, and Oliver R. Clemesha, 13 Eastdown Park SE. 13, Lewisham, London, England
Filed Aug. 22, 1968, Ser. No. 754,597
Int. Cl. A41h *5/00*
U.S. Cl. 223—68 3 Claims



A shoulder expander adapted to be fitted to the upper end of a centre tube of a deformable wire dress form and fitted at each end with a shoulder piece or sleeve support which is slidable towards and away from said end to adapt the shoulder expander to suit different shoulder to shoulder sizes.

3,511,424
PLEAT FORMING DEVICE AND PROCESS
Anthony G. Tucci, 9602 103 Ave., Ozone Park, N.Y. 11417
Filed Apr. 22, 1968, Ser. No. 723,334
Int. Cl. A41h *43/00*
U.S. Cl. 223—34 8 Claims

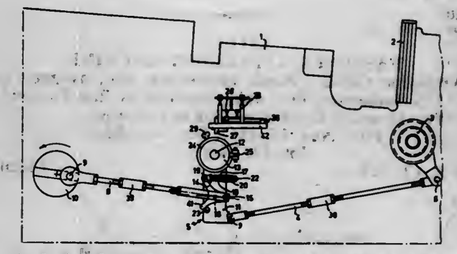


A method of forming and setting pleats in a workpiece. A device for forming pleats in a workpiece comprising a workpiece presser plate adapted to overlie a portion of a conveyor belt passing through said device and carrying a workpiece to be pleated, said presser plate adapted to prevent a portion of said workpiece from becoming pleated, means for lifting a portion of said workpiece off said conveyor, means for forcing the lifted portion of said workpiece over the portion of said workpiece carried on said conveyor against which said presser plate bears, means for keeping said lifted portion of said workpiece in a generally planar position relative to said conveyor and said portion of said workpiece carried on said conveyor, means for maintaining a crease between said portion of said workpiece carried on said conveyor and said lifted portion of said workpiece, and means for placing said lifted portion over the unlifted portion in surface-to-surface relationship.

ERRATUM

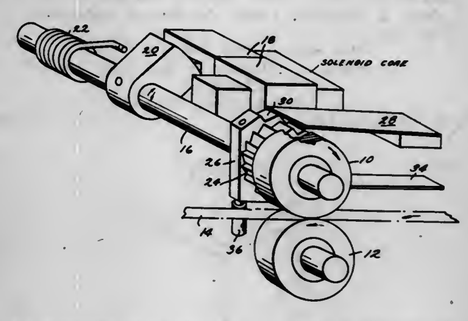
For Class 224—42.1 see:
Patent No. 3,512,082

3,511,425
DEVICE FOR CORRECTING THE STEPWISE SUPPLY OF STRIP MATERIAL
Antonius A. Flick, Rotterdam, Netherlands, assignor to Hunter Douglas International Ltd., Pointe Claire, Quebec, Canada
Filed Jan. 8, 1968, Ser. No. 696,248
Claims priority, application Netherlands, Jan. 6, 1967, 6700225
Int. Cl. B65h *17/18*
U.S. Cl. 226—138 10 Claims



A device for correcting location of areas of printing in the stepwise supply of strip material for delivery to an operating machine wherein a correction mechanism has a part movable in relation to the machine frame and through rod connections to the strip supply and eccentric connection to the main drive of the machine, cooperating with abutment cams, a control apparatus determines correction of deviations from the theoretically correct locations of these areas.

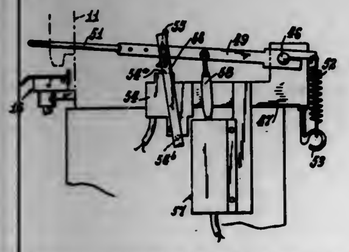
3,511,426
MECHANISM FOR INTERMITTENTLY ADVANCING AND STOPPING MATERIAL
La Grange D. Whitmore, Royal Oak, and Roy E. Sherman, Shelby Township, Mich., assignors to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 7, 1968, Ser. No. 750,898
Int. Cl. B65h *17/44*
U.S. Cl. 226—145 7 Claims



An improved mechanism is provided for advancing continuous length paper, and other lengths of materials, in accordance with a precise stepwise advancement. The mechanism includes a pair of wheels between which the material is advanced, and one wheel functions as a drive wheel for intermittently advancing the material. The drive wheel is rotated by a drive shaft which is oscillated back and forth about its axis of rotation, and a stopping mecha-

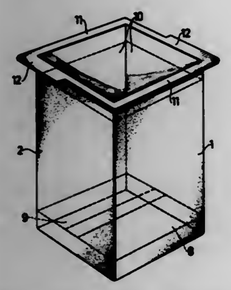
nism precisely stops the drive shaft in a position which advances paper between the pair of wheels. The drive shaft may be driven by an electromagnetic solenoid coil which periodically draws a rotor member carried by the drive shaft into an air space formed within the coil. When the rotor is drawn into the coil, the drive shaft functions to turn the drive wheel in a direction which advances paper, and a return spring turns the drive shaft in an opposite direction when the solenoid coil is de-energized. The stopping mechanism for precisely stopping forward advancement of material may comprise a ratchet means carried by the drive wheel. A cam plate is mounted adjacent to the ratchet means, and a pawl is lifted and lowered by the cam plate relative to the ratchet means to periodically engage a tooth of the ratchet for precisely stopping the forward rotation of the drive shaft.

3,511,427
FASTENER ATTACHING MACHINE
Augustine Cilione, North Providence, R.I., assignor to U.S. Industries, Inc., doing business as Rau Fastener, Providence, R.I., a corporation of Delaware
Filed Nov. 15, 1967, Ser. No. 683,275
Int. Cl. B21j *15/28*
U.S. Cl. 227—1 7 Claims



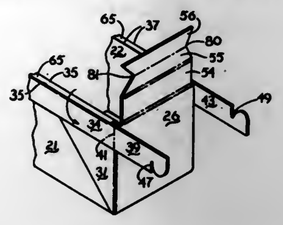
A snap fastener component attaching machine having dual fastener attaching heads and vacuum plate assemblies for positioning and holding a sheet of material in place to receive fastener components and including an associated safety bar controlling operation of the attaching heads.

3,511,428
CARTON HAVING A PLASTIC LINING MADE BY DEEP-DRAWING
Rolf Magnus Dilot, Lund, Sweden, assignor to AB Akerlund & Rausing, Lund, Sweden, a corporation of Sweden
Filed Nov. 4, 1968, Ser. No. 773,202
Claims priority, application Sweden, Nov. 15, 1967, 15,674/67
Int. Cl. B65d *5/56*
U.S. Cl. 229—14 5 Claims



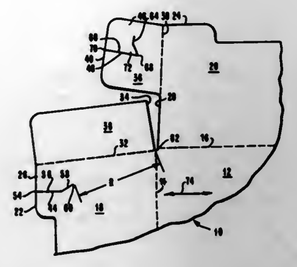
A container and method for making same having an outer sleeve with flaps closing the bottom thereof and an inner thermoplastic lining which can be deep-drawn, the flaps having a heat-sealable coating on the inside surfaces thereof to which the base of the plastic lining is adhered.

3,511,429
PORTABLE BEVERAGE COOLER
James A. Brian, San Antonio, Tex., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Apr. 23, 1968, Ser. No. 723,549
Int. Cl. B65d *5/24*
U.S. Cl. 229—31 2 Claims



A portable beverage cooler constructed from a one-piece, water-resistant paperboard blank. The cooler includes opposed end and side wall panels foldably connected to a bottom wall panel. Bellows panels are provided at each corner of the cooler, foldably connected to both a side and end wall. The bellows panels are secured adjacent a side wall of the cooler by bellows panel locking flaps which are foldably connected along the top edge of each side wall panel. Locking tabs foldably connected to the ends of the bellows panel locking flaps are secured together around the ends of the cooler and locked in that position by locking flaps foldably connected to the top edge of the end wall panels.

3,511,430
INTERLOCKING CORNER CONSTRUCTION FOR CORRUGATED PAPER BOARD BOXES
William C. Chuber and Gerry W. Jordan, Statesville, N.C., assignors to International Paper Company, New York, N.Y., a corporation of New York
Filed May 17, 1968, Ser. No. 730,049
Int. Cl. B65d *5/26*
U.S. Cl. 229—35 5 Claims



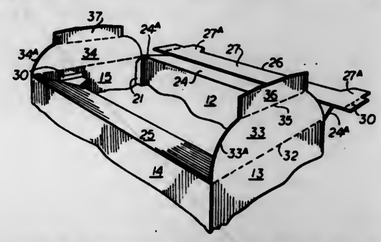
A corner construction for corrugated paper board boxes having an interlocking tab and cut wherein an edge of the cut and an edge of the tab are in abutting engagement along a line normal to the knockdown path of the tab carrying side and wherein the tab receiving cut extends to the upper edge of the corner to facilitate erection.

3,511,431
SIFTPROOF CARTONS
Stanley Milton Silver, 10 Blenheim St., London W. 1, England
Continuation-in-part of applications Ser. No. 607,216, and Ser. No. 611,211, both filed Jan. 4, 1967. This application Jan. 4, 1968, Ser. No. 695,786
Int. Cl. B65d *5/02*
U.S. Cl. 229—37 17 Claims



A one-piece carton of rectangular cross section having at least one siftproof sealed end. The seal is formed by dust flaps and closure flaps with the dust flaps adhered along their entire surface to a closure flap and having at least a portion of their side edges adhesively secured to the closure flap-supporting walls; said adhesive securing attained by slight excess width of the dust flaps; the excess width being preferably softened and serrated; and by crimping the closure flap-supporting walls toward one another immediately below the dust flap side edges, forming beaded carton edges enclosing the edges of the dust flaps.

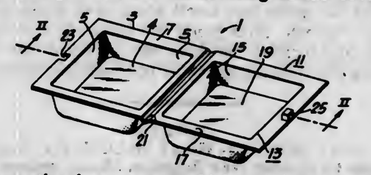
3,511,432
FOLDABLE RECEPTACLE AND BLANK THEREFOR
Lyman C. Gish, Rittman, Ohio, assignor to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware
Filed Jan. 6, 1969, Ser. No. 789,175
Int. Cl. B65d *5/22*
U.S. Cl. 229—39 9 Claims



A foldable receptacle and blank therefor are provided wherein at least one surface of the receptacle has a shadow box configuration. Portions of the receptable delimiting the shadow box configuration are in self-interlocking relation and do not rely upon an accommodated product to retain said interlocking relation.

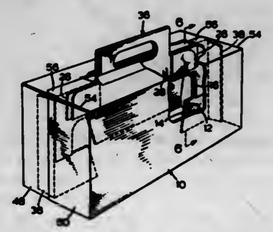
3,511,433
UNITARY FOAM SHEET CONTAINER
James M. Andrews and James R. Patton, Pittsburgh, Pa., assignors to Sinclair-Koppers Company, a partnership of Delaware
Filed Mar. 13, 1968, Ser. No. 712,812
Int. Cl. B65d *5/66, 1/00*
U.S. Cl. 229—44 3 Claims

A unitary foam polystyrene container is provided which can be formed from a single sheet of foam plastic material in one step and which provides insulation to protect hot foodstuffs from loss of heat while simultaneously permitting the escape of moisture from the closed container or on the foodstuff. The container comprises a unitary cover and tray portion interconnected by a hinge or fold line and provides for the securing of the cover to



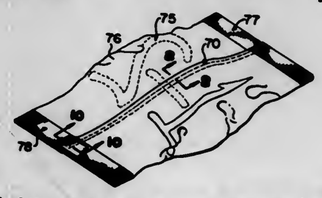
the tray portion in a manner which permits excess moisture to escape from the container.

3,511,434
HANDLE DIVIDER CONSTRUCTION
Thomas Kenneth Dews, London, Ontario, Canada, assignor to Somerville Industries Limited, London, Ontario, Canada
Filed June 3, 1968, Ser. No. 734,121
Claims priority, application Canada, Nov. 20, 1967, 5,510
Int. Cl. B65d *5/46, 25/28, 75/00*
U.S. Cl. 229—52 7 Claims



This invention relates to a handle divider construction for use with paperboard containers commonly used to carry bottled beverages. It consists essentially of an envelope formation that acts as a divider wall in the container and that has opposed panels that normally house a multiply handle. The multiply handle is fragibly connected to the envelope construction and when severed therefrom can be withdrawn through an opening at the upper edge of the divider wall. The multiply handle has a guide panel which has a greater extent than the other panels and is adapted to guide the multiply handle upwardly after it has been severed from the envelope and is raised to an operative position in which the handle gripping portion thereof extends above the divider wall and a shoulder portion thereof is in locked engagement with the folded upper edge of the envelope.

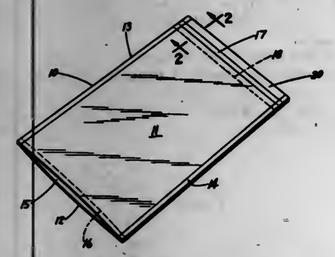
3,511,435
LAMINATED CONTAINER AND METHOD OF MAKING A LAMINATED CONTAINER
Norman S. Hewitt, New Canaan, Conn., and Wesley D. Cawley, Port Neches, Tex., assignors to Continental Can Company, New York, N.Y., a corporation of New York
Filed Oct. 21, 1965, Ser. No. 500,123
Int. Cl. B65d *31/02;* B65b *41/12*
U.S. Cl. 229—55 21 Claims



This disclosure relates to a novel laminated pouch and method of forming a laminated pouch by overlapping a

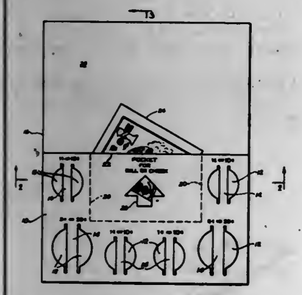
longitudinal edge of a first web to bring its edge into abutting engagement with the edge of a second sheet, rolling the sheets into a roll which is of a generally uniform diameter throughout, subsequently unrolling the sheet, and forming the sheet into a seamed tube by heat sealing the folded edge to its opposite longitudinal edge.

3,511,436
EASY OPENING HEAT SEALED PACKAGE
Robert G. Kessler, New Brighton, Minn., assignor to U.S. Plywood-Champion Papers Inc., a corporation of New York
Filed Sept. 12, 1966, Ser. No. 578,786
Int. Cl. B65d *5/70, 33/22*
U.S. Cl. 229—66 9 Claims



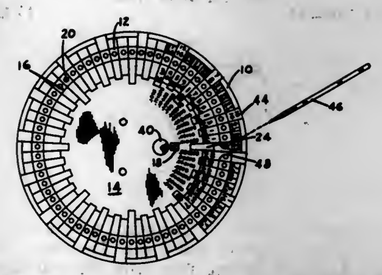
An easy opening heat sealed pouch or envelope having at least one edge having a tight heat seal formed by bonding together two abutting surfaces under influence of heat and pressure such that the bond may be broken and the package opened easily by the use of moderate force by grasping opposite sides of the pouch between thumbs and fingers and pulling. Easy opening is achieved by interposing a coating between the heat sealable surfaces before bonding. The coating may be formed from any of a diverse group of materials including paraffin wax, ethyl cellulose, vinyl chloride-vinylidine chloride copolymer, vinyl chloride, ethylene-vinyl acetate copolymers, mineral oil, ferric chloride, liquid alkyl aryl sulfonate detergent, polyamides, polyesters, polyurethanes, acrylics, and mixtures thereof.

3,511,437
CURRENCY HOLDING CARD
Robert B. Shaad, Watertown, N.Y., assignor to Dyna-Span Industries, Inc., Watertown, N.Y., a corporation of New York
Filed Aug. 9, 1968, Ser. No. 751,482
Int. Cl. B65d *85/54*
U.S. Cl. 229—92.9 8 Claims



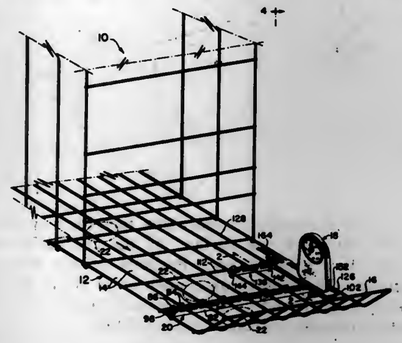
A card for mailing currency, the card having a special pocket for holding a bill or check as well as the usual coin receiving openings.

3,511,438
HAND CALCULATORS
Ralph E. Melendez, 63 Margaret Road, North Massapequa, N.Y. 11758
Filed May 13, 1968, Ser. No. 728,404
Int. Cl. G06c *27/00*
U.S. Cl. 235—78 7 Claims



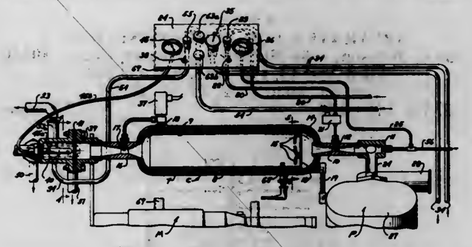
The present invention relates to a fractional hand calculator which provides the function of adding and subtracting fractions as well as the conversion of fractions to decimaled numbers. Further in the adding and subtracting feature provision is made for the indication of whole numbers over the number one. This is accomplished by providing a first disc and a second disc, the first disc being rotatable about a fixed center point. The second disc which is fixed in position is provided with a window therein to permit the display of whole numbers as a result of a gear arrangement which is rotatably disposed between the first and second discs.

3,511,439
EGG COUNTING MACHINE
Oscar W. Swenson, 211 Lorraine Ave., Upper Montclair, N.J. 07043
Filed Aug. 23, 1968, Ser. No. 767,558
Int. Cl. G06m *7/00, 1/08*
U.S. Cl. 235—98 8 Claims



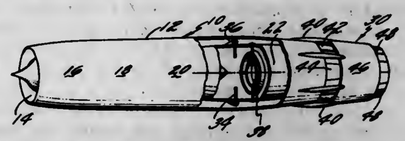
The device of this invention may be briefly described as a ratchet wheel counter which is constructed from a minimum number of parts each capable of being precisely mass produced extremely cheaply and capable of being assembled and installed without the use of tools by totally unskilled labor. It nevertheless contains means for register locking during non-counting periods, protective means against inaccurate counts, and protective means against damage by the fowl. Furthermore, the device may be installed without further modification on existing chicken coops and compartments of the currently popular type, such as for example, although not exclusively, the hen compartments manufactured by the Pockman Company or the Cumberland Company.

3,511,440
APPARATUS FOR INDUSTRIAL CLEANING
Robert B. Black, 2925 Denver St., Corpus Christi, Tex. 78404
Filed Apr. 6, 1967, Ser. No. 632,141
Int. Cl. B05b *1/24*
U.S. Cl. 239—129 9 Claims



Pressurized industrial cleaning system in which fuel is continuously burned under pressure in a combustion chamber having a water jacket and in which the jacket water and preferably also a detergent are introduced into the hot gaseous products of combustion, provision also being made for recovery of detergent not used for cleaning.

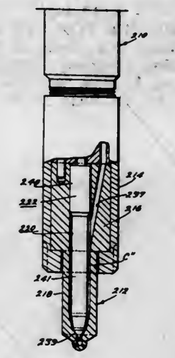
3,511,441
EJECTOR WITH VARIABLE INNER FLAP
Thomas F. Tumicki, Yantic, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 1, 1964, Ser. No. 400,778
Int. Cl. B64c *15/04*
U.S. Cl. 239—265.29 5 Claims



1. In an ejector type exhaust nozzle for a high speed vehicle, an engine exhaust duct system, a variable area primary exhaust nozzle attached to the after end of said exhaust duct system and cooperating therewith to define a first gas passage, a fixed shroud having a forward and an after edge and enveloping said system and said nozzle to define a second gas passage therebetween, a plurality of flaps having forward and after edges and being positioned between said shroud and said nozzle, and suspension means attached to said shroud approximately midway between said forward and after edges thereof and pivotally suspending said flap forward edges laterally between said shroud and said nozzle so that said flaps are pivotable between an inner position wherein said flap and said shroud form a third gas passage therebetween and an outer position wherein said flaps contact said shroud after edge and present a smooth, divergent expansion surface rearward of said nozzle.

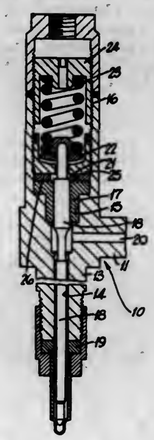
3,511,442
SUMPLESS FUEL INJECTION NOZZLE
Frank De Luca, Thompsonville, Conn., and Albert A. Marchetti, Springfield, Mass., assignors to AMBAC Industries, Incorporated, a corporation of New York
Continuation-in-part of application Ser. No. 550,742, May 17, 1966. This application Feb. 29, 1968, Ser. No. 709,373
Int. Cl. B05b *1/30*
U.S. Cl. 239—533 1 Claim

A sumpless fuel injection nozzle comprising a body portion and an elongated generally cylindrical shank depending from the body portion, means defining a axial bore extending the length of the nozzle, said axial bore consisting of an upper section and a lower section of slightly enlarged cross section, and a valve element mounted in said axial bore. The valve member comprises a guide portion slideably amounted in the upper bore



section and a streamlined head portion connected to the guide portion and spaced from the inner wall of the lower bore section to define an annular space therebetween and means defining an angled passageway in the body portion directly communicating with the lower axial bore section.

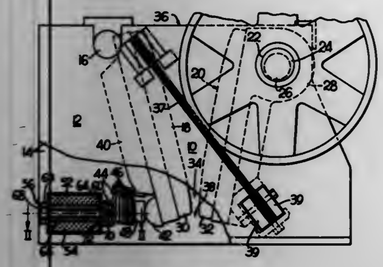
3,511,443
LIQUID FUEL INJECTION NOZZLE UNITS
Paul Edgar Glikin, Hendon Way, London, and John Richard Bishop, Staines, Middlesex, England, assignors to C.A.V. Limited, London, England, a British company
Filed May 8, 1968, Ser. No. 727,577
Claims priority, application Great Britain, May 23, 1967, 23,886/67
Int. Cl. B05b *1/30*
U.S. Cl. 239—533 3 Claims



A liquid fuel injection nozzle unit comprising an elongated generally cylindrical body in which is formed a bore, a portion of the bore having a guide bush mounted therein, the guide bush guiding the movement of a valve member having a step formed thereon. A wider portion

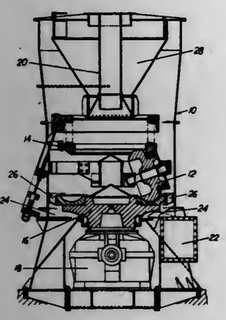
of the bore accommodating a stop plate for co-operation with the step to limit the extent of movement of the valve member in one direction the extent of movement of the valve member being determined by a washer disposed intermediate the stop plate and the bush.

3,511,444
SAFETY DEVICE FOR JAW CRUSHER
Bela Vitez, Franklin, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Aug. 1, 1968, Ser. No. 749,329
Int. Cl. B02c *23/04*
U.S. Cl. 241—32 5 Claims



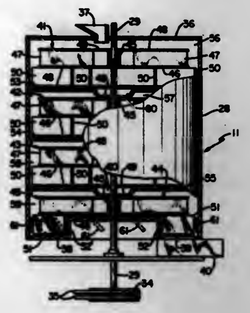
In combination with a jaw crusher, a safety device which permits movement of the normally stationary jaw of the jaw crusher upon the occurrence of an overload force thereon. The force on the stationary crusher jaw is applied through intermediate blocking members to the far end of a prestressed bolt, the near end of which is restrained from movement, to thereby place the bolt in tension. The bolt is provided with a weakened region which fractures in tension at a predetermined force on the stationary jaw, to thereby release the blocking members to permit movement of the stationary jaw.

3,511,445
AIR FLOW CONTROL MEANS FOR PULVERIZING MILL
Ronald A. Ashdown, 2 Westway Gardens, Redhill, Surrey, England
Filed Apr. 5, 1968, Ser. No. 719,139
Int. Cl. B02c *23/00*
U.S. Cl. 241—61 5 Claims



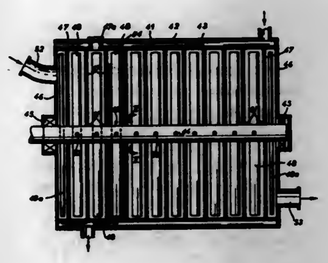
This invention relates to pulverizing mills of the type comprising a rotated horizontal table against which are forced a number of wheels or balls. A ring of nozzles through which air passes to entrain the pulverized materials surrounds the table, the nozzles of the ring being defined by a plurality of radial spacers, and the rate of flow of air through these nozzles is adjusted by wear blocks which fit over the radial spacers and adjust the size of nozzles.

3,511,446
APPARATUS FOR PROCESSING ORE
Carl L. Johnson, 1404 Hudson St., Denver, Colo. 80220
Filed Apr. 13, 1967, Ser. No. 630,560
Int. Cl. B02c *4/02, 13/18, 19/00*
U.S. Cl. 241—152 7 Claims



Mineral values are separated from low-grade ore first by passing the ore through convergent banks of rollers where, as opposed to crushing the ore, it is broken down to its basic particle size. Separation of the mineral values is carried out in a scrubber or separator wherein the particles are scrubbed, abraded and broken apart by impact in a succession of rotary stages in which the particles are caused to undergo a constant change in direction at a relatively high speed whereby the oxides are scrubbed from the external surfaces of the particles as the particles are rubbed against one another and against the blades under a combined centrifugal and centripetal action. The mineral values are then separated from the gangue and classified according to size.

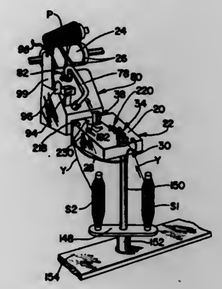
3,511,447
CRUSHER
Jean Marie Annic Brizon, 64 Rue Ampere, Paris, France
Filed Apr. 10, 1967, Ser. No. 629,722
Claims priority, application France, Apr. 13, 1966, 57,476
Int. Cl. B02c *17/16*
U.S. Cl. 241—172 5 Claims



A crusher constituted by a succession of flat cylindrical ball-containing cells surrounding a common shaft and each carrying stirrers in a radial plane, preferably a

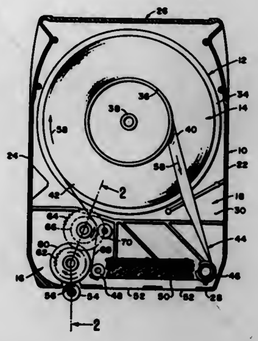
diametrical stirring bar. The successive cells communicate through annular clearances between the shaft and the inner edges of the annular partitions or covers separating the cells. The particle-carrying liquid passes in succession through the different cells without carrying the balls along with it, so as to be crushed therein.

3,511,448
YARN INSPECTION APPARATUS
Charles W. Brouwer, East Greenwich, and Raymond V. Tata, Warwick, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Mar. 13, 1968, Ser. No. 712,864
Int. Cl. B65h *63/04, 63/06*
U.S. Cl. 242—36 8 Claims



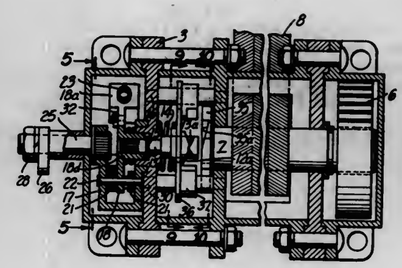
Inspection apparatus for an automatic winding machine to inspect yarn for unacceptable defects before the yarn is wound onto a take-up package. Such defects detected during winding are eliminated and winding is resumed. In the event of a second yarn defect immediately following a first defect, or in the event of excessive yarn tension during thread-up of the winding machine, the yarn supply is replaced with a fresh supply.

3,511,449
TAPE CARTRIDGE WITH SPEED CHANGER
Gregory Mathus, Cambridge, and Alan B. Lowry, Canton, Mass., assignors to Data Packaging Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Aug. 7, 1968, Ser. No. 750,806
Int. Cl. B65h *17/48*
U.S. Cl. 242—55.19 8 Claims



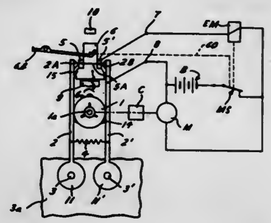
An endless tape cartridge is provided with tape feeding pinch rollers connected for rotation, when used with a record playback machine, to the driving capstan through speed reducing means to feed the tape at a slower rate than would normally be determined by direct engagement of the tape with the capstan. In one form, one of the pinch rollers is gear connected to a parallel friction wheel which engages and is driven by the capstan. In another form, one of the pinch rollers is coaxially connected to a larger friction wheel which is in driving engagement with the capstan. The pinch roller and larger friction wheel can be yieldably supported at each end on the end of an elongated portion fashioned by a long U-shaped slot cut in the top and bottom walls.

3,511,450
INERTIA LOCK REEL
Kamal Y. Awelmrine, 4209 W. 1st St., Los Angeles, Calif. 90004
Filed Mar. 11, 1968, Ser. No. 712,091
Int. Cl. B65h *75/48*
U.S. Cl. 242—107.4 8 Claims



An inertia lock reel for use on the safety belts or harnesses of vehicles. The locking mechanism includes rotatable members having a pair of pawls which are normally engaged. If a sudden deceleration occurs, an inertia weight member automatically rotates to move one of the pawls out of engagement with the other. This results in ratchet members being engaged to prevent unwinding of the safety belt or harness, while permitting it to be rewound.

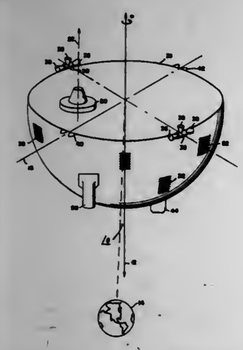
3,511,451
TAPE RECORDING AND REPRODUCING APPARATUS WITH AUTOMATIC MOTOR ARRESTING OR REVERSING MEANS
Reinhold Emmert, Nuremberg, Germany, assignor to Grundig E.M.V., Elektro-Mechanische Versuchsanstalt Inh.; Max Grundig, Furth, Bavaria, Germany
Filed Feb. 1, 1968, Ser. No. 702,388
Claims priority, application Germany, Feb. 4, 1967, G 49,186
Int. Cl. G11b *23/04;* B65h *25/14, 25/32*
U.S. Cl. 242—200 15 Claims



A magnetic tape recording and reproducing apparatus wherein an electric motor drives a spindle which rotates one of two reels in a magazine to transport magnetic

tape from the supply reel toward the takeup reel or vice versa. When the spindle comes to a halt or its speed decreases upon collection of tape on one of the reels, the motor is arrested or reversed in response to opening of one or more switches in the motor circuit. Such opening is effected by a spring serving to bias two pivotable switching members against the periphery of a cam which rotates with the spindle. The cam has lobes which hold the switching members away from its periphery when the rotational speed of the spindle exceeds a certain minimum speed. The bias of the spring is opposed by a delay device including portions of the switching members, their support and a tough viscous paste which delays movements of switching members under the action of the spring so that the switching members can reach the periphery of the cam only when the frequency at which the lobes engage the switching members is less than required by the spring to move the switching members against the periphery of the cam.

3,511,452
SPINNING BODY ATTITUDE CONTROL
Cleon Lloyd Smith, Los Angeles, and Robert H. Van Voorhis, Manhattan Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Feb. 24, 1967, Ser. No. 618,476
Int. Cl. B64c
U.S. Cl. 244—1 16 Claims



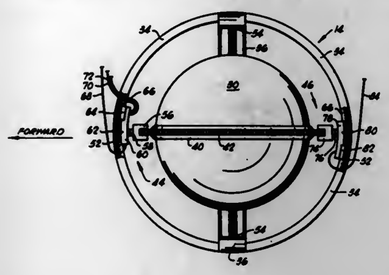
Space vehicle control method and system featuring a reaction wheel or other mass rotating at a speed such that the total rotary momentum of the vehicle and wheel is substantially nil.

3,511,453
CONTROLLABLE REENTRY VEHICLE
Pakrad A. Giragosian, West Concord, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Apr. 27, 1967, Ser. No. 634,167
Int. Cl. B64c
U.S. Cl. 244—1 6 Claims



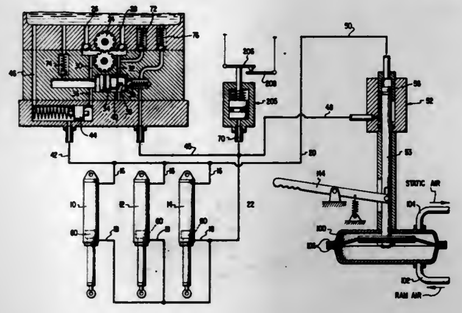
A vehicle having a sensor for examining the terrain, a computer responsive to the sensor for determining how the vehicle's flight should be changed, a controller responsive to the computer output which selectively drives hydraulic actuators, and vehicle control surfaces which are moved inwardly to a position below the rigid outer surface of the vehicle by the actuators.

3,511,454
GYRO STABILIZATION APPARATUS
Max E. Hamilton, 2816 Linda Lane, Del City, Okla. 73115
Filed Sept. 18, 1967, Ser. No. 668,500
Int. Cl. B64c *17/06*
U.S. Cl. 244—79 12 Claims



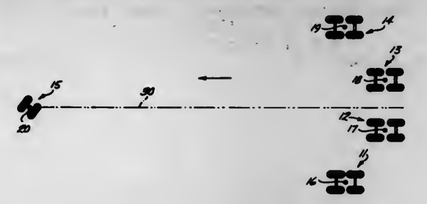
A device for maintaining a body in a fixed, three-dimensional attitude. The device consisting of a chassis member having a gyro sphere controllably rotatable and movably affixed in balanced relationship thereto, the gyro sphere containing a pair of brute-force gyroscopes having their rotor axes disposed in perpendicular relationship, and also including the various drive power and control equipment. The chassis member may then be utilized to support a vehicular structure and to support operator accommodations, secondary power equipment and related machinery, and primary propulsive force may also be supplied by means of suitable drive apparatus affixed to the chassis member.

3,511,455
RETRACTABLE LANDING GEAR SYSTEM FOR AIRCRAFT
Fred E. Weick, Vero Beach, Fla., assignor to Piper Aircraft Corporation, Vero Beach, Fla., a corporation of Pennsylvania
Filed May 23, 1968, Ser. No. 731,508
Int. Cl. B64c *25/18*
U.S. Cl. 244—102 18 Claims



The disclosure herein is directed to a system providing improved safety in the retraction and extension of landing gear for airplanes. A special feature of the system is the provision of a free-fall emergency landing gear whereby should the pilot overlook proper gear position at the time of landing, the gear will automatically extend and lock without pilot attention. The described system is hydraulic and it has many features of a safety and warning type. In the main, however, the objectives of the invention are accomplished basically by combining air velocity pressure effects resulting from airspeed and the slipstream in a single device, and then translating such pressure into mechanical motion by a pressure transference device integrated into the hydraulic system of the landing gear. Translation of the pressure effects is such that the gear cannot be retracted on take-off until normally safe flying speed is attained. The air velocity effects are utilized to accomplish emergency free-fall of the gear below a selected speed at the time a landing is contemplated. Included in the system is a means manually operable by the pilot, termed "override means," for placing and maintaining the gear in either retracted or extended position at his choice irrespective of airspeed or power.

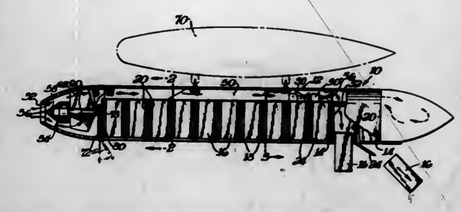
3,511,456
STAGGERED FOUR TRUCK MAIN LANDING GEAR FOR HEAVY AIRCRAFT
Wendell B. Fehring, Issaquah, Friedrich W. Scherer, Federal Way, and Donald K. Wika, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Continuation-in-part of application Ser. No. 630,901, Apr. 14, 1967. This application Apr. 24, 1969, Ser. No. 818,891
Int. Cl. B64c *25/10*
U.S. Cl. 244—102 5 Claims



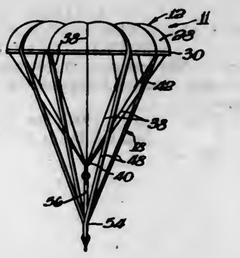
A staggered main landing gear is disclosed for the large type of aircraft weighing over 700,000 pounds, comprising two fuselage mounted coaxial aft units or wheel trucks equally spaced on opposite sides of the aircraft longitudinal axis and two wing mounted fore wheel units or wheel trucks being equally spaced transversely a greater distance from the aircraft longitudinal axis than the aft units, the aft wheel units being retractable forwardly and upwardly into a wheel well in the center of the fuselage and both fore units being retractable in an angular direction forwardly, inwardly, and upwardly to a position contiguous with the aft wheel units or into the same wheel well therewith to provide the structurally lightest four strut main landing gear for the required footprint area and requiring the least space for retraction thereof.

3,511,457
AERIAL CARGO DISPENSER
Joseph M. Pogue, Wilmington, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 6, 1968, Ser. No. 758,005
Int. Cl. B64d *1/02*
U.S. Cl. 244—137 10 Claims

Aerial cargo dispenser comprises main body portion having at least one cargo receiving cell therein with cell door at exterior of main body portion. Flexible diaphragm is sealingly connected around inside of cell in spaced relationship from cell door whereby cargo in cell is disposed between diaphragm and door. Plenum in main body portion communicates with flexible diaphragm so that upon opening of cell door air pressure in plenum urges flexible diaphragm against cargo in cell with force sufficient to dispense cargo therefrom.



3,511,458
AERIAL RECOVERY SYSTEM
George J. Rolandelli, Wilmington, Del., assignor to All American Engineering Company, Wilmington, Del., a corporation of Delaware
Filed May 16, 1968, Ser. No. 729,579
Int. Cl. B64d *17/22, 17/18*
U.S. Cl. 244—142 5 Claims

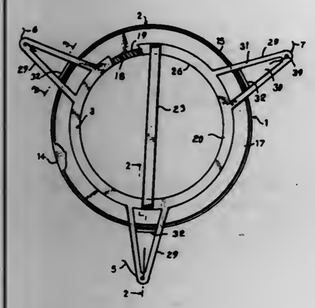


An airfoil target comprises a parachute including a canopy of low porosity material having a generally circular outer peripheral portion and a central opening surrounded by an inner peripheral canopy portion. Suspension lines secured to the canopy terminate at a connection point spaced from the canopy. A middle canopy portion between the inner and outer peripheral portions extends upwardly from both peripheral portions when the canopy is inflated with air so that the canopy has an inverted annular trough shape when so inflated. A harness associated with the parachute has a circular strap secured to the middle canopy portion and a plurality of linear straps secured to the circular strap that terminate at a connection point spaced from the canopy. The target parachute presents an aerodynamically stabilized target that is large yet light and small when packed.

3,511,459
KITE FLIGHT CONTROL DEVICE
Theodore A. Benze, 111 Western Concourse, Amityville, N.Y. 11701
Filed Feb. 6, 1968, Ser. No. 703,425
Int. Cl. B64c *31/06*; A63h *27/08*
U.S. Cl. 244—155 10 Claims

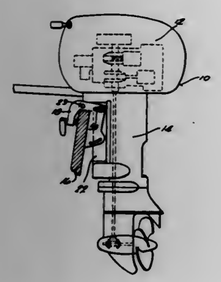
A device for controlling the flight actions of a kite having a stick frame provided with control strings. The

device includes a holder having a handle adapted to be held in a hand of the operator and having a group of arms by means of which the control strings are guided to and from a common groove of a reel rotatably supported upon the holder. The reel is releasably retained upon the



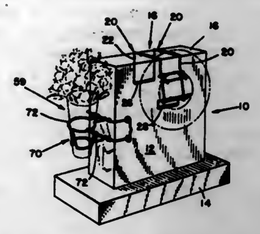
holder by means of a group of resilient snap elements. The reel is so arranged upon the holder that the operator may while gripping the handle extend a finger forwardly to engage and brake rotation of the reel when the occasion demands.

3,511,460
MANUAL TILTING DEVICE FOR MARINE PROPULSION UNITS
William J. Shimanckas, Waukegan, Ill., assignor to Outboard Marine Corporation, a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,142
Int. Cl. B63h 21/26
U.S. Cl. 248—4 15 Claims



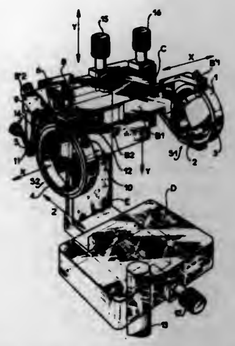
Disclosed herein is a manual tilting device for a marine propulsion unit, which device employs a hand crank to tilt the drive shaft housing about a horizontal tilt axis. The hand crank is connected to a band and pulley arrangement with each end of the band secured to separate pulleys rotatably supported by the stern bracket. The band is also reeved around a third idler pulley, mounted on an arm connected to a swivel bracket which is pivotally connected to the stern bracket to provide a horizontal tilt axis. Manual rotation of the crank to wind or unwind the band on the pulleys causes the idler pulley and arm to travel upwardly or downwardly and pivot the swivel bracket about the horizontal tilt axis. A releasable brake secures the crank against rotation to maintain a desired angle of tilt.

3,511,461
FLORAL DISPLAY SUPPORT FOR GRAVESTONES
Hugh W. Clark, Rte. 3, Box 221–A, Statesville, N.C. 28677
Filed June 30, 1967, Ser. No. 650,405
Int. Cl. A47g 7/04
U.S. Cl. 248—27.8 12 Claims



The present invention relates to a gravestone floral support device and more particularly to a floral stand for a gravestone having a pair of adjustable U-shaped gravestone engaging members which are maintained in spaced relationship and have a floral display wreath or container supporting member secured thereto.

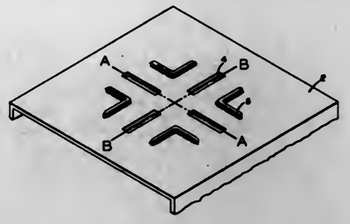
3,511,462
DEVICE FOR THE SUPPORTING AND CENTERING OF COMPONENTS
Jean-Claude Dousseau de Bazignan, Paris, France, assignor to Compagnie Generale d'Electricite, Paris, France, a French corporation
Filed Apr. 12, 1968, Ser. No. 721,020
Claims priority, application France, Apr. 13, 1967, 102,663
Int. Cl. F16m 11/12; G02h 7/00
U.S. Cl. 248—179 10 Claims



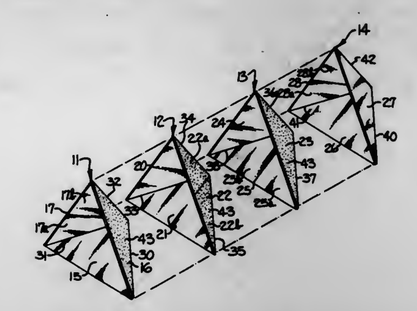
A laser optical component supporting and centering device for independently moving an axially adjustable second support relative to a universally mounted first supported by applying two non-parallel translation forces at two spaced points of the second support.

3,511,463
SUPPORT MEANS FOR A SUSPENDED CEILING STRUCTURE
Ernest B. Nute, Jr., Mountville, and James C. Ollinger and Ronald R. Thomas, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed July 1, 1968, Ser. No. 741,424
Int. Cl. E04b 5/55
U.S. Cl. 248—343 3 Claims

An attaching means formed integrally with a lighting fixture adapted to be attached to the gridwork of a suspended ceiling including two slide plates slidably fastened to the top surface of a light fixture having offset end portions adapted to engage the horizontal flange portion of a suspended ceiling gridwork beam.



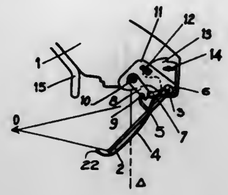
3,511,464
CORNER PAD AND BLANK
Brendan L. Doll, Patterson, N.C. 28661
Filed May 15, 1968, Ser. No. 729,157
Int. Cl. A47b 97/00
U.S. Cl. 248—345.1 9 Claims



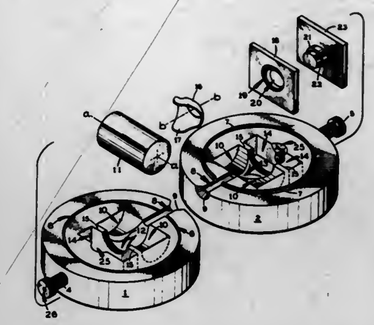
A corner pad for protecting corners of furniture and the like comprising a plurality of plies each having three right triangular walls arranged in a trihedral angle, the plies being disposed in contiguous nesting relation, and adhesive or other means for securing the plies together in assembled form. Also, a blank for use in such a corner pad comprising a generally L-shaped sheet of corrugated paperboard material having score lines therein dividing the sheet into four right triangular portions, and the sheet being foldable about the score lines to arrange the portions in a trihedral angle wherein two of the portions define two sides of the trihedral angle and the other two portions collectively define the third side thereof.

3,511,465
HEAD-UP DISPLAY SYSTEMS FOR AIRCRAFT PILOTING
Marcel Morion, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed June 4, 1968, Ser. No. 734,319
Claims priority, application France, June 8, 1967, 109,665
Int. Cl. B61r 1/10
U.S. Cl. 248—479 7 Claims

A combined arrangement for insuring the security of a pilot with respect to the semi-reflecting mirror of a head-up display system and for adjusting the position of this mirror, which is pivotally mounted on the body of this head-up display system, comprises a lock for maintaining this mirror and means for maintaining this lock in the working position when no pressure is exerted on this means. A support is fixed by a pawl in at least two positions to a supporting part fixed to the body of the head-up display system and the lock is pivotally mounted on this support by an adjustable eccentric.



3,511,466
MOLD FOR WAX PATTERNS FOR CASTING FINGER RINGS
Morton S. Kaplan, Miami Beach, Fla., assignor to Microthermal Applications, Inc., a corporation of Delaware
Filed Mar. 28, 1967, Ser. No. 626,475
Int. Cl. B22c 9/24
U.S. Cl. 249—57 12 Claims

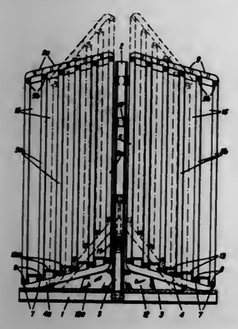


A wax pattern mold for the investment casting process for producing wax patterns for finger rings including means for substituting and adjusting cores therein for forming different ornamental designs on said pattern.

3,511,467
APPARATUS FOR THE PRODUCTION OF SLAB-SHAPED CONSTRUCTION ELEMENTS FROM POURABLE OR CASTABLE MATERIALS
Otto Rohrer, Brunnmattstrasse 85, Bern, Switzerland
Filed May 24, 1967, Ser. No. 640,955
Claims priority, application Switzerland, May 31, 1966, 7,821/66
Int. Cl. B28b 7/04, 7/24
U.S. Cl. 249—118 10 Claims

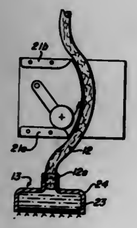
An apparatus for the production of substantially slab- or plate-shaped construction elements formed of castable materials which comprises at least two oppositely situated, substantially parallel form boards or plates which are movable relative to one another in order to be able to vary the thickness of the element to be produced. Further, at least one pivotable guide means serves to interconnect

at each side or end the aforementioned form boards, and actuating means cooperate with the aforesaid guide means



for imparting to at least one of such form boards a movement in the plane thereof.

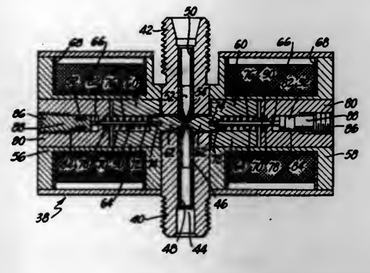
3,511,468
APPARATUS FOR CONTROLLING THE DISCHARGE OF A LIQUID MEDIUM THROUGH A CONDUIT
Gordon F. Young, Grand Rapids, Mich., assignor to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware
Filed Mar. 27, 1967, Ser. No. 626,202
Int. Cl. F16k *7/06, 23/00*
U.S. Cl. 251—6 1 Claim



An apparatus is provided for controlled dispensing of an adhesive through a header and onto a predetermined surface area moving in a given direction beneath the header. The header is connected to a source of adhesive by a conduit having a collapsible section. The collapsible section is disposed adjacent a concave backup surface. Through controlled movement of a pivotal member in one direction gradual collapsing of the conduit section results causing adhesive flow therethrough to be interrupted and producing a suction effect upon the adhesive entrapped between the header and the collapsed conduit section.

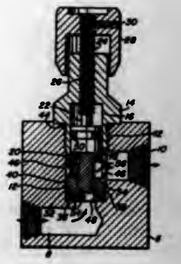
3,511,469
SOLENOID OPERATED VALVE
Ronald Bell, Northridge, Calif., assignor to Eckel Valve Co., San Fernando, Calif., a corporation of California
Filed May 6, 1966, Ser. No. 548,190
Int. Cl. F16k *7/06*
U.S. Cl. 251—7 2 Claims

A normally closed solenoid operated valve in which the fluid passage comprises in part at least a collapsible tube and in which a solenoid retracted plunger means is



normally spring biased to pinch the two tube walls together with resultant closure of the passage to fluid flow.

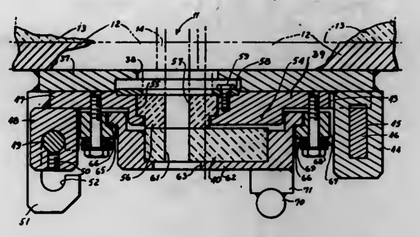
3,511,470
NEEDLE VALVE
Robin K. Beckett, William N. Beckett, and Allen J. Moffat, Wilmington, Ohio, assignors to Beckett-Harcum Company, Wilmington, Ohio, a corporation of Ohio
Filed Feb. 12, 1968, Ser. No. 704,722
Int. Cl. F16k *5/10, 31/50*
U.S. Cl. 251—121 1 Claim



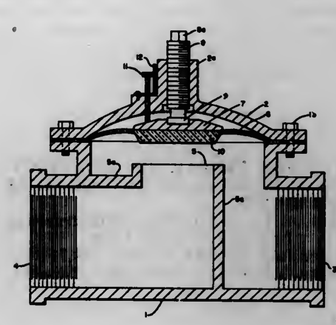
The needle valve includes a metering stem portion or nose in which is formed an elongate fluid metering groove which extends generally lengthwise of the stem axis, said groove gradually increasing in depth in one direction. The nose may be projected predetermined distances axially through a valve seat element bore, which has such close tolerance about the nose that all fluid passed by the valve will necessarily traverse the groove, this resulting in a high velocity of fluid release which has a selfcleaning effect preventing silting. The valve seat element is self-adjusting to the stem nose, and may readily be economically replaced in the event of wear or deterioration.

3,511,471
LADLE STOPPER
Irving Rossi, Morristown, N.J., assignor to Concast, Inc., New York, N.Y.
Filed Jan. 19, 1968, Ser. No. 699,265
Int. Cl. F16k *5/00, 5/22*
U.S. Cl. 251—144 6 Claims

A block of refractory material is rotatably supported in contact with a vessel for molten metal at the portion of the vessel through which an outlet opens. A hole through the block coincides with the outlet in one position of rotation of the block. When rotated to another position, the block covers the outlet. Springs are adjustably arranged to urge the block against the outlet with sufficient pressure to resist ferrostatic pressure of metal in the vessel while permitting rotation of the block.



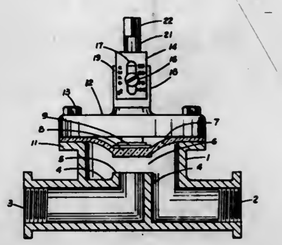
3,511,472
LIMITING FLOW VALVE
Harold F. Zimmerman, Cordova, Ill., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Jan. 12, 1968, Ser. No. 697,401
Int. Cl. F16k *7/12*
U.S. Cl. 251—285 2 Claims



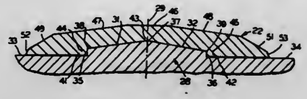
A diaphragm type fluid flow control valve having a housing providing a valve seat through which fluid flows and which is adapted to receive a diaphragm in sealing relation to selectively prevent such fluid flow through the valve. The diaphragm carries a backing plate to reinforce the portion of the diaphragm which contacts the valve seat and an adjustable set screw extends through a bonnet, which is cooperatively fastened to the housing, to contact the backing plate so movement of the diaphragm with respect to the valve seat can be selectively limited.

3,511,473
FLUID FLOW VALVE
Robert C. Douglass and George A. Johnston, Moline, Ill., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed May 22, 1968, Ser. No. 731,252
Int. Cl. F16k *7/16*
U.S. Cl. 251—285 2 Claims

A fluid flow control valve having a diaphragm valve closing arrangement disposed within a housing defining the valve body through which fluid flows. The diaphragm can be moved to sealing relation with the seat to selectively close off fluid through the valve and can be moved relative to the valve seat by cooperative valve stem means to regulate fluid flow through the valve. Means are attached to the valve body to engage the valve stem to limit movement of the diaphragm, and opening of the valve, by restricting the permissible length of travel of the stem.



3,511,474
BUTTERFLY VALVE
Irving O. Miner, Warwick, R.I., assignor to General Signal Corporation, a corporation of New York
Filed Dec. 27, 1967, Ser. No. 693,845
Int. Cl. F16k *1/22*; B21b *53/10, 39/10*
U.S. Cl. 251—305 6 Claims

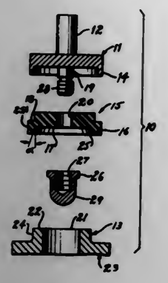


A butterfly valve having a work-hardened, corrosion resistant metal seat insert in the body and a disc which carries the cooperating resilient valving element. The seat is under compressive stress in both the radial and circumferential directions, and has integral keying portions which cooperate with annular shoulders in the body to prevent its axial displacement, and portions which are tightly compressed against continuous sharp edges at the margins of said shoulders and act as water stops. The seat is made from a ring of rectangular cross section which is expanded into place in the body and simultaneously shaped by revolving forming rollers.

3,511,475
VALVE ASSEMBLY
Thomas Pfau, Aargau, Switzerland, assignor to Aktiengellschaft Oederlin & Cie, Baden, Switzerland
Filed Nov. 22, 1967, Ser. No. 685,191
Claims priority, application Switzerland, Nov. 25, 1966, 16,935/66; June 21, 1967, 8,820/67
Int. Cl. F16k *25/00*
U.S. Cl. 251—333 7 Claims

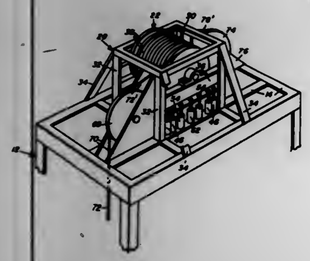
A sealing element with a bead in the form of a projecting rim extending away from a sealing surface of the element is used to provide a special sealing arrangement for a valve assembly having a protruding annular valve seat. The bead has (a) an inner circumferential surface which may be slightly beveled for gripping the outer peripheral surface of the protruding valve seat structure when the sealing surface is in abutment with the frontal

surface of the protruding valve seat, and (b) an outer circumferential surface free to expand away from the



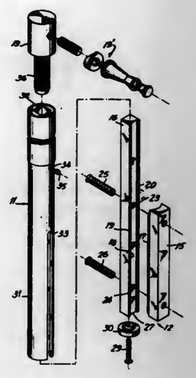
peripheral surface of the protruding valve seat for a distance corresponding to the thermal expansion characteristic of the bead.

3,511,476
SHEAVE ASSEMBLY FOR OFFSHORE DRILLING RIGS
Edward E. Horton, Palos Verdes, Calif., assignor to Ocean Science and Engineering, Inc., Washington, D.C., a corporation of Delaware
Original application July 5, 1967, Ser. No. 651,194. Divided and this application June 19, 1968, Ser. No. 791,829
Int. Cl. B66d 1/48
U.S. Cl. 254—139 5 Claims



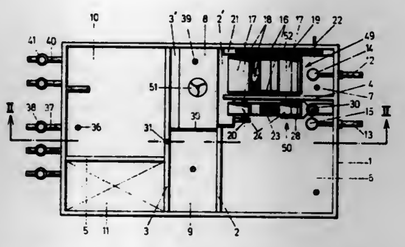
A sheave assembly for use in offshore drilling operation for maintaining the vertical location of a drill pipe stable with respect to the ocean floor even though its floating support platform is subject to wave action. The heave assembly comprises an assembly received for vertical slidable movement and supported by suitable framework on said platform. A pulley is carried by the assembly and is flanked on opposite sides of a first sheave and a second sheave respectively. Each sheave is spaced laterally from said assembly and is supported by said framework at an elevation corresponding to the midpoint of said assembly movement range. A cable is affixed at one end to the platform and extends over the first sheave, around said pulley and over said second sheave. By such an arrangement the rotation of the pulley upon vertical movement of the assembly is kept at a minimum. The effective length of the cable being varied by increasing or decreasing the angle through which the cable must travel from said sheaves to or from said pulley. Further, the first and second sheaves serve to minimize the load placed on the pulley.

3,511,477
ADJUSTABLE STANCHION ASSEMBLY
Robert F. Seery, Lake Forest, Ill., assignor to Julius Blum & Co., Inc., Carlstadt, N.J., a corporation of New York
Filed Oct. 23, 1968, Ser. No. 769,953
Int. Cl. E04h 17/22
U.S. Cl. 256—65 4 Claims



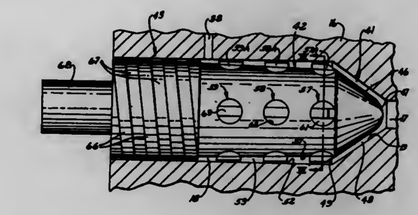
An adjustable stanchion assembly of the type used to secure a handrail or the like to a bulkhead or wall, wherein precise vertical adjustment of the stanchion to provide proper support for a handrail may be readily effected after mounting of the stanchion assembly and handrail.

3,511,478
APPARATUS FOR PREPARING AND SUPPLYING A UNIFORM MIXTURE OF TWO OR MORE DIFFERENT LIQUIDS
Hendrik Antoon Lorentz de Haas, Rijksstraatweg 206, Loenersloot, Netherlands
Filed June 20, 1968, Ser. No. 738,711
Claims priority, application Netherlands, June 23, 1967, 6708754
Int. Cl. B01f 7/22, 15/04
U.S. Cl. 259—7 15 Claims



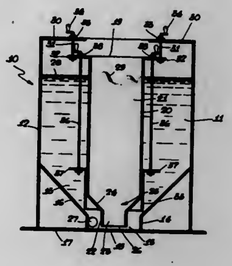
An apparatus for preparing and supplying a mixture of two or more liquids having a liquid reservoir for each liquid and a mixing chamber separated from the reservoirs by a partition wall. An elevator of the bucket-type is partly submerged in each reservoir and extends upwardly towards the top of the partition wall whereby the moving buckets of the elevator can pour their liquid contents, scooped out of the reservoir on their upward movement, across the partition wall into the mixing chamber. The several elevators are simultaneously driven with the same speed, the mixing ratio being determined by the ratio of the holding capacities of the buckets of the respective elevators.

3,511,479
REVERSE FRICTION PLASTICIZING DEVICE
James W. Hendry, Helena, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed May 1, 1968, Ser. No. 725,858
Int. Cl. B01f 7/02
U.S. Cl. 259—9 17 Claims



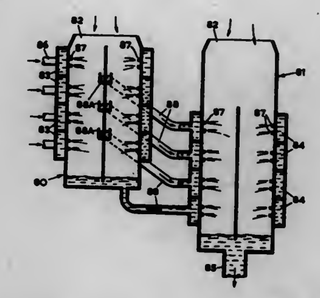
A method and apparatus for the plasticizing of materials wherein particulate plastic material is brought into contact with a first portion of a plasticizing rotor whereby relative rotation exists between the material and the first portion of the rotor so as to generate substantial frictional heat therebetween, which frictional heat causes plasticizing of the material. The material then moves past the first portion of the rotor and comes into contact with a second portion of a rotor having a plurality of lugs radially extending from the periphery thereof. The extending lugs grip the material and cause it to rotate with the rotor whereby relative rotation exists between the material and the surrounding housing, causing the generation of substantial frictional heat therebetween to further assist in plasticizing of the material.

3,511,480
MIXING APPARATUS
Jan Visman, and Lawson S. Sims, Edmonton, Alberta, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed Aug. 28, 1968, Ser. No. 755,941
Int. Cl. B01f 5/00
U.S. Cl. 259—60 6 Claims



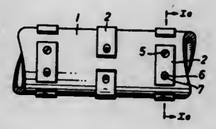
A mixing apparatus for forming suspensions of solid particles in a liquid has an outer liquid supply tank, an inner solids supply tank concentrically arranged within the outer tank and having a bottom opening communicating with the lower section of the outer tank. Tangentially arranged slurry outlets lead from the lower section of the outer tank.

3,511,481
TURBINE PLANT
John Harold Daltry, Rugby, England, assignor to The English Electric Company Limited, London, England, a British company
Original application Aug. 24, 1967, Ser. No. 663,042. Divided and this application June 2, 1969, Ser. No. 829,442
Claims priority, application Great Britain, Aug. 24, 1966, 37,888/66
Int. Cl. F28b 3/04
U.S. Cl. 261—118 6 Claims



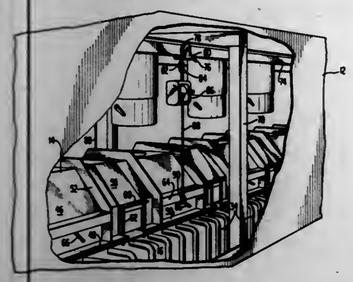
The invention provides an improved arrangement of stepped-series condenser system, that is to say a system coprising a number of condensers, each connected to a steam turbine exhaust outlet, which are arranged at different levels and connected in series by feeding the condensate from each condenser to the cooling water inlet of the next lower condenser. The improved arrangement results in a reduction in the basement height normally required for such a system and comprises providing a number of cooling water inlets and condensate outlets at different levels over the height of each condenser, thereby enabling several series connections to be made between adjacent condensers.

3,511,482
CONVEYING ROLLER FOR METALLURGICAL FURNACES
Heinz Haite, Erkrath, Germany, assignor to Pose-Marre Edelstahlwerk G.m.b.H., Erkrath, Germany
Filed May 21, 1968, Ser. No. 730,829
Claims priority, application Germany, June 16, 1967, P 29,513/18
Int. Cl. F27d 3/12
U.S. Cl. 263—6 5 Claims



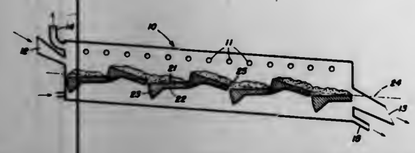
A conveying roller for conveying workpieces through metallurgical annealing or reheating furnaces comprises a body in the form of a cylindrical tube of heat resistant steel and a series of curved pads extending over portions of the peripheral surface of the tube. The pads are made of ceramic-bonded material and are attached to the tube in such a way that thermal movements brought about by the difference in coefficients of expansion of the tube and the pads can take place between the pads and the tube to avoid introducing thermal stresses into the pads.

3,511,483
FURNACE CONSTRUCTION WITH ROOF SECTION REMOVAL MEANS
Charles B. Gentry, Grand Rapids, Mich., assignor to Granco Equipment, Inc., Grand Rapids, Mich., a corporation of Delaware
Filed Oct. 21, 1968, Ser. No. 769,014
Int. Cl. F27b 9/32; F27d 1/18
U.S. Cl. 263—6 8 Claims



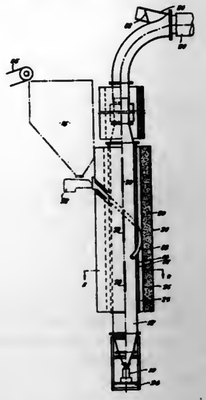
This disclosure relates to a furnace construction with easily removable roof sections. A billet heating furnace has a longitudinal heating chamber through which billets are passed from an entrance to an exit end. Billets are heated by direct flame impingement on the billets. Hot gases are withdrawn through the top of refractory sections which form the sides and top of the heating chamber. A casing which is spaced from the refractory section encloses the furnace. The hot gases from the heating chamber are withdrawn through exhaust conduits extending down from the top of the external casings above each refractory section. Bottom portions of the exhaust conduits are removable to permit each furnace section to be lifted and moved above adjacent furnace sections. Movable hoist means are provided within the casing for lifting the furnace sections and moving the lifted sections above the adjacent sections so that rapid access can be obtained to the heating chamber interior. Means are provided on the refractory sections for engaging the hoist members so that the sections can be easily raised.

3,511,484
KILN OR FURNACE
William V. Bauer, New York, N.Y., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,390
Int. Cl. F27b 3/00
U.S. Cl. 263—21 10 Claims



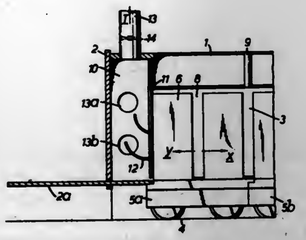
A kiln or furnace containing a plurality of platforms for both supporting a granular feed and moving the feed from the inlet to the outlet of the kiln. The platforms are mounted in the kiln in a manner such that the spaces therebetween is minimal and the upstream end thereof is free to oscillate in a circular arc, about an axis of rotation through the downstream end of the platform, with adjacent platforms simultaneously moving in opposite directions.

3,511,485
FURNACES FOR PROCESSING EXPANDABLE VOLCANIC ROCK
Erwin Mack, Athens, Greece, assignor to British & Overseas Minerals Limited, London, England, a company of Great Britain and Northern Ireland
Filed May 17, 1968, Ser. No. 730,005
Claims priority, application Great Britain, May 22, 1969, 23,573/67
Int. Cl. F27b 7/14
U.S. Cl. 263—21 5 Claims



A furnace for processing expandable volcanic rock having a combustion chamber in the form of a long tube arranged above a burner. The crushed rock to be expanded enters the processing chamber at a point intermediate the ends thereof from a spiral tube enveloping the inner casing of the processing chamber whereby the rock is preheated before entering the chamber. The rock on entering the processing chamber falls downwardly under the action of gravity until expansion has taken place, whereupon it is carried upwardly with the gases of combustion and is separated therefrom in a separating unit. To obtain even conditions of combustion through the length of the processing chamber, longitudinal slits are provided therein through which extra air or gas is admitted.

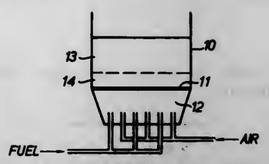
3,511,486
TUNNEL KILNS
Herbert Spitzbart, Ibbenburen, and Manfred Schmitz, Rheine, Germany, assignors to Keller Ofenbau GmbH, Laggenbeck, Westphalia, Germany, a joint-stock company of Germany
Filed July 23, 1968, Ser. No. 746,913
Claims priority, application Germany Apr. 4, 1968, 1,758,112
Int. Cl. F27b 9/00
U.S. Cl. 263—28 2 Claims



A tunnel kiln includes a firing zone through which ceramics to be fired are passed on carriages or trolleys.

An exit end is sealed by a door, but to prevent escape of kiln gases when the door is opened, resilient shields are arranged to seal against the sides of the ware whenever the carriages are advanced through the kiln.

3,511,487
METHOD OF LIGHTING A FLUIDISED BED FURNACE
Denis Henry Desty, Walton-on-Thames, England, assignor to The British Petroleum Company Limited, London, England
Filed June 19, 1968, Ser. No. 738,243
Claims priority, application Great Britain, July 4, 1967, 30,663/67
Int. Cl. F27b 15/00
U.S. Cl. 263—52 2 Claims

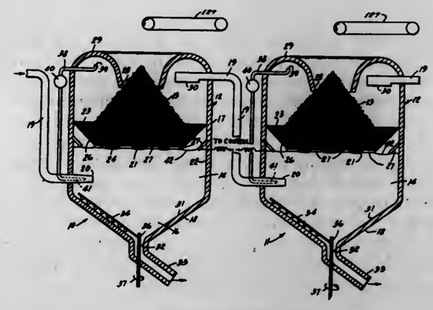


A mixture of fuel gas and oxygen (air) is passed through a non-fluidised bed and the effluent gas is lit to burn above the bed so that the top surface of the bed is heated.

As the gases pass from the cold bottom zone to the hot surface zone their volume and viscosity increase and hence the surface zone is fluidised. Combustion now takes place in the hot fluidised zone.

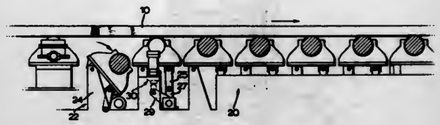
Heat is transferred from the hot fluidised zone into the cold non-fluidised zone until, at the end of the process all the furnace bed has achieved the hot fluidised condition.

3,511,488
ULTRASONIC COPPER PRECIPITATOR
Robert Arthur Stubblefield, 219 F St., Salt Lake City, Utah 84103
Filed Sept. 29, 1966, Ser. No. 582,952
Int. Cl. C22b 3/02
U.S. Cl. 266—22 4 Claims



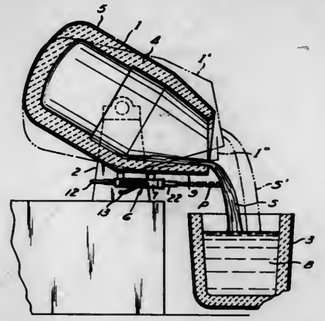
A copper precipitator apparatus wherein a vessel containing an acidic solution and in which a supply of scrap iron is supported includes a shrouded top overlying the scrap iron for trapping hydrogen gases generated during the precipitating process. Means are provided for recirculating the hydrogen gases from the shrouded top back into the acidic solution to inhibit the dissolution of iron by the acidic solution.

3,511,489
CUT-OFF TABLE WITH SEQUENTIALLY ACTUABLE ROLL MOUNTING MEANS
Michael Frank Field, Dollard-des-Ormeaux, Quebec, Canada, assignor to Dominion Engineering Works, Limited, Lachine, Quebec, Canada, a corporation of Canada
Filed Dec. 8, 1967, Ser. No. 689,121
Int. Cl. B23d 25/02; B23k 7/10
U.S. Cl. 266—23 8 Claims



A slab cut-off table having a traveling cut-off device for movement with the slab is provided with support rollers synchronized to retract in sequence away from the slab to avoid damage by the cutting means, while a protective screen covers the retracted roll during the passage of the cutting means therepast.

3,511,490
APPARATUS FOR INTRODUCING ADDITION AGENT INTO MOLTEN STEEL
John W. Brown, Jr., Lakewood, Ohio, assignor to Brown Fintube Company, Elyria, Ohio, a corporation of Ohio
Filed Feb. 24, 1967, Ser. No. 618,389
Int. Cl. C21c 5/46
U.S. Cl. 266—36 11 Claims

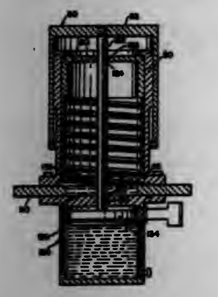


An apparatus and process for making oxygen-blown steel utilizing a furnace that is moved from a position in which oxygen is blown into the steel to a position in which steel is discharged from the furnace; the furnace has affixed to it means for discharging finely divided addition agent material (for example aluminum) into the stream of molten steel pouring from the furnace at a velocity sufficient to penetrate the stream by aid of a propellant fluid, even though the furnace and stream path are moving.

3,511,491
SELF-CONTAINED DIE CUSHION WITH AIR SAVER
Derald Henry Kraft, Canton, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed July 13, 1967, Ser. No. 653,116
Int. Cl. B21d 24/02; F16f 9/04, 13/00
U.S. Cl. 267—1 6 Claims

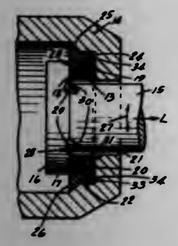
A self-contained die cushion for use on a power press wherein the normal cushion chamber includes a separate

reservoir sealed from the rest of the chamber and having a movable wall and a fixed wall to allow the fluid in the reservoir to assist in biasing the die cushion upwardly,



but preventing exhaust of the reservoir when the chamber is exhausted to drop the cushion for changing or repairing dies in the press.

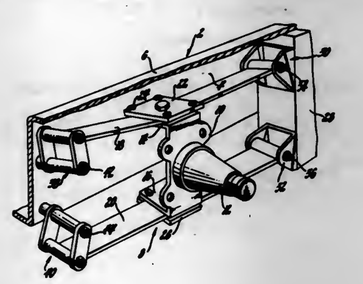
3,511,492
FLEXIBLE LAMINATED BEARING STABILIZED AGAINST BUCKLING
Anthony T. Galbato, Jamestown, N.Y., assignor to TRW, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 17, 1967, Ser. No. 661,461
Int. Cl. F16c *27/00, 31/00;* F16f *7/00*
U.S. Cl. 267—1 9 Claims



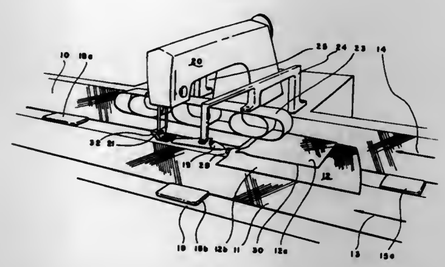
A flexible laminated bearing stabilized by an elastomer collar or sleeve surrounding the bearing and bonded to it. The collar abuts the bearing on its radially inner side and abuts a housing receiving the bearing on its radially outer side. The radially outer side of the collar is curved and the housing is frusto-conically tapered. The collar absorbs relative movement between the bearing and the housing by shear elasticity while imparting radial stability to the bearing to prevent it from buckling when subjected to axial loads.

3,511,493
CAMBER CHANGE AND ROLL STEER INDUCING LEAF SPRING SUSPENSION
Frank C. Barrell, Orchard Lake, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,371
Int. Cl. F16f *1/28;* B60g *11/04*
U.S. Cl. 267—47 8 Claims

A pair of vertically spaced longitudinally extending leaf springs are pivotally connected to a vehicle sprung mass on fore and aft axes converging vertically toward the vehicle centerline to induce camber change in a wheel rotatably mounted between the respective midportions of the springs. The springs are additionally relatively inclined longitudinally to impart understeer responsive to vehicle roll deflection.



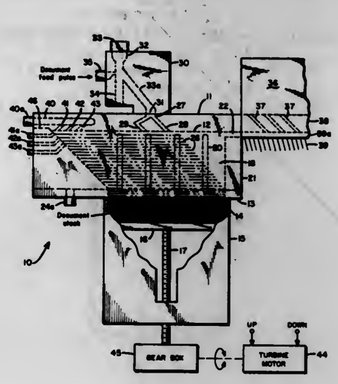
3,511,494
APPARATUS FOR AUTOMATICALLY SEPARATING THE TOP LAYER OF A MULTI-LAYER WORKPIECE
Charles Szentkuti, Ridgefield, Conn., assignor, by mesne assignments, to Ivanhoe Research Corporation, New York, N.Y., a corporation of Delaware
Filed May 10, 1967, Ser. No. 637,431
Int. Cl. B65h *37/00 3/00*
U.S. Cl. 270—52 8 Claims



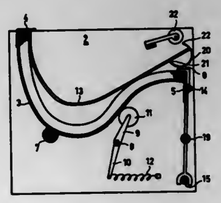
The present invention relates to apparatus for automatically separating a portion of an unattached top layer of a multi-layer fabric workpiece from the surface of its adjacent layer without disturbing the pre-oriented position of the multilayer workpiece, by passing the workpiece over a lifter-separator positioned to provide a progressively applied peeling effect in which the top layer is progressively peeled from the adjoining layer and to advantageously use the self-supporting strength of the top layer for temporarily maintaining the separation effected. Thereafter, the portion of the top layer so separated may be automatically treated in a work station while the orientation of the several layers is maintained.

3,511,495
DOCUMENT FEEDER MECHANISM
Arnold Schonfeld, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 24, 1968, Ser. No. 700,083
Int. Cl. B65h *3/08*
U.S. Cl. 271—26 7 Claims

A document feeder mechanism is disclosed which includes a document separator chamber disposed at the top of a document magazine or hopper. The separator chamber, which may be a boxlike structure, includes a throat portion formed at one end thereof from which documents are discharged. Air forced into the chamber through a plurality of openings formed in the side walls of the chamber fluffs the documents in the chamber and causes them to separate from one another to thereby facilitate their being fed from the chamber. A fluid jet means is trained on the topmost document in the separator chamber and operates when energized to quickly propel the topmost document into the throat portion of the chamber where it may be engaged by a high speed document transport mechanism.

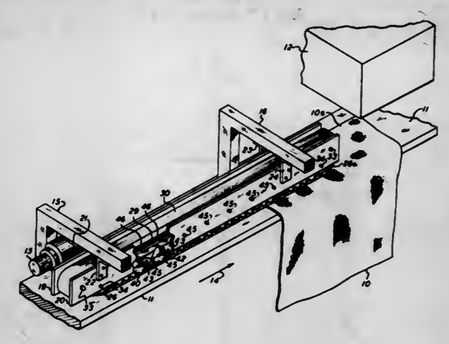


3,511,496
DEVICE FOR REMOVING INDIVIDUAL SHEETS FROM A STACK
Rudolf Zoglmann, Delft, Netherlands, assignor to N.V. Ohtische Industrie "De Oude Delft," Delft, Netherlands, a Dutch corporation
Filed May 23, 1968, Ser. No. 731,575
Claims priority, application Netherlands, June 9, 1967 6708011
Int. Cl. B65h *1/04, 1/22*
U.S. Cl. 271—37 3 Claims



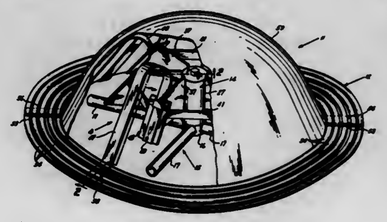
A device for removing individual relatively stiff sheets from a supply of sheets, stacked in a box whose bottom is convex in one direction. Hooked fingers overlapping the upper sheet of the stack are provided at the discharge end of the box and are reciprocally movable along the sheet edge. The fingers cooperate with perforations in the sheet edges which, for successive sheets, are laterally displaced with respect to each other so that only one sheet at a time is released by the fingers. A revolving hollow cylinder with a longitudinal slot is placed over the discharge end to pick up the lifted sheet edge.

3,511,497
BELT CONVEYOR WITH PRESSURE DISTRIBUTION MEANS
Thomas L. Flanagan, Killingworth, Conn., assignor to Wagner Research Corporation, New York, N.Y.
Filed Jan. 23, 1968, Ser. No. 699,910
Int. Cl. B65h *29/16*
U.S. Cl. 271—75 6 Claims



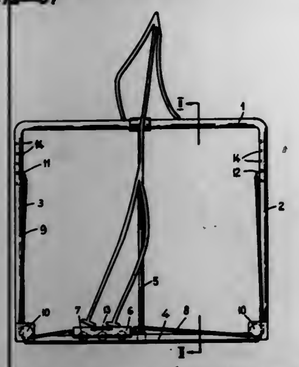
A laterally slotted endless belt is driven by a toothed driving gear. The endless belt is positioned slightly above a work surface so as to contact the upper surface of a workpiece on the worksurface. The interior lamination of the endless belt is grooved longitudinally and a plurality of biased pressure distribution wheels are spaced along and ride in the longitudinal groove applying pressure along the portion of the belt adjacent to the worksurface. The pressure distribution wheels are individually biased and self regulating, according to the thickness of the workpiece.

3,511,498
SPRING SUPPORTED MERRY-GO-ROUND TYPE APPARATUS
Claude Wesley Ahrens, W. Highway 6, Grinnell, Iowa 50112
Filed Apr. 16, 1968, Ser. No. 721,728
Int. Cl. A63g *1/12*
U.S. Cl. 272—33 3 Claims



The playground apparatus of this invention provides a merry-go-round type structure having a rotatable occupant supporting platform that is spring mounted for horizontal yieldable tilting movement simultaneously with the free rotational movement thereof about a vertical shaft. The vertical shaft is carried on a ground supported base frame and rotatably supports a hub assembly. A plurality of arcuately shaped upwardly bowed flat spring members are circumferentially spaced about the hub assembly and extend radially outwardly therefrom. The outer end portions of the spring members lie in a common horizontal plane and occupant supporting platform is rigidly secured to such outer end portions for rotational movement with the hub assembly and tilting movement relative thereto.

3,511,499
SKI EXERCISER HAVING ROLLABLE CARRIAGE
Albert Schwalder, St. Gall, Switzerland, assignor to American Machine & Foundry Company, a corporation of New Jersey
Continuation of application Ser. No. 482,666, Aug. 26, 1965. This application Aug. 19, 1968, Ser. No. 778,353
Claims priority, application Switzerland, July 6, 1965, 9,465/65
Int. Cl. A63b *69/18*
U.S. Cl. 272—57 1 Claim



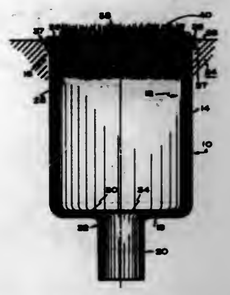
The ski exerciser comprises essentially a curved guide track, a carriage roller guided along the track, and elongated resilient means extending along the track and connecting each side of the carriage to corresponding ends of the track. The carriage is adapted to carry the full weight of the user and has a foot rest thereon adapted to directly receive solely both feet of the user. The resilient means is adapted to return the carriage to an at rest position adjacent the center of the track which slopes therefrom down to its opposite ends. The device is used by the user standing on the carriage and alternately shifting his weight to right and left. The track extends to the right and left of the user so that the user's feet shift in unison with the carriage to right and left as the body weight is alternately shifted right and left.

3,511,500
CONSTANT RESISTANCE EXERCISE DEVICE
Michael J. Dunn, 1530 S. 74th East Ave., Tulsa, Okla. 74112
Filed Apr. 14, 1967, Ser. No. 630,967
Int. Cl. A63b *21/00*
U.S. Cl. 272—79 6 Claims



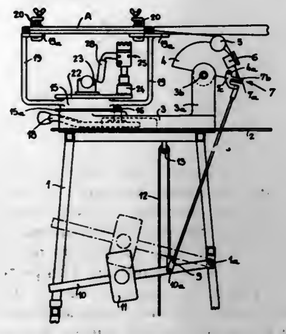
An exercise device operable by hands or feet of the user. Force is applied by the user on pad members at the extremities of a beam which is mounted centrally on an oscillatable shaft. Linkage interconnects with the pad members to maintain them substantially horizontal in any position of the beam. Adjustable braking means are positioned on the shaft to provide variable frictional resistance to the oscillation of said shaft.

3,511,501
GOLF CUP
Joseph C. Sandberg, 1955 East 33rd South Salt Lake City, Utah 84117
Filed Sept. 22, 1967, Ser. No. 669,827
Int. Cl. A63b *57/00*
U.S. Cl. 273—34 2 Claims



A golf cup having a cylindrical sidewall, a cup bottom connected to one end of the sidewalls and an elongated sleeve secured to the bottom for supporting a location flag within the cup. An inner receptacle, also having a cylindrically shaped sidewall, is provided to snugly fit within the golf cup and be supported on the cup's bottom. The receptacle is filled with growing lawn that will form a contiguous lawn surface to conceal the golf cup when the receptacle is placed in the cup and the cup is positioned in a lawn surface. A flange with a downwardly extending sleeve can be secured to the top end of the receptacle which rests on the top edge of the golf cup to assist in supporting the receptacle and prevent dirt from falling between the receptacle's sidewalls and the golf cup.

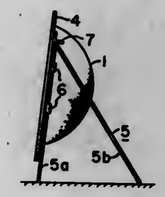
3,511,502
MACHINES FOR THE STRINGING OF TENNIS RACKETS
René Spenlé, Villeurbanne, France, assignor to Spenlé et Pizzera, Villeurbanne, France, a limited-liability company of France
Filed Feb. 8, 1968, Ser. No. 704,174
Claims priority, application France, Feb. 22, 1967, 48,320
Int. Cl. A63b *51/14*
U.S. Cl. 273—73 6 Claims



The frame of the racket to be strung is mounted on a cradle rotatable about a vertical axis and the machine

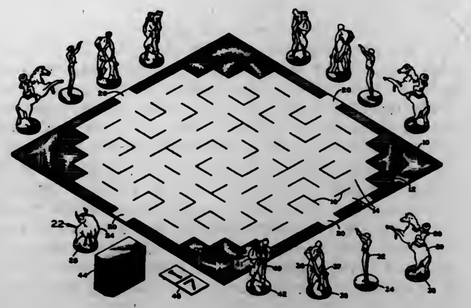
comprise means to tension the string threaded through a pair of perforations of the racket frame to form one element of the stringing. The cradle carries an adjustable clamping device disposed below the racket frame and which may act on the said element close to the frame to maintain same under tension, whereby the string may be released from the tensioning means, threaded through another pair of perforations to form the next element and again tensioned after the cradle has been rotated through 180°.

3,511,503
AMUSEMENT DEVICE WITH CHANGEABLE SUPPORT MEANS
Michael A. Volpe, 447 Natchez St., Pittsburgh, Pa. 15211
Filed May 31, 1968, Ser. No. 733,636
Int. Cl. A63b *63/02*
U.S. Cl. 273—105 4 Claims



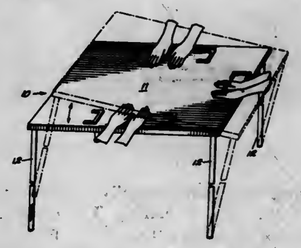
A device including a bowl-like member having a rigid annular flange at its base and means for receiving supporting legs on said flange. A pair of removable and reversible legs adapted to cooperate with the receiving means to support the bowl-like member in position as a carom board or as a chair.

3,511,504
BULLFIGHTING BOARD GAME APPARATUS
Herbert L. Mann, North Miami Beach, and Ernesto Pena, Miami, Fla., assignors to Firstamerica Games, Inc., Hollywood, Fla., a corporation of Florida
Filed Jan. 3, 1968, Ser. No. 695,378
Int. Cl. A63f *3/02*
U.S. Cl. 273—134 7 Claims



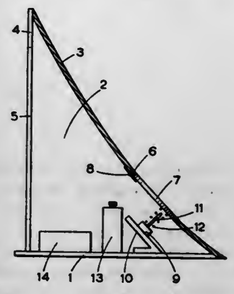
Game equipment for use in playing a bullfighting game, the equipment including a game board, a bull playing piece in the form of a bull, three sets of team playing pieces including a torero, a picador, a banderillero and a matador, and a plurality of tiles numbered on one side with the numbered side having two numbers thereon, one indicating the number of moves to be taken by the bull and the other indicating the number of moves to be taken by any one of the team playing pieces of one set thereof. The game board is divided into rectangular channels by marks or by raised ridges, and the playing pieces are each of a size to allow the same to move along and within the confines of the channels on the board. The object of the game is to build up the highest score, and this is attempted by each team through attacks on the bull, and by the bull through attacks on the team pieces on the board.

3,511,505
RISING TABLE QUESTION AND ANSWER GAME
Joseph R. Lysaght and Myrna Lysaght, Miami Lakes, Fla. (both of 5887 Monogahela Ave., Bethal Park, Pa. 15102)
Filed Mar. 26, 1968, Ser. No. 716,097
Int. Cl. A63f *9/18*
U.S. Cl. 273—161 4 Claims



A question and answer game comprising a light-weight square table about which three players sit at three sides thereof with their hands resting palms down on top the table and wherein questions are presented by the players for answer by the table. Answers are formulated so as to be answerable by number, and the table answers by rising at its fourth side and tapping on the floor a number of times corresponding to the answer number. The game comprehends the use of question and answer cards in category groups for the orderly presentation of questions by the players, and slot retaining means is provided on the table to prevent the various groups of active and discarded cards being used by the players from sliding off the table during its tapping movements.

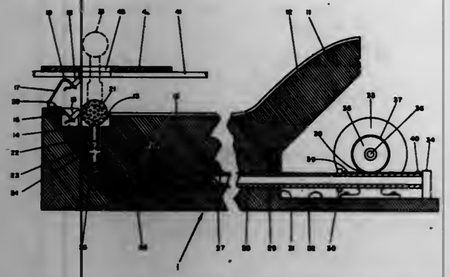
3,511,506
GOLFING TARGET
Nigel Schollick, 6 Barnton Park Crescent, Edinburgh 4, Scotland
Filed Apr. 10, 1968, Ser. No. 720,014
Claims priority, application Great Britain, Apr. 11, 1967, 16,585/67
Int. Cl. A63b *57/00, 63/00, 69/36*
U.S. Cl. 273—179 2 Claims



A golf ball target wherein a hinged flap closes an aperture in a concave golf ball return surface. An electric

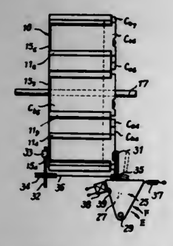
buzzer is operated when the flap is moved inwardly by a struck golf ball. The electrical circuitry includes an operating plunger spring-loaded to bear on the inside of the flap.

3,511,507
AUTOMATIC BALL DISPENSING AND TEEING MACHINE
Joseph A. Gentilnomo, 1456 Belmont Ave., Schenectady, N.Y. 12308
Filed Sept. 9, 1965, Ser. No. 486,160
Int. Cl. A63b 57/00
U.S. Cl. 273—201 6 Claims



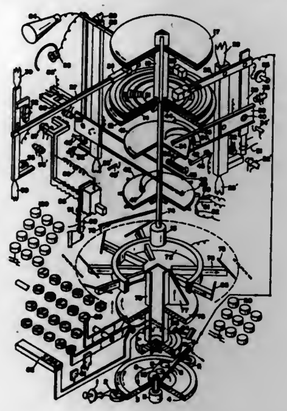
A machine which automatically dispenses and tees balls for use in the field of golfing. The machine utilizes a ball motivator in conjunction with a push-pull coupling between the motivator and a tee. The coupling is either a direct mechanical link, a fluid link, or a combination fluid-mechanical link. The motivator is designed to produce a horizontally reciprocating motion which is converted into vertical movement of the tee by a diverting portion of the coupling. Balls are delivered one at a time to the tee, and the motivator is activated by switches which are operated as a ball seats on the tee and as the ball is driven therefrom.

3,511,508
TAPE PLAYER UTILIZING PLURALITY OF ENDLESS LOOP MAGNETIC TAPE CARTRIDGES
Itsuki Ban, 829 Higashi-Oizumimachi, Nerima-ku, Tokyo-to, Japan
Filed Jan. 14, 1969, Ser. No. 791,056
Claims priority, application Japan, Jan. 16, 1968, 43/1,935
Int. Cl. G11b 5/00
U.S. Cl. 274—4 7 Claims



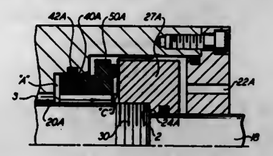
A tape player utilizing a plurality of endless loop magnetic tape cartridges comprising a rotatable container storing a plurality of endless loop magnetic tape cartridges, cartridge selecting means positioning in a predetermined play position the cartridge which is selected by rotation of the container, a swingable deck provided with reproducing means such as a capstan, a magnetic head reproducing the cartridge positioned in the play position, retainer means engaging said deck in a position for reproducing the cartridge placed in the play position, whereby rotation of the container and swing of the deck are caused to be controlled to automatically reproduce the cartridge selected out of a plurality of cartridges.

3,511,509
METHOD AND APPARATUS FOR THE RECORDING, INDEXING, RAPID RETRIEVING AND ASSOCIATING OF INFORMATION
Floyd A. Firestone, 172 Clinton Ave., Dobbs Ferry, N.Y. 10522
Continuation of application Ser. No. 370,794, May 28, 1964. This application Jan. 25, 1968, Ser. No. 700,651
Int. Cl. G11b 5/02, 27/36
U.S. Cl. 274—9 62 Claims



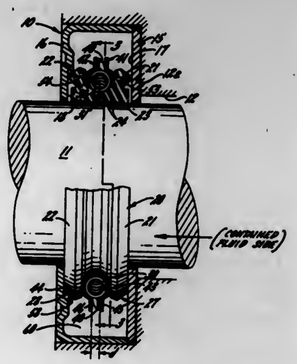
This invention relates to a method and apparatus for the recording and indexing of information in such a manner as to minimize the amount of time and labor required for the recording and later retrieval and association of certain desired information. The sound is passed through a delay recorder-reproducer and the storage recorder is only started after important matter is heard, so that trivial, unimportant, or silent intervals are eliminated from the bulk of the recordings while still enabling important matter to be recorded without missing its beginning portion. Furthermore, there is recorded a multiplicity of circular or repeating tracks each of which contains a code of pulses whose positions around the track set forth the subject and association level of one recorded item, and the position along the lineal sound track where it can be found. In one other repeating track there is recorded the superposition of the pulses from all the repeating tracks pertaining to all the items on this record. Searching is automatic, the pulses corresponding to a sought subject and association level are fed in, and it is first determined whether ALL matching pulses lie in the superposition track. If not, this record is returned to storage. If so, the other repeating tracks on this record are tested till the sought subject and association level are found and the reproducing transducer automatically emplaced at the beginning of the item in the sound track. In recording long items, just before changing the record, the delay of the delay recorder-reproducer is increased by a little more than the record changing time so that records can be changed without missing a word. Means are also provided for automatically starting the recording of an item on the end of the recorded portion of a partially recorded record which has been removed. In tape embodiments, the repeating tracks are recorded on the tap reel face, thus enabling preliminary searching without threading the tape.

3,511,510
HIGH PRESSURE FLUID SEAL WITH BIASING ACTION
Herman Lindeboom, Warwick, R.I., assignor to Sealol, Inc., Warwick, R.I., a corporation of Delaware
Continuation-in-part of application Ser. No. 369,718, May 25, 1964. This application Mar. 22, 1965, Ser. No. 441,507
The portion of the term of the patent subsequent to Feb. 17, 1987, has been disclaimed
Int. Cl. F16j 15/34, 15/54
U.S. Cl. 277—27 2 Claims



This invention relates to high pressure fluid seals employing a fluid pressure responsive sealing ring arranged to move axially along a rotating shaft and relative to a mating ring fixed to the shaft to establish a fluid seal under conditions which permit controlled leakage past the interfaces of the mating ring face and sealing ring face.

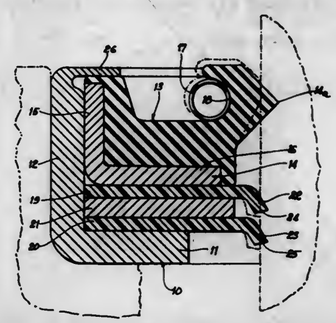
3,511,511
LIP-TYPE CARTRIDGE SEAL HAVING SEPARATE AXIAL AND RADIAL SPRING SYSTEMS
Robert M. Voitik, Glenview, Ill., assignor, by mesne assignments, to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 16, 1968, Ser. No. 698,213
Int. Cl. F16j 15/00, 15/42, 15/34
U.S. Cl. 277—41 3 Claims



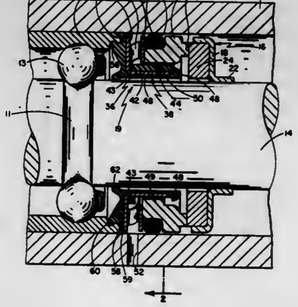
A cartridge seal for a shaft in the form of an annulus of rubber or the like gripping the shaft and presenting sealing lips resiliently bearing against a pair of opposed annular surfaces.

3,511,512
LIP SEAL FOR LIGHT LUBRICANTS
Edward A. Wheelock, Lake Zurich, Ill., assignor to Crane Packing Company, Morton Grove, Ill., a corporation of Illinois
Filed Jan. 5, 1968, Ser. No. 696,072
Int. Cl. F16j 15/00
U.S. Cl. 277—47 1 Claim

An oil seal for preventing leakage of light oil along a shaft such as a helicopter rotor shaft, which shaft is exposed to deposits of fine abrasive particles found in the atmosphere of tropical regions, wherein a garter spring-held ring of fluoro-elastomeric material is used adjacent the oil, said ring being protected from the atmosphere by one or more die-formed rings of polytetrafluoroethylene having an outwardly turned lip contacting the shaft. All rings are permanently assembled in a single housing.

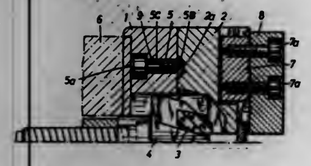


3,511,513
COMBINATION AXIAL-MECHANICAL FACE AND RADIAL LIP SEAL
John Charles Dahlheimer, Laconia, N.H., assignor to International Packings Corporation, Bristol, N.H., a corporation of New Hampshire
Filed Jan. 12, 1968, Ser. No. 697,439
Int. Cl. F16j 15/34
U.S. Cl. 277—82 11 Claims



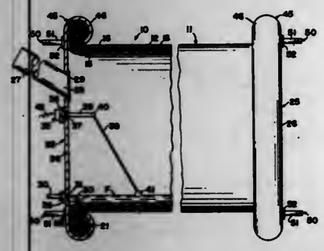
A combination axial-mechanical face and radial lip seal for a shaft rotating in a bearing race comprising a seal seat fixed to the shaft, a nonrotatable seal washer forming an axial-mechanical seal with the seat, the seal washer having a groove in its outer surface to seat an O-ring and being urged against the seat by a wave spring, and an elastomeric element supported by a reinforcing member with a radial portion urged by the spring against bearing race, the radial portion having a flange in sealing engagement with a groove in the bearing race, one sealing rib radially outward of the flange in sealing engagement with the bearing race, another sealing rib in sealing engagement with the housing bore, and a lip seal engaging the shaft, and an axial portion including a radial flange axially outward of a portion of the seal washer to limit its axial movement from which extend ribs that correspond to axial grooves on the inner surface of the seal washer to prevent its relative rotation. At the terminus of the ribs, formed integrally therewith, is an annular antibottoming shoulder.

3,511,514
JAW CHUCK
Karl Deuring, Dusseldorf, Germany, assignor to Paul Forkardt KG, Dusseldorf, Germany
Filed Sept. 27, 1966, Ser. No. 582,326
Claims priority, application Germany, Oct. 1, 1965, F 47,328
Int. Cl. B23b *23/10*
U.S. Cl. 279—123 4 Claims



A safety means built into and movable in a chuck body from which removal thereof is precluded by groove end defining portions engageable by abutment means on a pin of the safety means. The safety means has an end axially movable into a groove of a jaw means secured against being thrown out from the chuck body after a break occurs in a machine tool drive.

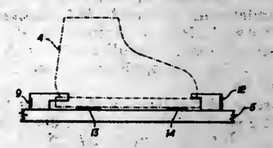
3,511,515
VEHICLE FUEL TANK WITH BREAKAWAY CONNECTIONS
Delbert C. Cline and Lyman P. Parkinson, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Sept. 14, 1967, Ser. No. 667,743
Int. Cl. B60p *3/22*
U.S. Cl. 280—5 15 Claims



A crash resistant fuel tank for vehicles having substantially rigid end members with an attached fuel gage fitting, a filler neck fitting, an outlet fitting, and suspension fittings to fasten the tank to a vehicle and to allow breakaway prior to rupture of the tank and having an elastomeric body portion spacing the end members and engaging them in fluid tight relation.

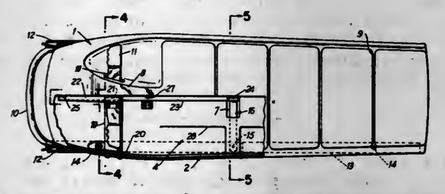
3,511,516
SKI-BINDING
Thomas G. Smolka and Johann Zelinka, Vienna, Austria, assignors to Wiener Metallwarenfabrik Smolka & Co., Mauer, Austria
Filed Apr. 12, 1968, Ser. No. 720,886
Claims priority, application Austria, Apr. 20, 1967, A 3,748/67
Int. Cl. A63c *9/081*
U.S. Cl. 280—11.35 11 Claims

A safety ski binding in which the ski is released from the ski boot in response to development of predetermined pressures and initially turns in a plane substantially parallel to the plane of the boot sole and about an axis normal to these planes. Anti-friction means is interposed between the facing surfaces of the ski and the boot sole and facilitates turning movement of the ski about the



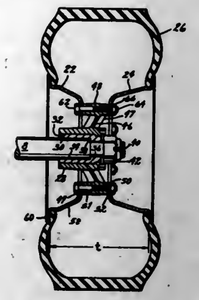
aforementioned axis to reduce delays in the separation of the ski from the boot.

3,511,517
SNOW SLED
Loran R. Hill, Olney, Ill., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed June 11, 1968, Ser. No. 736,092
Int. Cl. B62b *13/08*
U.S. Cl. 280—16 7 Claims



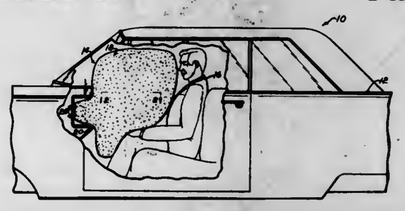
The body of the sled comprises top and bottom plastic shells which are closed on each other to define a space therebetween. Pairs of front and rear ski-type runners are mounted to the bottom shell. The leading ends of the front runners and the trailing ends of the rear runners are pivotally connected to the bottom shell. The trailing end of the front runners and the leading ends of the rear runners are also pivotally jointed together. The pivot joints for the left and right side pairs of runners are constrained to move in unison by slide bar means. A steering bar is provided on the top shell. Lever means interconnecting the steering bar with the slide bar means for causing the jointed runners to be curved in the direction of turning are housed inside the space provided between the plastic shells.

3,511,518
VEHICULAR WHEEL ASSEMBLIES
Elmer C. Freber, St. Louis, Mo., assignor to Marquette Tool and Die Company, St. Louis, Mo., a corporation of Missouri
Filed Mar. 6, 1968, Ser. No. 710,905
Int. Cl. B60b *1/14*
U.S. Cl. 280—80 3 Claims



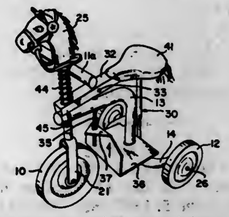
A wheel especially for use with go-karts having a central hub section of predetermined size to which rim sections of various widths are attached. In this manner it is possible to obtain numerous combinations without disturbing the hub section.

3,511,519
VEHICLE SAFETY MECHANISM
Robert L. Martin, Detroit, Mich., assignor to Eaton Yale & Towne, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 25, 1967, Ser. No. 663,323
Int. Cl. B60r *21/00*
U.S. Cl. 280—150 2 Claims



A safety mechanism is adapted to be attached to a vehicle for protecting an occupant of the vehicle during a collision. The mechanism includes an expansible confinement and means in communication with the confinement for directing a fluid flow into the confinement in response to the vehicle experiencing a collision condition. The confinement has at least a portion including continuously open or non-closing exhaust means for continuously allowing fluid to be exhausted therefrom as the confinement is expanded by the fluid flow and for enabling the confinement to be contracted to dissipate the energy resulting from movement of an occupant against the confinement whereby rebound of such an occupant is minimized.

3,511,520
THRUST-POLE PROPELLED TRICYCLE
Arthur H. Dunlap, 24057 Crystal Lake Road, Woodinville, Wash. 98072
Filed Mar. 22, 1968, Ser. No. 715,273
Int. Cl. B62m *29/00*; A63f *19/00*
U.S. Cl. 280—219 7 Claims



A tricycle which has its seat mounted on the rear of a centrally pivoted beam so that as the rider pushes down on the seat in opposition to a return spring at the front, a pivoted thrust pole at the rear of the beam is urged against the ground and propels the vehicle forwardly.

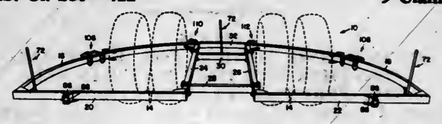
3,511,521
COMPACT MOTORCYCLE
Mario Gobini, Milan, Italy, assignor to Teodoro Carnelli & C. S.p.A., Treviso, Italy, a corporate body of Italy
Filed Oct. 2, 1967, Ser. No. 672,147
Claims priority, application Italy, Oct. 7, 1966, 28,662/66; July 14, 1967, 18,399/67
Int. Cl. B62k *15/00*
U.S. Cl. 280—270 5 Claims

A motorcycle of compact construction and adapted for storage and transportation into a baggage compartment of a medium-sized motorcar. The motorcycle has a rigid integral frame supporting at its fore end the steering handlebar, rotatable about an inclined handlebar axis, a front fork supported for rotation about a front fork



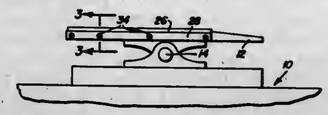
axis parallel to and rearwardly spaced from said handlebar axis, and link means connecting said handlebar and said front fork for concurrent rotation about the respective axis, the overall length of the motorcycle being less than 120 centimeters.

3,511,522
HITCH DEVICE FOR INTERCONNECTING TWO IMPLEMENTS TO A TRACTOR
Harold Valentine Hansen, Cordova, Charles Harold Youngberg, Moline, and Perry Ford, Jr., Rock Island, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Feb. 23, 1968, Ser. No. 707,695
Int. Cl. B60d *1/00*
U.S. Cl. 280—412 9 Claims



A hitch having a generally D-shaped frame securable to a tractor with the D encircling the tractor rear wheels. An arcuate frame member is supported by the arcuate portion of the D-frame for lateral movement relative to the tractor. Spaced apart hitch points are provided on the shiftable arcuate frame member to which implements may be secured.

3,511,523
SEMI-ENCLOSING SEAL MEANS FOR FIFTH WHEEL
Leslie T. Fuller, Hermleigh, Tex.
(P.O. Box 640, Colorado City, Tex. 79512)
Filed June 21, 1968, Ser. No. 738,902
Int. Cl. B62d *53/08*
U.S. Cl. 280—433 8 Claims

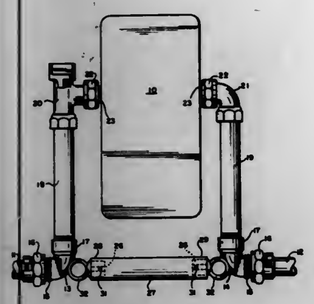


A seal forming attachment for a fifth wheel of the type operable, in conjunction with an associated fifth wheel pin, to pivotally couple a semi-trailer to a tractor The attachment includes an elongated resilient seal structure adapted to be secured about and to extend slightly above the forward and opposite side marginal edge portions of a fifth wheel for fluid-tight sealed engagement with the undersurface of the kingpin plate on the associated semi-trailer as the tractor is advanced rearwardly beneath the forward end of the semi-trailer.

3,511,524
METER SETTER

Stanley W. Ford and Max L. Stevens, Wabash, Ind., assignors to The Ford Meter Box Company, Inc., Wabash, Ind., a corporation of Indiana

Filed Sept. 5, 1968, Ser. No. 757,730
Int. Cl. F16l 55/00
U.S. Cl. 285—30 5 Claims



A meter setter designed primarily for supporting and connecting a meter in a fluid supply line of plastic conduit and comprising means independent of the supply line for protecting the elements of the supply line against torque stresses which might otherwise be impressed thereon by reason of the fact that the meter is supported above the axis of the supply line.

3,511,525
CONNECTING DEVICE FOR FASTENING TOGETHER TWO THIN PLATES IN RELATIVE PERPENDICULAR POSITIONS

Gerard Friedling and Marcel Chuard, Geneva, Switzerland, assignors to Technicair S.A., Vernier, Geneva, Switzerland, a corporation of Switzerland

Filed Sept. 4, 1968, Ser. No. 757,259
Claims priority, application Switzerland, Sept. 5, 1967, 12,407/67
Int. Cl. F16b 5/00
U.S. Cl. 287—189.36 6 Claims

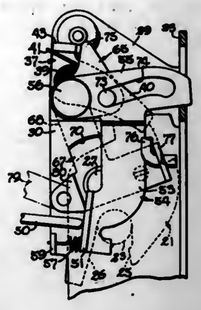


A device for assembling two thin plates in relative perpendicular positions, which comprises a first part adapted to be inserted into an opening of one of the plates, and a head forming an exterior shoulder on the first part and adapted to limit the insertion of the device into the opening of one of the plates. The first part is crossed by a slot adapted to receive a marginal portion of the second plate disposed perpendicularly to the first plate, and the slot has a first straight part and a posterior part, the latter being much greater than that of the first straight part. The base of the slot is disposed in front of the exterior shoulder such, that in the maximum insertion of the device corresponding with an abutment position of the two plates and bearing of the head on the first plate. The marginal portion of the plate inserted in the slot is locally deformed upon contact with the base and forms a lateral swelling, thereby securing the second plate to the assembling device.

3,511,526
VEHICLE DOOR LATCH

Leonard K. Ploughman, Rockford, Ill., assignor to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 650,062, June 29, 1967. This application July 1, 1968, Ser. No. 748,124
Int. Cl. E05c 3/16
U.S. Cl. 292—216 15 Claims



A free-wheeling, dual preset latch for a vehicle door and including a transmitter normally transferring the motion of an actuator to a pawl to release the latch when the actuator is operated either by an inside remote handle or by an outside pushbutton. By depressing a garnish button or by operating a key, the transmitter may be moved to a position uncoupling the pawl from the actuator thereby to lock the latch and to cause the actuator to free-wheel upon being operated. The transmitter remains coupled to and movable with the actuator at all times and carries a cancellation lever which normally restores the latch to an unlocked condition automatically when the door is closed with the garnish button depressed thereby to prevent unintentional locking of the door. The cancellation lever, however, may be disabled to permit keyless locking from the outside of the vehicle if, in addition to depressing the garnish button and prior to closing the door, the outside pushbutton is actuated to preset the latch. In one embodiment, the cancellation lever can be disabled only if the pushbutton is held in an actuated condition during closing of the door while, in a second embodiment, the cancellation lever can be disabled by actuating the pushbutton only momentarily and then by closing the door in a normal manner.

3,511,527
HEAD FOR WELDLESS CONNECTORS

Roger L. Gower, P.O. Box 65, Canaan, Maine 04924

Filed June 5, 1967, Ser. No. 643,446
Int. Cl. B64d 17/38; B66c 1/34; F16q 13/06
U.S. Cl. 294—82 4 Claims

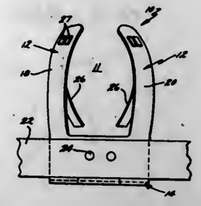


This invention relates to a head for weldless connector means for chain and cable assemblies, by means of which chains or the like may be easily and rapidly joined together, with limited possibility of accidental disengagement.

3,511,528
EGG PICK-UP FINGERS

Harverd J. Hoekje, Hamilton, Mich., and Leonard Max Jones, Ottumwa, Iowa, assignors, by mesne assignments, to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 4, 1967, Ser. No. 687,886
Int. Cl. B66c 1/42
U.S. Cl. 294—99 13 Claims

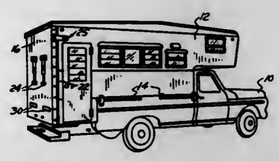


Mechanical fingers for automated egg packers and the like, comprised of an elongated finger element which has a resiliently-deformable leaf spring secured at one end to the tip portion of the finger element and extending toward the base of the same but being shorter in length and also being curved outwardly away from the finger element at the free end of the spring. The fingers are arranged in a symmetrically disposed pattern to form groupings containing at least three fingers, with the leaf spring of each oriented toward the leaf springs of the others. The fingers operate by caging an egg to hold the same, and in so doing the leaf springs are disposed within the egg-receiving cage, where they conform themselves to the particular size and shape of the individual egg with which they are confronted, such that the fingers lightly but firmly hold any given egg, regardless of its relative size.

3,511,529
COLLAPSIBLE ROOM FOR PORTABLE CAMPERS AND TRAILERS

George F. Cutsinger, 6482 Brace, Detroit, Mich. 48228

Filed June 3, 1968, Ser. No. 734,137
Int. Cl. B60p 3/32
U.S. Cl. 296—23 1 Claim



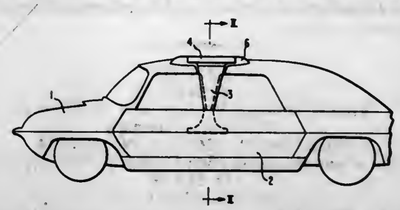
An additional room attachable to portable campers and trailers which is completely collapsible so as to facilitate convenient storage and travel.

3,511,530
PASSENGER MOTOR VEHICLE WITH UPWARDLY SWINGABLE PIVOTAL LATERAL DOORS

Bela Barenyi, Stuttgart-Valhingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Apr. 10, 1967, Ser. No. 629,657
Claims priority, application Germany, Apr. 13, 1966, D 49,846
Int. Cl. B60j 5/04
U.S. Cl. 296—146 19 Claims

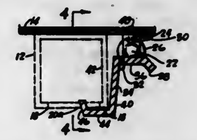
A motor vehicle, in particular a passenger motor vehicle, which comprises lateral doors pivotal in the vertical direction and supported in pivot joints disposed approximately at the lateral boundary of the vehicle roof, preferably considerably higher than the lateral windowpanes and above the roof plane; prestressed springs may be used in the pivot joints to at least partially eliminate the forces resulting from opening of the door, such springs being preferably torsion rods arranged coaxially to the pivot joints whereby the torsion rods on both sides of the vehicle may be connected by a cross strut. The door itself may be either unitary or may be formed of two parts movable relative to one another whereby in one construction the two parts may pivot relative to one another about a lonigtudinal axis or the two parts may be separate from each other with the upper part only pivotal in the upward direction while the lower part is subdivided into two doors pivotal about vertical axes arranged at the door columns.



3,511,531
TRAY LATCHING MECHANISM FOR HIGH CHAIRS

Roland A. Benoit, Fresh Meadows, and Joseph Tripodi, Brooklyn, N.Y., assignors to InterRoyal Corporation, a corporation of Delaware

Filed Nov. 1, 1967, Ser. No. 679,825
Int. Cl. A47d 1/00
U.S. Cl. 297—153 1 Claim

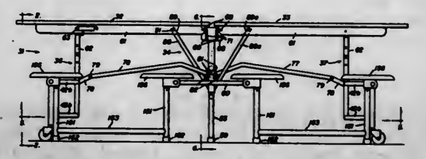


A high chair with side arms formed of hollow tubing having holes in their lower surfaces. An adjustable tray has a pair of spring biased levers with upwardly extending fingers which are extended into the holes in the tubing.

3,511,532
FOLDING TABLE WITH SEATS

Richard C. Tringali, Manitowoc, and Joseph E. Wachtel, Two Rivers, Wis., assignors, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

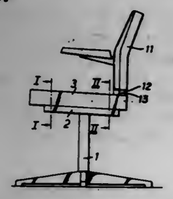
Filed Feb. 5, 1968, Ser. No. 703,054
Int. Cl. A47b 39/06, 3/00
U.S. Cl. 297—159 20 Claims



This disclosure deals with a folding table assembly including a pair of table top sections which have their adjacent ends hinged together and are supported for folding movement between open and closed positions. The assembly further includes two sections of seats on at least

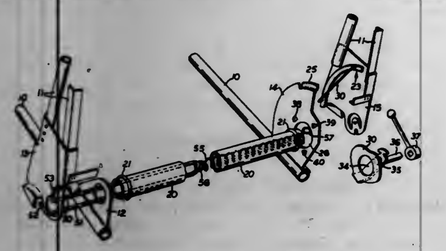
one side of the table, one seat section of each pair being associated with each top section and the seat sections folding toward each other as the assembly is moved to the closed position. The seat sections are longitudinally aligned when the table is open, and means is provided to laterally shift the seat sections relative to each other to permit the assembly to be folded with the seat sections in overlapping relation to avoid interference between the two seat sections.

3,511,533
CHAIRS
Fritz E. Drabert, Marienstrasse 37, Minden, Westphalia, Germany
Filed Nov. 17, 1967, Ser. No. 684,014
Claims priority, application Germany, Nov. 25, 1966, D 51,639
Int. Cl. A47c *15/00*
U.S. Cl. 297—337 **11 Claims**



A chair with a seat which is adjustable forwardly and rearwardly with respect to a backrest. The seat carries pins which selectively engage holes in a transverse support.

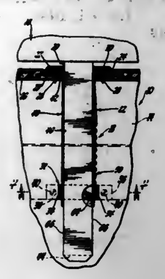
3,511,534
SEAT MECHANISMS
Harold Roy Turner, Walsall, England, assignor to H. R. Turner (Willenhall) Limited, Willenhall, England, a British company
Filed Jan. 23, 1968, Ser. No. 699,902
Claims priority, application Great Britain, Apr. 13, 1967, 16,930
Int. Cl. B60n *1/06*
U.S. Cl. 297—373 **2 Claims**



The invention provides a mechanism for adjusting the angle of the seat back to the seat base in which toothed members are provided on parts secured to the seat back and seat base, and in disengaging the teeth for angular adjustment the one plate is lifted bodily with respect to the other plate to take the teeth out of mesh.

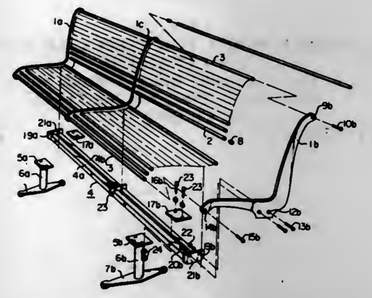
3,511,535
ADJUSTABLE HEADREST SUPPORT ASSEMBLY
Donald E. Gunlock, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 24, 1968, Ser. No. 723,816
Int. Cl. A47c *7/36*
U.S. Cl. 297—410 **4 Claims**

An adjustable headrest assembly characterized by having a flexible plastic support sleeve mounted interiorly of a seat back for adjustably and telescopically receiving the attached support bar of an associated headrest. A projection formed along one side of the support bar is selectively movable between longitudinally spaced cor-



rugations formed on an inner surface of the support sleeve. The sleeve is formed so that it elastically flexes outwardly as the projection is detented over the alternate ridges of the corrugations.

3,511,536
BENCH
Sohei Suzuki, Gifu-shi, Japan, assignor to Tenryu Kogyo Kabushiki Kaisha, Kagamihara-shi, Gufu-ken, Japan, a company of Japan
Filed Aug. 28, 1968, Ser. No. 755,897
Int. Cl. A47c *7/00*
U.S. Cl. 297—440 **5 Claims**

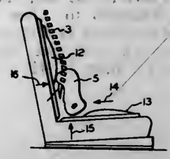


Bench of the invention comprises a plurality of reinforced plastic pipes in a parallel condition, a plurality of frames for supporting the pipes and an under beam joining the frames in one body and a pair of legs secured to the beam. All elements of the bench are fixed by fasteners such as bolt and nut.

3,511,537
CHAIRS
Wilhelm Paul Ackermann, 50 Sturegatan, 114 Stockholm 36, Sweden
Filed Apr. 17, 1968, Ser. No. 721,960
Claims priority, application Sweden, Mar. 25, 1963, 3,219/63
Int. Cl. A47c *7/24*
U.S. Cl. 297—454 **3 Claims**

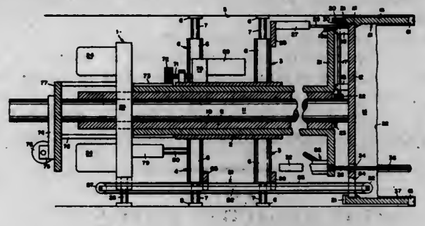
A chair having a seat surface and a back support surface. The seat surface has an elevated front portion and a lower rear portion with the transition line between the front portion and the rear portion forming a well defined

edge extending from one side to the other across the seat surface and being located at a distance from the transition line between the seat surface and the back support surface. Such distance should be sufficient for the ischiums of a sitting person to be supported in a vertical direction by the



rear portion of the seat surface and at the same time supported in a horizontal direction by such edge to prevent a seated person from sliding forwardly on the seat surface. The lower rear portion of the seat surface is of harder material than the elevated front portion.

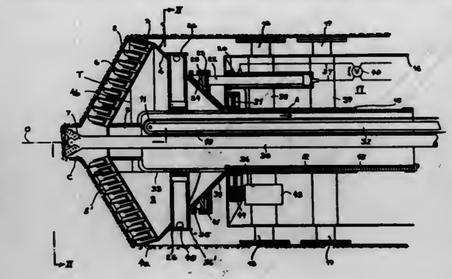
3,511,538
APPARATUS AND PROCESS FOR EXCAVATING WITH EXPLOSIVES
Richard G. Guenter, Brandywood, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed July 8, 1968, Ser. No. 743,130
Int. Cl. E01g *3/00*
U.S. Cl. 299—3 **12 Claims**



The present invention relates to a machine for forming excavations and particularly tunnels, ditches and the like in rock through the use of explosives, the invention comprising a shield through which a boring tool is operated to form a blast hole and through which a pre-ignited explosive charge with a delayed detonation is moved into the blast hole and stemmed. With the use of relatively small charges that are detonated individually, the blast effects are confined by the shield so that it is not necessary to clear the area during blasting. Method is provided including the steps of forming a plurality of blast holes in the rock phase, introducing individually into each bore hole a charge above described, and preigniting the charges as introduced for successive detonations.

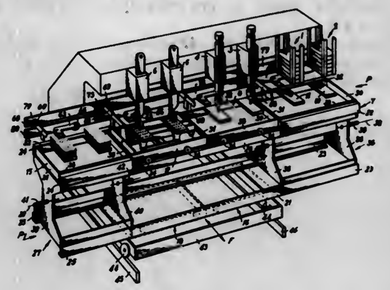
3,511,539
FRUSTOCONICAL TUNNEL BORING HEAD HAVING RADIAL CONCAVE SCOOPS
Georg Schonfeld, 43 Koppeldamm, 22 Elmshorn, Holstein, Germany
Continuation-in-part of application Ser. No. 684,368, Nov. 20, 1967. This application July 18, 1969, Ser. No. 843,064
Claims priority, application Germany, Nov. 18, 1966, Sch 39,840
Int. Cl. E21d *9/00*; E21c *29/02*
U.S. Cl. 299—56 **7 Claims**

Tunnel-boring machine with a generally frustoconical rotary head having a circular front edge spanned by one or more ribs each carrying an array of independently rotatable chisels within the area circumscribed by the front edge, the head further having scoops disposed adjacent the chisels and concave in the direction of rotation for gathering muck and depositing it on a rearwardly extending conveyor passing through a tubular stem of the head slidably lodged in a cylindrical housing which is immobilizable, by a set of radial jacks, with reference to the wall of a tunnel drilled by the boring head. Axially extending thrust jacks on the housing serve for the lon-



gitudinal propulsion of the boring head and its stem with reference to the housing whereupon, by means of another set of radial jacks on the head itself, the latter may be immobilized and the housing may be pulled after it upon retraction of the first-mentioned radial jacks. The boring head may be provided with a separable neck which, upon detachment from the head, may be withdrawn from the tunnel together with the housing and with a central drill bit normally projecting beyond the boring head.

3,511,540
BRUSH MANUFACTURING MACHINE
Gerard Benoni Boucherie, Potaardestraat 1, Rumbeke, Belgium
Filed June 23, 1967, Ser. No. 648,349
Int. Cl. B25b *11/00*
U.S. Cl. 300—11 **8 Claims**

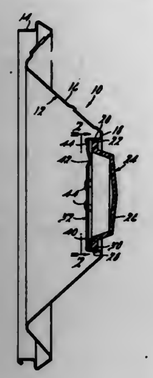


A brush manufacturing machine comprising the combination of at least three independent trolleys onto which one or several workpiece-holders are mounted and means for moving said trolleys in a closed circuit along processing stations.

3,511,541
WHEEL COVER
Edward G. Spisak, Wayne, Mich., assignor to Gar Wood Industries, Inc., Wayne, Mich., a corporation of Michigan
Filed June 5, 1968, Ser. No. 734,749
Int. Cl. B60b *7/04*
U.S. Cl. 301—37 **1 Claim**

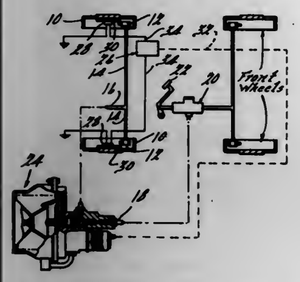
In combination in a vehicle wheel cover, a ring member having a substantially radially extending section provided with means adjacent the outer periphery thereof

for releasably engaging a portion of an associated vehicle wheel, the ring member having a generally axially inwardly extending flange section defining a central annular opening, an annular disc-like medallion member having a body portion positioned in and shaped to substantially close the opening, the disc member also having a peripheral shoulder portion projecting radially outwardly from the body portion beyond the inner periphery of the flange



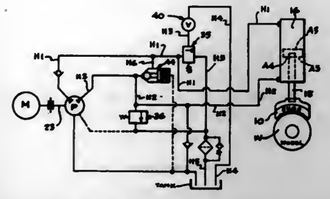
section, a generally annular retaining ring coaxially aligned with the flange section and comprising at least one radially inwardly projecting portion overlying the disc body portion and positively engaged therewith, and a plurality of circumferentially spaced tab portions on the flange section and extending radially over the retaining ring for securing the retaining ring and the medallion to the ring member.

3,511,542
SKID CONTROL SYSTEM INCLUDING CONTROL CIRCUIT FOR A HYDRAULIC MODULATING VALVE
Anthony C. Fielek, Jr., Dearborn, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,005
Int. Cl. B60t *8/08*
U.S. Cl. 303—21 22 Claims



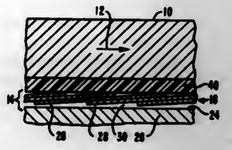
A skid control system for fluid actuated brakes of a wheeled vehicle including a modulating valve for modulating the fluid pressure to the fluid actuated brakes and a control circuit for actuating the valve. Actuation of the skid control circuit is varied over the velocity range of the wheel so that at higher angular wheel velocities skid control action is initiated at higher deceleration rates than at lower angular wheel velocities.

3,511,543
HYDRAULIC CYLINDER CONTROLS FOR PRODUCING CONFLUENT PRESSURE STREAMS
Peter B. Burnham, Columbus, Roger D. Jones, Worthington, and Paul E. Diedrich, Columbus, Ohio, and Grant H. Arrasmith, Pearl River, and James A. Simmonds, Suffern, N.Y., assignors to Abex Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,816
Int. Cl. B60t *15/42, 11/12*
U.S. Cl. 303—62 21 Claims



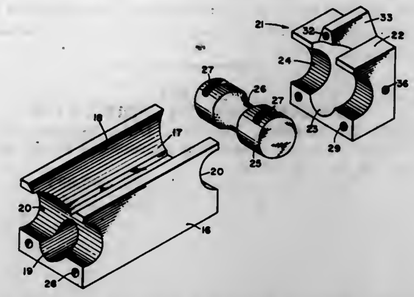
A piston in a cylinder is adapted to be selectively advanced or retracted by fluid under pressure in two separate lines leading from a source of fluid under pressure. Extremely rapid advance of the piston is achieved by opening a normally closed flow-control valve so that fluid under pressure in both lines is simultaneously directed to the piston (head) end of the cylinder; and monitoring means are afforded for varying the applied force on the piston in response to demand for more or less piston pressure. Specifically, the arrangement is systemized in railroad brake apparatus so constructed as to enable the piston force to be effectively applied as a retarding force on a car wheel, and the retarding force is measured as an incident to implementing said monitoring means.

3,511,544
LINEAR SELF-ACTING BEARING WITH CONFORMABLE SURFACE
David J. Marley, Buena Park, Calif., assignor to The Garrett Corporation, a corporation of California
Filed Aug. 11, 1967, Ser. No. 660,117
The portion of the term of the patent subsequent to May 7, 1985, has been disclaimed
Int. Cl. F16c *29/00, 29/02*
U.S. Cl. 308—3 10 Claims



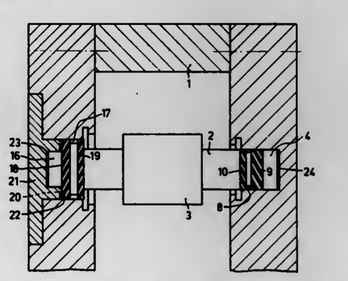
There is disclosed herein a linear fluid lubricated bearing using foils as bearing surfaces. The bearing is rigidly affixed relative to one of a pair of members which are capable of undergoing linear motion relative to one another with the foils disposed to bear against a planar surface of the other of said pair of members. In self-acting or hydrodynamic bearings, relative movement between the foils and the planar surface develops viscous shear which, in turn, provides a lubricating film of appropriate fluid which may be either liquid or gas. The foils, which are preferably interleaved in shingle fashion, may be resiliently mounted and may comprise all metal sheets, all plastic sheets, or a combination of the two.

3,511,545
RECIRCULATING BALL BEARING STRUCTURE FOR MOUNTING A MACHINE TOOL SLIDE
Henry J. Brettrager, 5410 East St., Saginaw, Mich. 48601
Filed Jan. 24, 1968, Ser. No. 700,089
Int. Cl. F16c *17/00, 19/00, 21/00*
U.S. Cl. 308—6 10 Claims



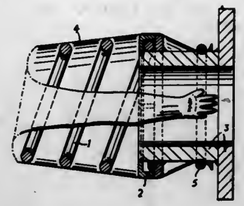
Apparatus for mounting a machine tool slide having spaced apart rod guides on its opposite sides and comprising a linear bearing assembly for each of the upper and lower ends of the slide mount, each assembly having a body provided with an open groove in one side and a parallel bore adjacent the other side for the reception of freely movable balls which engage between the adjacnt slide rod guides, the body having an end cap at each end thereof provided with an arcuate recess establishing communication between the groove and the bore. A rotatable race is interposed between the body and each end member and has a circumferential channel registering with the recess in the associated end member to provide a return passage for the balls, whereby the groove, the return passages and the bore form an endless path through which the balls may circulate. A retaining rod spans the length of and overlies the groove to prevent inadvertent removal of the balls from the groove.

3,511,546
HYDRODYNAMIC BEARING SYSTEM PROVIDING AXIAL SELF-ADJUSTMENT
Everhardus Albertus Muijderman, Emmasingel, Eindhoven, Netherlands, assignor by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 6, 1968, Ser. No. 726,745
Claims priority, application Netherlands, May 11, 1967, 6706569
Int. Cl. F16c *17/10, 33/66*
U.S. Cl. 308—9 5 Claims



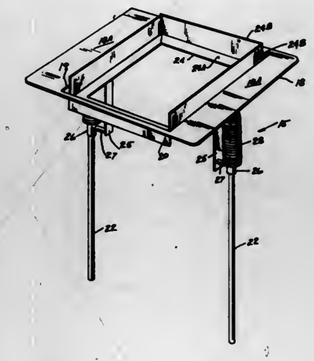
A hydrodynamic bearing system having an axial bearing at one end of a shaft and a spiral-groove fluid radial bearing at the opposite end, the radial bearing providing a thrust toward the axial bearing to maintain axial adjustment of the shaft.

3,511,547
DEVICE FOR HANDLING OBJECTS IN A GLOVE BOX
Helmut H. Schmieder, Karlsruhe, Pirmin Schwab, Leimersheim, and Adolf Knobloch, Karlsruhe, Germany, assignors to Gesellschaft fur Kernforschung m.b.H., Karlsruhe, Germany, a corporation of Germany
Filed June 20, 1966, Ser. No. 560,046
Claims priority, application Germany, June 18, 1965, G 43,903
Int. Cl. A61g *11/00*
U.S. Cl. 312—1 11 Claims



A construction is disclosed for safely handling "active" materials, as for example α- or β-active plutonium constituting a glove box. The construction is particularly designed to avoid the type of accidents such as generally occur when it is attempted to withdraw the arm out of the glove box and the sleeve portion of the glove has been pulled forward and over the finger portion. In accordance with the invention the sleeve portion is made adjustable with respect to the distance as to which it can extend into the box by means of elastic devices responsive to the forces applied in handling for automatic adherence to a preset length and namely to the shortest effective length.

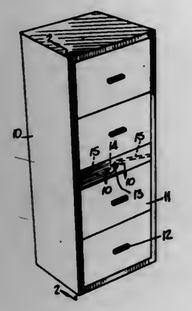
3,511,548
APPARATUS FOR STORING AND DISPENSING STACKED ARTICLES
Filed Mar. 25, 1968, Ser. No. 715,895
Samuel McIlhone, Staten Island, N.Y., assignor to Levelator Corporation of America, Brooklyn, N.Y.
Int. Cl. A47b *9/02*; A47f *1/00*
U.S. Cl. 312—71 9 Claims



This disclosure is directed to an apparatus for storing and dispensing stacked articles, and more specifically to an apparatus having a frame on which there is supported a pair of oppositely disposed guide rods and an article

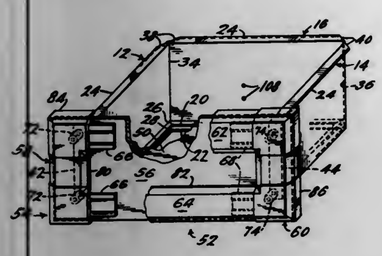
supporting means mounted for movement therealong. Operatively connected to the article supporting means is a calibrated spring means for counterbalancing the weight of a column of articles stacked thereon in a manner whereby the uppermost article of such stack of articles is presented at a predetermined level above the frame each time an article is dispensed.

3,511,549
CABINET LOCKING MECHANISM
Joseph J. Macaluso, Clark, N.J., assignor to InterRoyal Corporation, a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 712,776
Int. Cl. F05b *65/46*
U.S. Cl. 312—219 2 Claims



A gang lock for cabinets comprises a throw bolt activating a cam engaging a lock bar. The lock bar is provided with a plurality of locking hooks each of which is adapted to fit into a recess in the door. In open position the hooks allow the doors to enter freely into and out of the recess, while in locked position the hooks engage a portion of the door.

3,511,550
KNOCK-DOWN DRAWER CONSTRUCTION
George C. Hillinger, and Xa D. Johnson, Toledo, Ohio, assignors to Wesley Industries, Inc., Toledo, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 622,495, Mar. 13, 1967. This application Oct. 4, 1968, Ser. No. 765,096
Int. Cl. A47b *88/00*; A65d *9/32*
U.S. Cl. 312—330 10 Claims



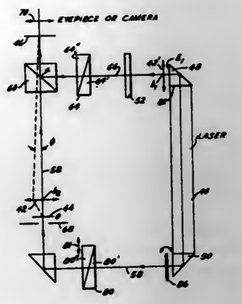
This invention relates to a drawer construction primarily intended for use with kitchen cabinets and the like. The drawer has a one-piece extruded strip forming the back and sides of the drawer body with a separate central bottom panel engaged with grooves in the lower portion of the strip. The strip also has an outwardly-extending stiffening flange at the upper edge to provide maximum rigidity with minimum thickness for the drawer. The drawer front has a central panel with a metal frame which extends rearwardly beyond the panel and cooperates with a separate lower supporting member which engages and supports the front edge of the drawer bottom. The drawer construction enables the drawer components to be shipped in a flat, knocked-down condition and then to be capable of quick and easy assembly with a minimum of skill.

3,511,551
WIDEBAND OPTICAL MODULATOR
Donald D. Matulka, Fairborn, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Dec. 6, 1966, Ser. No. 600,003
Int. Cl. G02b *17/00*; G02f *1/34*
U.S. Cl. 350—7 1 Claim



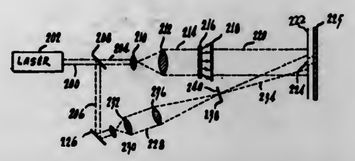
The output of a continuous wave laser is scanned over a transparent or reflective plate containing stored information. The information is stored on the plate in such a manner that it provides phase, polarization or intensity modulation of light passing through or reflected from the plate. As the beam is scanned over the plate, it is modulated in accordance with the stored information. It is necessary however that the light leaving the transmitter be collimated. The light can be collimated after it is scanned across the plate or the light may be collimated before scanning and then scanned across the plate in such a manner that the light leaving the scanner is parallel to the incident beam. After the beam is modulated, it is allowed to propagate to the distant receiver.

3,511,552
OPTICAL INTERFERENCE MICROSCOPY
Harold Osterberg, Sturbridge, Mass., assignor, by mesne assignments, to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,115
Int. Cl. G02b *27/22*, *21/06*; G01b *9/02*
U.S. Cl. 350—3.5 6 Claims



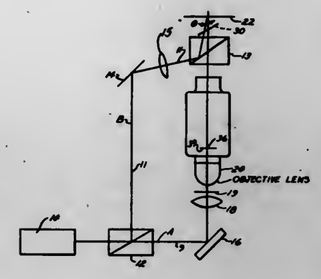
An interference microscope having an integral laser which discharges from both ends. The object and reference beams produced thereby are directed along separate optical paths which include variable absorbers, rotary prisms and rotary mirrors to control the relative amplitudes and directions of the two beams. These beams are directed to interfere at the microscope image plane from which the interference pattern can be viewed by an eyepiece or as the subject of a holographic recording.

3,511,553
MOTIONLESS HOLOGRAM IMAGING
Hendrik J. Gerritsen, Princeton Junction, N.J., and David L. Greenaway, Bassersdorf, Switzerland, assignors to RCA Corporation, a corporation of Delaware
Continuation of application Ser. No. 545,753, Apr. 27, 1966. This application July 24, 1969, Ser. No. 847,799
Int. Cl. G02b *27/22*
U.S. Cl. 350—3.5 5 Claims



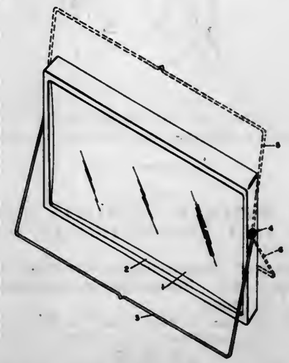
A technique for recording and reading out moving microholograms, such as may be used for recording and playing back motion pictures, in a manner such that without the use of a shutter the position of the reconstructed image of a micro-hologram remains fixed with respect to the readout beam despite translational motion of the microhologram being read out in a direction transverse to the readout beam. This is accomplished by utilizing a divergent reference beam in recording the microhologram and then utilizing a convergent readout beam having a degree of convergence which is determined by the degree of divergence of the reference beam.

3,511,554
HOLOGRAPHIC MICROSCOPE
Harold Osterberg, Sturbridge, and Raoul F. Van Ligten, Worcester, Mass., assignors, by mesne assignments, to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,241
Int. Cl. G02b *21/06*, *21/14*, *23/00*
U.S. Cl. 350—12 2 Claims



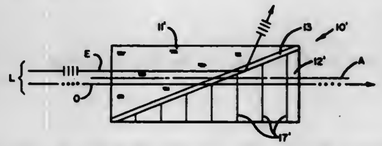
A hologram recording apparatus for producing a magnified hologram of a microscopic object, this being achieved by magnifying and imaging the microscopic object, followed by recording a hologram of this magnified image.

3,511,555
PORTABLE PROJECTION SCREEN
Robert F. O'Brien, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 13, 1967, Ser. No. 653,051
Int. Cl. G03b *21/56*
U.S. Cl. 350—117 3 Claims



A lightweight portable projection screen has a substantially rigid frame which is made of a moldable cellular polymer. A sheet of reflective screen material is mounted on the frame. An adjustable support member is pivotally attached to the frame member by a hinge, part of which is molded integrally in the frame.

3,511,556
OPTICAL POLARIZING PRISM
Eugene O. Ammann, Mountain View, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Nov. 30, 1967, Ser. No. 686,981
Int. Cl. G02b *5/30*, *1/08*
U.S. Cl. 350—157 2 Claims

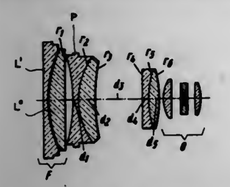


A Glan-Thompson type polarizing prism is constructed by substituting an isotropic medium such as glass for one-half of the prism. The glass has an index of refraction equal to the index of refraction in calcite for an ordinary ray (n=1.655 for a wavelength of 0.643 micron). When the glass is substituted for the front half of the prism, i.e., the section of the prism on which the light is incident, the device functions as a Glan-Thompson polarizer. When light is passed in the opposite direction through the polarizer, it functions as a Rochon prism.

3,511,557
ANAMORPHOTIC ATTACHMENT
Kurt Lindstedt, Gottingen-Weende, and Kurt Kirchhoff, Hamburg-Lurup, Germany, assignors to ISCO Optische Werke G.m.b.H., Gottingen, Germany, a corporation of Germany
Filed Mar. 15, 1968, Ser. No. 713,467
Claims priority, application Germany, Mar. 30, 1967, J 33,333
Int. Cl. G02b *13/08*
U.S. Cl. 350—181 4 Claims

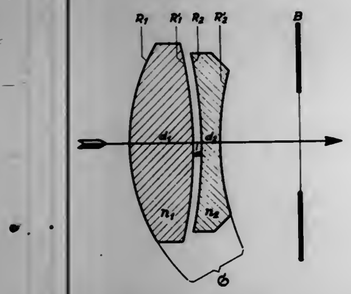
An anamorphotic attachment with a pair of oppositely refractive cylindrical doublets each including a low-

power cemented surface which is of positive refractivity in the case of the first, negative doublet and of negative



refractivity in the case of the second, positive doublet, the two doublets together constituting an afocal system.

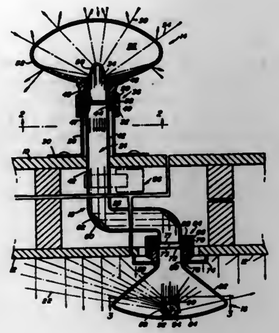
3,511,558
DOUBLET WHICH IS PARTIALLY CORRECTED SPHERICALLY, CHROMATICALLY AND ASTIGMATICALLY
Fritz Uberhagen, Braunschweig, Germany, assignor to Voigtlander, A.G., Braunschweig, Germany, a corporation of Germany
Filed June 7, 1966, Ser. No. 555,758
Claims priority, application Germany, June 24, 1965, V 28,726
Int. Cl. G02b *3/00*
U.S. Cl. 350—232 **2 Claims**



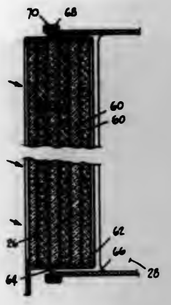
A photographic objective having a doublet and a diaphragm located to the rear of the doublet. The doublet is made up of a front biconvex converging lens followed by and located closely adjacent to an inner or rear biconcave diverging lens situated between the converging lens and the diaphragm. For the yellow *d*-line of the helium spectrum, the refractive indexes of the glass for the two lenses is no greater than 0.05. The rear concave surface of the diverging lens has a smaller radius of curvature than the front concave surface thereof, and the ratio between these radii is in a range of 1:0.475 to 1:0.725. The entire doublet has a Gardner shape factor greater than 4.50 but less than 7.50. The sum of the radii of the two inner lens surfaces is greater than 1.65 times but smaller than 3.30 times the sum of the radii of the two outer lens surfaces. As a result of these expedients the imaging error is very greatly reduced.

3,511,559
LIGHT TRANSMITTING AND DISTRIBUTING DEVICE
John T. Foster, 2202 Mulberry Blvd., Tallahassee, Fla. 32303
Filed July 20, 1967, Ser. No. 654,849
Int. Cl. G02b *17/00*
U.S. Cl. 350—258 **9 Claims**

The visible light rays enter an evacuated chamber enclosed within a light filtering housing of a receiver mounted on a building. The light rays are refracted within the receiver chamber into collimated light conducted to a distributor within the building through rigid tubing secured by sealing connections to the receiver and the distributor. The distributor chamber is enclosed by a transparent protective housing internally mounting a reflector from which the light is directed upwardly onto the ceiling.



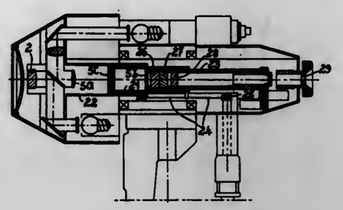
3,511,560
AMBIENT LIGHT FILTER
Vern E. Hamilton, Palos Verdes Estates, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Continuation-in-part of application Ser. No. 138,855, Sept. 18, 1961. This application Oct. 15, 1962, Ser. No. 230,644
Int. Cl. G02b *27/00*
U.S. Cl. 350—276 **3 Claims**



1. The combination of a cathode ray tube and an ambient light trapping filter therefor; said tube having a front wall including an image screen of diffusely reflecting luminescent material depending on light-intensity contrast for ease in viewing thereof; said filter being mounted in front of and in proximity to the front wall of said tube and arranged to prevent impingement of reflection-producing light rays on said wall from directions other than those within the desired viewing angle; said filter comprising a thin, laterally extensive panel of transparent material bearing a plurality of filter elements; each of said filter elements comprising a generally planar tier of alternating loci of transparent and highly light absorbing material arranged to provide a multiplicity of light transmitting apertures in close proximity to each other and separated by light absorbing material to

form a grid pattern; said tiers being separated from each other in a direction normal to their general planes, and said apertures in the successive tiers being arranged with respect to each other to present a multiplicity of light transmitting viewing cells extending depthwise of the panel; the light absorbing material adjacent each viewing cell serving to intercept at a nearly normal angle and absorb the energy of the ambient light rays angularly entering said cells; the lateral dimensions of the apertures and light absorbing material in at least one direction being so small that the grid pattern is substantially unresolvable at normal viewing distance; the width of the apertures being several times the width of the light absorbing material between apertures to obtain maximum light transmission from the image screen; and marginal means to prevent entry of lateral ambient light rays between the margin of said panel and the front wall of said cathode ray tube; the outermost tier comprising lines of intense black material having a light absorption factor approaching that of a black body radiator; and the inner tiers comprising lines of dense transparent red material to provide high visibility in daytime viewing conditions and to produce dark red signal images for good visibility in dark-adapted night viewing conditions.

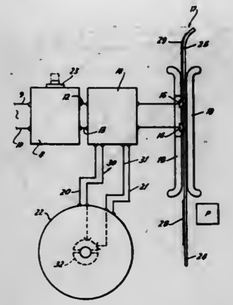
3,511,561
OPTICAL SYSTEM FOR OPHTHALMOMETERS PROVIDED WITH STATIONARY SIGHTING MARKS
Paul Frédéric Marie Gambs, 140 Rue Mazenod, Lyon, Rhone, France
Filed Oct. 18, 1965, Ser. No. 504,281
Claims priority, application France, Jan. 26, 1965, 45,551
Int. Cl. A61b *3/10*
U.S. Cl. 351—13 **4 Claims**



An ophthalmometer for the measurement of a patient's eye by a practitioner, comprises an optical system having stationary sighting marks and an unvarying duplicating system, and adjustable magnifying means disposed between the patient's eye and the duplicating system.

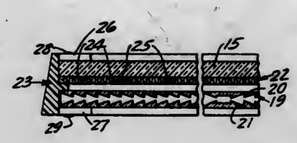
3,511,562
METHOD OF AND APPARATUS FOR CONTROLLING THE MOVEMENT OF AN INFORMATION CARRIER
Herbert Leisring, Stuttgart-Stammheim, Germany, assignor to Robert Bosch Elektronik und Photokino GmbH. Stuttgart-Unterturkheim, Germany
Filed Mar. 27, 1968, Ser. No. 716,595
Claims priority, application Germany, Apr. 8, 1967, B 91,985
Int. Cl. G03b *21/50*
U.S. Cl. 352—92 **7 Claims**

A method of and an apparatus for controlling the movement of an information carrier wherein the information carrier is a strip provided with at least two longitudinally spaced discrete groups of encoded information separated by an interval portion. A first indicium is provided adjacent the beginning of the interval portion and a second indicium is provided adjacent the beginning of each group of information. The carrier is moved at a first speed past a reproducing station so that a first group of information moves past the station. During movement



of the carrier the same is scanned for the first indicium and, in response to detection of the same, the speed is automatically lowered until during further scanning the second indicium is detected, whereupon the carrier is arrested.

3,511,563
PROJECTOR
James V. Erwin, North St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,951
Int. Cl. G03b *21/14*
U.S. Cl. 353—38 **12 Claims**

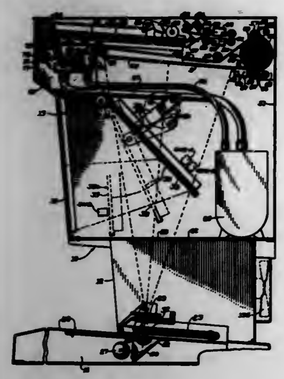


An overhead projector having a glare-producing condensing lens includes a shield to eliminate glare at the operator's position without substantially reducing the intensity of the projected light.

3,511,564
READER-PRINTER WITH PLASTIC TRANSPORT BELT
Adolph J. Gawin, Skokie, Robert F. Porazinski, Norridge, and Daryl J. Strahan, Evanston, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed May 18, 1967, Ser. No. 639,369
Int. Cl. G03g *15/00*
U.S. Cl. 355—3 **16 Claims**

A reader-printer cabinet is provided with a viewing screen and a front wall and print-out means in the top of the cabinet. A transport belt made of an electrically insulating polyester film material has a lower run formed by a leg disposed in a substantially horizontal plane across the top of the cabinet interior, thereby to form an exposure station. Means forming an optical track in the cabinet selectively projects an image onto the viewing screen or onto a focal plane coincident with the belt at

the exposure station. Charging means establishes an electrostatic field through which a carrier sheet and the belt may be passed, thereby to electrostatically assemble the carrier sheet and the belt so that no other holding means is required to position the carrier sheet at the exposure station. Further, the belt is provided with a plurality of

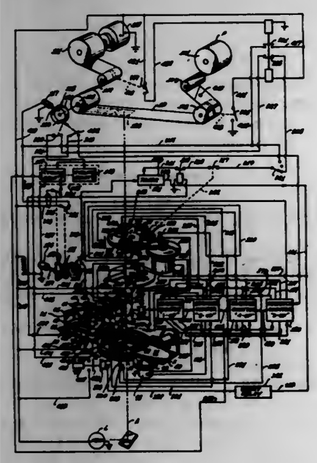


openings corresponding to timing information. Circuit means responsive to the sensing of such openings control and actuate various means to selectively move the belt, expose the carrier sheet to projected images and develop the carrier sheet, all in accordance with a program coded into the belt.

3,511,565
PHOTO APPARATUS HAVING ROTARY FILM TRANSPORT

John N. Harman, Jr., La Canada, and James S. Livingood, Reseda, Calif., assignors to Drewry Photocolor Corporation, Burbank, Calif., a corporation of California

Filed Apr. 18, 1968, Ser. No. 722,322
Int. Cl. G03b 27/44, 27/62
U.S. Cl. 355—56 15 Claims

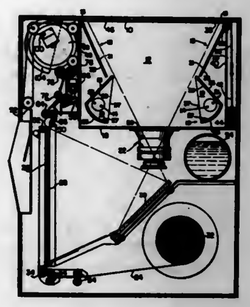


Photographic apparatus including paper advance means to selectively move lengths of paper into an exposure area and in alignment with the optical axis of a light beam. A rotary film transport operative to move film into alignment with the optical axis is rotatable from a first position to a second position substantially perpendicular to the first position to effect a 90 degrees change in the orientation of the successive images projected onto the printing paper. A lens mount intermediate the paper advance means and the film transport carries first and second lens clusters for selective disposition in alignment with the optical axis. The apparatus further includes drive and control means for concurrently moving the first lens cluster into the optical axis and the film transport into its first position, and then actuating a light source to project a light beam through the film along the optical axis, and onto the printing paper. The paper advance means then advances the printing paper, the second lens cluster is moved into alignment with the optical axis, the film transport is rotated to its second position, and the light source actuated to project the light beam through the film and onto the printing paper.

3,511,566
PHOTOGRAPHIC EXPOSURE AND PROCESSING APPARATUS

Nicholas Gold, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Apr. 12, 1968, Ser. No. 720,771
Int. Cl. G03b 27/32, 27/70
U.S. Cl. 355—67 8 Claims

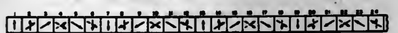


An exposure system including an exposure chamber having a support forming one end of the chamber for positioning graphic material for exposure, a light source for directly illuminating the support, reflectors for reflecting light from the light source toward the support, and deflectors for deflecting direct light onto the support for increasing the intensity of the light incident upon the support outwardly from the center thereof.

3,511,567
METHOD OF REPRINTING OLD MOTION PICTURE FILMS

Jean Véran Dejoux, Paris, France, assignor, by mesne assignments, to Optical Systems Corporation, New York, N.Y., a corporation of Delaware

Filed June 8, 1967, Ser. No. 644,722
Int. Cl. G03b 21/134
U.S. Cl. 355—132 6 Claims

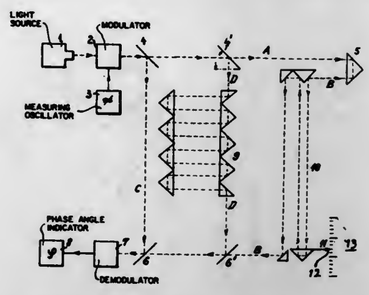


A method of reprinting old motion picture films, originally photographed at rates below 24 frames per second, in such a manner that the reprint may be projected at 24 frames per second. In reprinting the film a number of extra frames is inserted such that the total number of frames is sufficient for projection at 24 frames per second. Each of the extra frames is inserted between two original frames and is composed of the superimposed images of these two original frames.

3,511,568
ELECTRO-OPTICAL DISTANCE MEASURING DEVICE

Marcel Hossmann, Zurich, Switzerland, assignor to Albiswerk Zurich A.G., Zurich, Switzerland

Filed Oct. 25, 1966, Ser. No. 589,396
Claims priority, application Switzerland, Nov. 25, 1965, 16,264/65
Int. Cl. G01c 3/08
U.S. Cl. 356—5 5 Claims

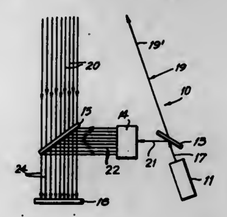


An electro-optical distance measuring device comprises a transmitter, including a light source and a modulator, located at one end of the distance to be measured and transmitting modulated light to the other end of the distance where a light reflector returns the modulated light to a receiver at the one end of the distance. The receiver includes a demodulator and a phase angle indicator. An adjustable light loop, including an indicator and a scale, is positioned in the path of light of the reflected light in advance of the receiver, and a fixed length light loop is positioned in the ambient atmosphere. Means are operable to shunt the emitted modulated light away from the measuring path and through the fixed length light loop to the receiver. A variable frequency oscillator is connected to the modulator to tune the wave length of the modulation to the length of the fixed length light loop.

3,511,569
METHOD AND APPARATUS FOR DETERMINING VELOCITY OF MOVING OBJECTS

Leo Mackta, 444 Beach 132nd St., Belle Harbor, N.Y.

Filed Sept. 6, 1966, Ser. No. 577,458
Int. Cl. G01p 3/36
U.S. Cl. 356—28 30 Claims

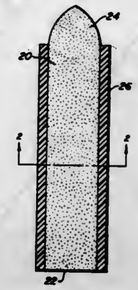


1. Method for determining the velocity of a moving object, comprising the following steps: directing a first source of monochromatic light of constant frequency toward the object, the velocity of which is to be determined; combining the beams of monochromatic light from said first source, reflected by said object, with a second reference source of monochromatic light of varying frequency; exposing said combined beams to the surface of a photo-sensitive receptor; and reading the resultant images to determine the clearest image produced as a result of the synchronization of the frequencies of the reference source and the reflected light, thus, to determine the relative radial velocity of said object to said first source.

3,511,570
METHOD OF PREPARING SAMPLES FROM SOLUTION

John W. Mogayzel, North Arlington, Va., and Norman Adler, Arlington, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

Original application May 26, 1966, Ser. No. 553,208, now Patent No. 3,452,601, dated July 1, 1969. Divided and this application Apr. 7, 1969, Ser. No. 813,897
Int. Cl. B01d 43/00; G01n 1/00
U.S. Cl. 356—36 3 Claims

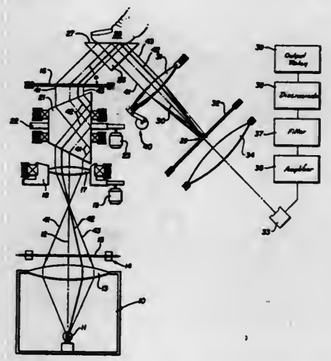


Method of preparing samples from solution for analysis by selective absorption of radiation comprising contacting a body of said solution with one end of a porous mass of a material convertible into an imporous mass, transferring said solution to the opposite end of said mass and evaporating the solvent of the solution at the opposite end.

3,511,571
METHOD AND APPARATUS FOR COMPARING PATTERNS

Hugh Malcolm Ogle, 70 Jordan Place, Palo Alto, Calif. 94303

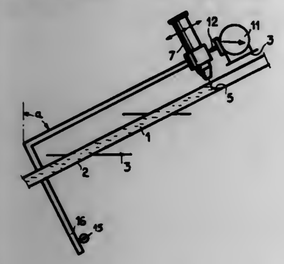
Filed Feb. 28, 1966, Ser. No. 530,537
Int. Cl. G06k 9/08; G01b 9/08
U.S. Cl. 356—71 10 Claims



A method and apparatus for determining correlation between two patterns, one of which can be a reference

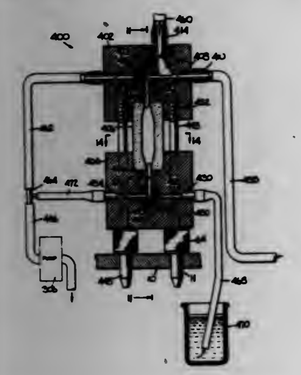
fingerprint transparency and the other a fingerprint to be identified. The patterns are optically superimposed and rotated with respect to each other to periodically form collimated light when correlation exists and this light is focused into a correlation spot and detected in its focus plane without regard to its location.

3,511,572
OPTICAL METHOD AND DEVICES FOR MEASURING POSITIONS, ESPECIALLY LIQUID LEVELS
Jean L. Peube, 6 Villa Desire Filleaud, and André Fortier, 12 Avenue Leon Cambillard, both of Clamart, Seine, France
Filed Oct. 13, 1965, Ser. No. 495,663
Claims priority, application France, Oct. 29, 1964, 993,123
Int. Cl. G01b 9/02; G01f 23/02
U.S. Cl. 356—106 4 Claims



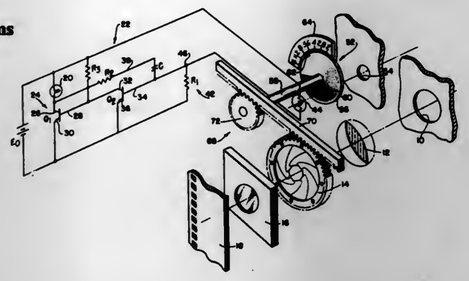
Accurate measurement of the position of a body, or a liquid column is obtained by directing light at a curved portion of the body (or a curved body associated therewith), and in case of liquids, against the curved meniscus formed by the liquid with the side wall of the container so that reflected light will envelope a caustic, and form interference fringes; the interference fringes are then observed under magnification as an indication of the position of the object.

3,511,573
FLOW CELL STRUCTURE FOR PARTICLE COUNTING HAVING IMPROVED WASH
Jack Ioveli, Mamaroneck, N.Y., assignor to Technicon Instruments Corporation, Chauncey, N.Y., a corporation of New York
Filed Jan. 25, 1965, Ser. No. 427,593
Int. Cl. G01n 21/06, 21/26, 21/16
U.S. Cl. 356—208 10 Claims



A flow cell structure for counting particles suspended in a liquid wash, and for effecting automatic periodic cleansing of the flow cell passageway. A wash liquid and successive liquid samples are passed through the flow cell passageway intermittently and alternately in opposite directions.

3,511,574
PHOTOMETRIC APPARATUS HAVING AN INTERMITTENT SIGNAL AT A SELECT OUTPUT STATE
John P. Burgarella, Sudbury, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,241
Int. Cl. G01j 1/00; 1/42, 1/44
U.S. Cl. 356—226 5 Claims



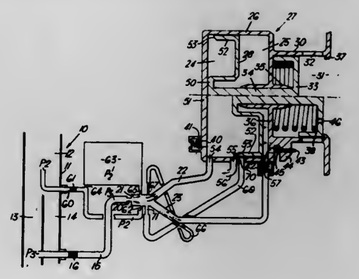
A photometer having three perceptible output states. A light responsive transistorized control circuit intermittently activates a lamp upon selection of an appropriate exposure factor value. The lamp is steadily energized for selections on one side of this value and de-energized for selections on an opposite side of that value.

3,511,575
LIPSTICK CASE
Michael L. Berins, Scarsdale, N.Y., assignor to Guild Molders, Inc., Elmsford, N.Y., a corporation of New York
Filed July 27, 1967, Ser. No. 656,443
Int. Cl. A45d 40/04
U.S. Cl. 401—78 2 Claims



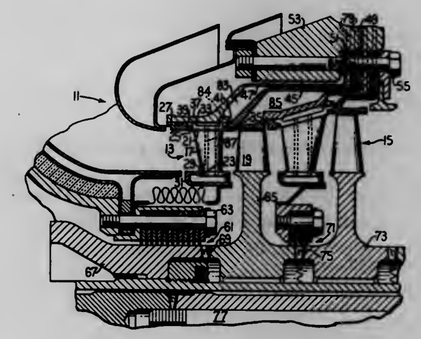
A three-piece lipstick case having a base and a cup holder which are connected for relative rotation and are effective to displace a combined cup and coordinating member received within and engaged by the base of the cup holder to extend and retract a lipstick in relation to the case. Locking arrangements are provided for securing the cup of the combined cup and coordinating member in a loading position to facilitate the loading into the case of a lipstick and/or to locking the cup in a retracted position for storage and/or shipment.

3,511,576
DEVICE FOR CONTROLLING THE BLEED OF AIR FROM A GAS TURBINE ENGINE COMPRESSOR
Karl Herbstritt, and Walter George Cross, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Sept. 22, 1967, Ser. No. 669,836
Claims priority, application Great Britain, Oct. 17, 1966, 46,378/66
Int. Cl. F01c 21/16; F02c 9/02; F04d 27/02
U.S. Cl. 415—27 15 Claims



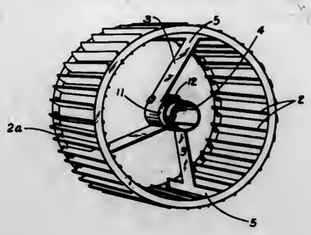
A gas turbine engine has a compressor bleed valve which is opened and closed under the control of a fluid logic device which is actuated by compressor pressures.

3,511,577
TURBINE NOZZLE CONSTRUCTION
Karl W. Karstensen, Peoria, Ill., assignor to Caterpillar Tractor, Co., Peoria, Ill., a corporation of California
Filed Apr. 10, 1968, Ser. No. 720,148
Int. Cl. F01d 9/02
U.S. Cl. 415—137 4 Claims



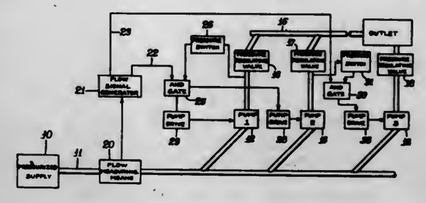
A turbine nozzle construction having separately cast turbine vanes with machined footings. One footing is fastened in one shroud and the other footing radially floats in slots in the other shroud.

3,511,578
BLOWER WHEEL
Norman E. Horst, Moline, Ill., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed July 22, 1968, Ser. No. 746,455
Int. Cl. F04f 29/26
U.S. Cl. 416—178 6 Claims



A blower wheel with an annular ring of blades connected to a rotatable center shaft by legs depending from selected blades of the blade ring where the ends of the depending legs are adapted to form a central hub to be fastened to the rotatable shaft.

3,511,579
CONTROL SYSTEM FOR LIQUID PRESSURE BOOSTER SYSTEMS
John Gray, Oak Park, and Gene W. Anderson, Downers Grove, Ill., assignors to Liquitrol Systems, Inc., Brookfield, Ill., a corporation of Illinois
Filed July 22, 1968, Ser. No. 746,481
Int. Cl. F04b 49/00; F04o 15/00
U.S. Cl. 417—6 9 Claims



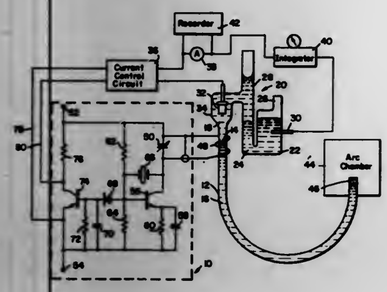
A control system sequences pumps coupled to a common source of varying pressure to maintain the pressure in a discharge conduit at a constant level for all flow rates. The system includes a plurality of constant-speed pumps coupled in common to the source of pressurized fluid. A pressure regulating valve connects the output of each pump to the discharge conduit. A flow transducer, preferably in the input conduit, generates a flow signal when the flow rate through the pumps reaches a predetermined level. A pressure transducer, sensing the discharge pressure of a first, operating pump, generates a pressure signal when the discharge pressure falls below a predetermined value which is set slightly above the desired constant system pressure. Control circuitry energies a second pump when the flow signal indicates that the flow rate is above the predetermined flow rate and the pressure signal indicates that the discharge pressure of the operating pump has fallen below the preset pressure at the pump output.

3,511,580

LIQUID METAL COLUMN INTERFACE POSITION DETECTOR

Wilfried O. Eckhardt, Malibu, Harry J. King, Canoga Park, and Joe M. Simpkins, Newbury Park, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Nov. 30, 1967, Ser. No. 687,022
Int. Cl. B01k 3/00; F04b 19/00
U.S. Cl. 417—48 9 Claims



The position of a liquid metal interface in a column along a feedline is detected by placing an induction coil at the column and detecting the change in coil impedance as the liquid metal interface moves past the coil. This position information is used to control liquid metal supply means so that the liquid metal interface always lies within detection range of the coil.

ERRATUM

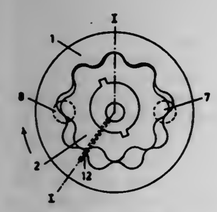
For Class 417—213 see:
Patent No. 3,512,178

3,511,581

GEAR PUMP

Louis Johan Singels, The Hague, Netherlands, assignor to Fuelmaster Produktie Maatschappij N.V. t/a Fuelmaster Manufacturing Company, The Hague, Netherlands

Filed May 22, 1968, Ser. No. 749,523
Claims priority, application Netherlands, June 1, 1967 6707668
Int. Cl. F04c 17/06
U.S. Cl. 417—310 7 Claims



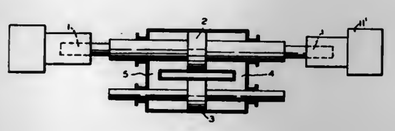
This application describes an internal gear pump for use as a fuel pump for oil burners. The pump is provided in its housing with a small channel through which air or gas, contained in the liquid to be pumped, may be fed back from the tooth spaces to the inlet side of the pump, so as to reduce or eliminate the noise caused by the presence of a gaseous medium in the liquid pumped.

3,511,582

METHOD AND APPARATUS FOR THE CONTINUOUS REGULATION OF THE OUTPUT OF PISTON PUMPS AND PISTON COMPRESSORS

Helmut Bauer, Basel, Switzerland, assignor to Maschinenfabrik Burckhardt AG, Basel, Switzerland, a Swiss company

Filed Jan. 17, 1968, Ser. No. 698,475
Claims priority, application Switzerland, Jan. 23, 1967, 909/67
Int. Cl. F04b 9/10
U.S. Cl. 417—387 7 Claims



An apparatus for the continuous regulation of the output of piston pumps and piston type compressors having transmission of the driving power from a mechanically driven driving piston to a working piston rigidly connected with the pump or compressor piston by means of a hydraulic medium filling two cylinder end chambers separated by said driving piston and working piston. This is done without changing the speed of the mechanical drive by making connection between the end chambers in each stroke period from that instant at which the pressure of the hydraulic medium on opposite sides of the driving and working pistons is practically equal and continuing for an adjustable time interval forming a predetermined fraction from zero upwards of the stroke period. The working piston and thereby the high pressure piston are brought to rest during the said time interval in each stroke, and the chambers are disconnected for the remainder of the stroke.

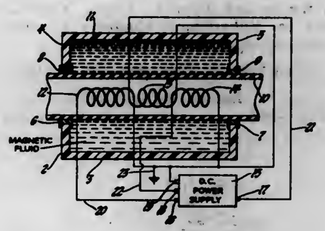
3,511,583

MAGNETIC FLUID ACTUATING PUMP

Ralph R. Brown, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 24, 1968, Ser. No. 762,072
Int. Cl. F04b 17/00
U.S. Cl. 417—412 7 Claims

A pump comprising a container having a fluid carrying flexible tube or envelope extending therethrough. Sealed within the container and surrounding the tube is a second fluid, containing finely divided magnetic particles. Positioned either within the tube or externally of the container are a plurality of electric coils that are sequentially energized to provide pulsating magnetic fields. The magnetic fields act upon the fluid containing the magnetic particles, and this fluid in turn acts upon the flexible tube or envelope causing it to periodically collapse and expand whereby a pumping action is exerted on the fluid carried by the tube or envelope.

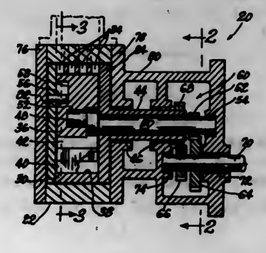


3,511,584

ROTARY FLUID POWER DEVICES

Robert L. Vierling, 10255 S. Hoyne Ave., Chicago, Ill. 60643

Filed Jan. 22, 1968, Ser. No. 699,652
Int. Cl. F04c 1/00
U.S. Cl. 418—61 24 Claims



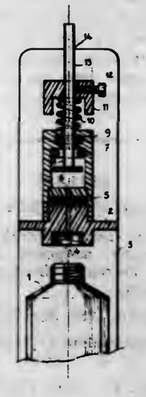
A fluid power device having a rotor disposed eccentrically in a cylindrical chamber formed with fluid-carrying ports, said rotor having a plurality of extensible and retractable vanes for engaging the inside of the chamber to divide the chamber into a plurality of spaces of variable volume. In certain embodiments, the chamber is formed in a gate rotor which is closely received in an additional cylindrical chamber formed in a stationary casing. Intake and exhaust ports connect with the additional chamber. In one embodiment, the main rotor is caused to orbit about the axis of the gate rotor, preferably at a rotary speed which is related to but different from the rotary speed of the gate rotor. The main rotor is caused to rotate with the gate rotor. To produce an internal combustion engine, fuel ignition means may be provided in the additional chamber between the intake and exhaust ports. In another embodiment adapted to provide a fluid power motor or pump, the main rotor is caused to rotate with the gate rotor, but about an eccentric axis which is stationary. In still another embodiment, adapted to provide a fluid power motor or pump, the first mentioned rotor is rotatable relative to the chamber, which is formed in a stationary casing. The rotor is caused to orbit in the chamber, preferably at a rotary speed which is related to but different from the rotary speed of the rotor. An engine of this type may also be provided.

3,511,585

PORTABLE GAS APPARATUS WITH SAFETY DEVICE

Maurice Etienne Liesse, 2 Rue Diderot, 94 Champigny-sur-Marne, France

Filed Sept. 4, 1968, Ser. No. 757,316
Int. Cl. F23n
U.S. Cl. 431—88 4 Claims



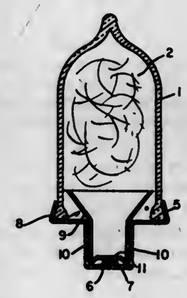
The invention broadly relates to portable gas appliances comprising an inflammable gas tank and a normally vertical burner tube. The instant invention more particularly provides safety means for stopping the gas stream from being admitted into the burner tube at a point beyond a predetermined inclination of the appliance.

3,511,586

PHOTOFLASH LAMP AND COMBINATION OF MATTER

Bernard Kopelman, Salem, Mass., and Donald E. Seeger, Succasunna, N.J., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 662,756, Aug. 23, 1967. This application Aug. 8, 1968, Ser. No. 751,209
Int. Cl. F21k 5/02
U.S. Cl. 431—93 26 Claims



A photoflash lamp including a light transmitting envelope having a container which can be shaped as a base disposed at one end thereof. The envelope encloses a shredded combustible metal and a combustion supporting gas. A charge of a percussively ignitable composition

of matter is disposed in the container, the interior of which is in communication with the interior of the envelope. Activation of the composition of matter is produced by striking the container with a hammer and in turn the shredded combustible metal will burn, thus flashing the lamp.

The ignitable composition includes percussively reactive materials which are associated relative to each other so as to ignite upon abrasive, interparticle movement. Such materials generally include at least a fuel and an oxidizer for the fuel. A powdered combustible, incandescible metal is operatively associated with and adjacent to the percussively reactive materials and adapted to incandesce and then spew into the envelope to burn the shredded combustible metal when the reactive materials ignite.

3,511,587

BURNER CONSTRUCTION

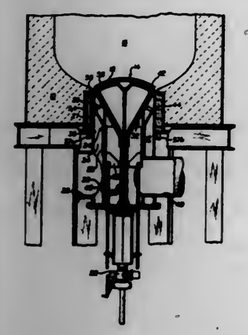
Hermann W. Jansen, and Helmuth J. Hilger, Duren, Rhineland, Germany, assignors to Zimmermann & Jansen G.m.b.H., Duren, Rhineland, Germany, a corporation of Germany

Filed May 15, 1968, Ser. No. 729,295

Claims priority, application Germany, Oct. 3, 1967, Z 13,080

Int. Cl. F23d *15/02*

U.S. Cl. 431—160 14 Claims



A burner for a hot blast stove disposed in an open chamber for admitting separate supplies of air and fuel to an area outwardly of said chamber. The burner includes an inner cone member which carries a shell in spaced relation therewith so as to define an inner passageway between the inner cone member and the shell for one of the gaseous mediums and an outer passageway between the shell and the peripheral wall of the open-chamber for the other gaseous medium. The inner cone member is axially movable from one end position thereof in which it closes the open chamber to a plurality of other positions in which both inner and outer passageways are in fluid communication with the area outwardly of the chamber. The extent of such axial movement controls the velocity of the gaseous medium through the outer passageway and a tube type valve is provided in the inner passageway to independently control the velocity of the gaseous medium therein. The shell is shaped so as to provide different directions of flow for the two gaseous mediums in order to obtain a more intimate mixing thereof.

3,511,588

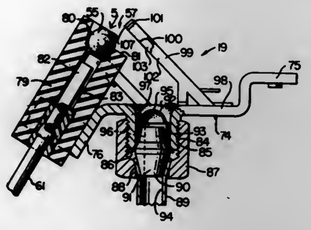
BURNER CONSTRUCTION HAVING ELECTRICAL SPARK IGNITION MEANS

Denis G. Wolfe, Southwest Greensburg, Francis S. Genbauffe, Irwin, and John F. Carns, Youngwood, Pa., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Feb. 28, 1968, Ser. No. 709,048

Int. Cl. F23q *3/00*

U.S. Cl. 431—264 21 Claims



This disclosure relates to ignition means for a pilot burner construction wherein the pilot burner construction has a flame shield disposed adjacent the fuel outlet opening to deflect the flow of fuel toward an electrode that cooperates with the free end of the flame shield to provide a spark gap whereby the altering of stresses in a piezoelectric crystal means will cause sparking between the electrode and the end of the flame shield to ignite the pilot gas fuel.

3,511,589

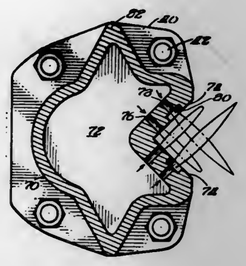
GAS BURNER

Charles W. Rothhaar, Muncie, and Guy Richard Harter, New Castle, Ind., assignors to Mason Premix Burner Company Inc., Muncie, Ind., a corporation of Indiana

Filed Dec. 13, 1967, Ser. No. 690,299

Int. Cl. F23d *13/26*

U.S. Cl. 431—350 7 Claims



A gas burner for combustion of air-gas mixtures and for operation in either a static environment or a moving air stream. A manifold, which defines an interior fuel conduit, is provided with burner face means having ports communicating with the conduit. The ports and the face means are cooperatively oriented to establish an interlaced flame pattern. A pair of aerodynamic projections on the manifold upstream of the burner face means serve to prevent the formation of a fluid barrier about the face means when the burner is operated in a moving air stream.

CHEMICAL

3,511,590

PROCESS FOR DYEING OR PRINTING FIBROUS MATERIALS

Raymond Gunst, Binningen, Rudolf Aeschbacher, Reinach, Alfred Fasciati, Bettingen, and Eugen Johann Koller, Oberwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 738,969, June 2, 1958. This application Aug. 8, 1961, Ser. No. 129,971

Claims priority, application Switzerland, June 20, 1957, 47,462

Int. Cl. D06p *5/00, 7/00*

U.S. Cl. 8—18 13 Claims

A process for dyeing or printing cellulosic material by impregnating it with aqueous dyeing preparations containing a colourless, at least dispersible and hardenable aminoplast precondensate and a water-soluble dyestuff containing a triazine ring bearing at least one amino or substituted amino group participating in the resin formation when in a subsequent step the impregnated material is submitted to a heat treatment.

The dyeings and prints obtained show a good fastness to wetting and washing.

3,511,591

PROCESS AND PRODUCT OF RENDERING CELLULOSIC FABRICS AMENABLE TO MOLDING OPERATIONS

Lester S. Webb, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,098

Int. Cl. D06m *1/02, 13/12, 13/34*

U.S. Cl. 8—116 6 Claims

A process for rendering a stressed woven or knit cellulosic fabric amendable to molding operations which comprises immersing said fabric while in a relaxed state in liquid ammonia maintained at a temperature from about −60° C. to about −30° C. for a period from about ¼ minute to about 5 minutes and drying the ammonia treated fabric under conditions of minimal moisture exposure.

3,511,592

DEVICE INTENDED PREFERABLY FOR STERILIZING WEB-LIKE PACKAGING MATERIALS

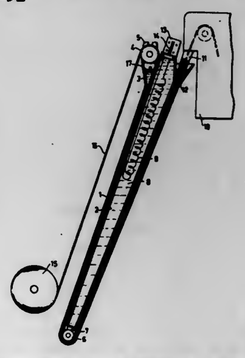
Alex Tuma, Loddekopinge, Sweden, assignor to AB Tetra Pak, Lund, Sweden, a Swedish company

Filed Aug. 3, 1966, Ser. No. 570,634

Claims priority, application Sweden, Aug. 10, 1965, 10,422/65

Int. Cl. A61l *3/00, 5/00, 7/00*

U.S. Cl. 21—92 4 Claims



Apparatus to sterilize a web of packaging material having inner and outer containers which define a long narrow slot therebetween for the sterilizing liquid through which passes the web of material.

3,511,593

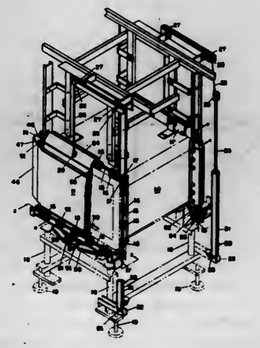
DOOR CLOSING AND LOCKING MEANS FOR AUTOCLAVES AND THE LIKE

Arthur E. Thomas and John E. Alward, Erie, Pa., assignors to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania

Filed May 15, 1967, Ser. No. 638,513

Int. Cl. B01j *3/00*

U.S. Cl. 21—93 11 Claims



Door control and locking means in combination with a pressure vessel or sterilizer having a vertically slidable door movably attached thereto. The pressure vessel includes cam means mounted thereon to force the door into seating engagement with said pressure vessel when the door is in the closed position.

3,511,594

DRYING OF GASES

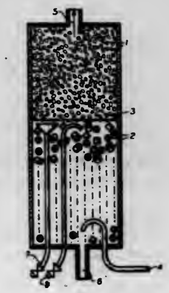
Arnold Lenz, Cologne-Stammheim, and Walter Rogler, Ranzel, Troisdorf, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany

Filed Nov. 21, 1967, Ser. No. 684,839

Claims priority, application Germany, Nov. 28, 1966, D 51,660

Int. Cl. B01d *47/00, 53/14*

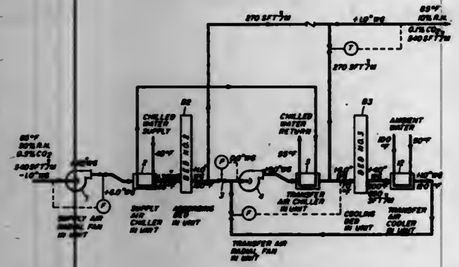
U.S. Cl. 23—2 1 Claim



Process of drying air or other gases by passing the gas into contact with alkali wherein the gas is passed through a first zone having aqueous alkali solution there-

in and then through a second zone having granular alkali material. In a preferred embodiment, the aqueous alkali is the product formed when the gas is dried by the granular alkali.

3,511,595
METHOD OF REMOVING CARBON DIOXIDE AND WATER VAPOR FROM AIR
Warren Fuchs, Syosset, N.Y., assignor to The Treadwell Corporation, New York, N.Y., a corporation of New York
Filed May 18, 1967, Ser. No. 639,526
Int. Cl. B01d *53/04*
U.S. Cl. 23—4 11 Claims



Method of removing carbon dioxide from gases containing carbon dioxide and water vapor, such as a submarine atmosphere, comprising contacting said gases with an alkali metal carbonate supported on a large specific surface area carrier at a temperature not above about 100° F. with resultant formation of the bicarbonate, heating the bicarbonate to a temperature sufficient to decompose the bicarbonate to the carbonate, water and carbon dioxide, compressing the evolved carbon dioxide and dissolving it in an aqueous medium and thereafter cooling the heated carbonate to absorption temperature by blowing relatively dry cold air thereover.

3,511,596
METHOD OF REMOVING AMMONIA AND METHANOL FROM GASES
Stephen Fred Adler and Janis John Keggi, South Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Sept. 17, 1965, Ser. No. 488,044
Int. Cl. B01d *53/04*; C01c *1/12*
U.S. Cl. 23—2 3 Claims

Ammonia is removed from gases by contacting said gases with a substrate impregnated with an acid; methanol is removed from gases by contacting said gases with a substrate impregnated with a hexavalent chromium compound and both ammonia and methanol are removed from gases by contacting said gases with a substrate impregnated with a hexavalent chromium compound and an acid such as phosphoric acid and sulfuric acid.

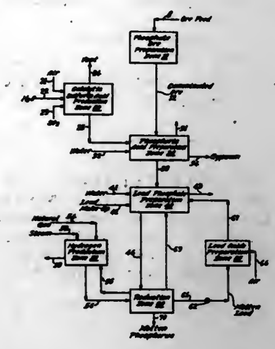
3,511,597
PROCESS FOR SEPARATING BERYLLIUM FROM IRON, ALUMINUM, THORIUM, AND THE RARE EARTHS
Robert S. Olson and Joseph P. Surls, Jr., Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,179
Int. Cl. C22b *59/00*
U.S. Cl. 23—19 3 Claims

Beryllium values are separated from other metal values, including at least iron, aluminum, thorium or rare earth values, by a process which comprises heating an aqueous acidic reaction mixture containing said values at a temperature of at least 145° C., for at least 20 minutes while providing a final hydrogen ion concentration at a maximum of about 2 normal. Beryllium values are preferentially solubilized and can be separated from the solid residual metal values by filtration.

3,511,598
PURIFICATION OF SODIUM ARSENITE SOLUTIONS
John T. Young, Long Branch, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed Sept. 8, 1966, Ser. No. 577,830
Int. Cl. C01b *27/02*
U.S. Cl. 23—53 12 Claims

An aqueous solution of an alkali metal arsenite which is substantially free of impurities and which will remain substantially clear and uncolored for extended periods of time is prepared by reacting crude arsenic trioxide with an alkali metal hydroxide and subsequently adding an alkali metal sulfide or bisulfide and heating to a temperature of from about 80° to 100° C., to precipitate undesirable impurities followed by separation of the precipitate from the arsenite solution. If desired improved purification may be obtained by also adding an alkaline earth metal oxide or hydroxide.

3,511,599
CYCLIC PROCESS FOR REMOVAL OF ACID RADICALS FROM AQUEOUS MEDIA USING LEAD OXIDE OR BASIC LEAD CARBONATE
Ernesto Suriani, Freehold, N.J., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 526,414, Feb. 10, 1966. This application Sept. 19, 1966, Ser. No. 580,309
Int. Cl. C02c *5/02*; C01g *21/16, 21/14*
U.S. Cl. 23—71 39 Claims



A cyclic process for treatment of an aqueous medium containing a dissolved compound comprising an acid radical such as mineral acids, organic acidic compounds, water-soluble metal salts and ammonium salts to lower the concentration of dissolved acid radical which includes treatment of the aqueous medium with lead oxide, basic lead carbonate or mixtures thereof to form a precipitate of lead and the acid radical which precipitate is then separated from the clarified aqueous medium and subjected to a reducing environment to form elemental lead from which the lead oxide or basic lead carbonate precipitant is regenerated for reuse in the precipitation step. In addition to application of the process to purify waste waters, the process may also be applied such that at least a portion of the acid radical which is removed from the solution is converted to a valuable product such as phosphorus when the acid radical is phosphate, sulfur dioxide when the acid radical is sulfate, ammonia when an ammonium salt is the source of the acid radical and hydrogen halide when the acid radical is halide.

3,511,600
PREPARATION OF AQUEOUS SLAKED LIME SLURRY AND DICALCIUM ORTHOPHOSPHATE
Keun Y. Kim, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 659,874, Aug. 11, 1967. This application May 8, 1968, Ser. No. 727,673
Int. Cl. C01b *25/32*; C01f *11/02*
U.S. Cl. 23—109 12 Claims

The present invention relates to a process for the preparation of slaked lime which has a solids concentration of 10% to 44% by weight and has a predetermined and controlled viscosity level. The process generally comprises the vapor phase hydration (also known as dry hydration) of said lime followed by the liquid phase hydration (also known as wet slaking) thereof. During the vapor phase hydration, a sufficient amount of water to supply 5% to 90%, depending upon the water reactivity (hereinafter defined) of such lime and the end desired viscosity level, by weight of that water required to theoretically completely hydrate said lime is contacted therewith. After aging the resultant free-flowing partially hydrated lime particles, the liquid phase hydration takes place wherein said particles are contacted with additional amounts of water, which is at a temperature of 50° C. to 100° C., to complete the hydration thereof and produce an aqueous slurry having the aforesaid solids concentration. In practicing the above process, the slaked lime so produced has a certain viscosity level, i.e. less than 2500 centipoises at 25° C. and based upon a 17% by weight, CaO concentration (as measured by the test hereinafter set forth), such level having been predetermined and controlled predicated upon the water reactivity of the lime and the amount of water utilized in the prehydration step, i.e. the vapor phase hydration step. The slaked lime slurry is reacted with phosphoric acid to form dicalcium orthophosphate.

3,511,601
PROCESS FOR DENSIFYING RICE HULLS
Barrie H. Bieler and Ray S. Long, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 13, 1968, Ser. No. 728,749
Int. Cl. C01b *33/32*
U.S. Cl. 23—110 5 Claims

The present invention relates to a process for densifying rice hulls, that is, increasing the bulk density of the hulls. According to the process of this invention raw rice hulls are coated with an aqueous solution of an alkali metal salt or base, preferably sodium or potassium hydroxide, followed by incineration of the coated hulls, to provide a dense alkali metal silicate. The alkali metal silicate thus produced is contemplated as being useful as a raw material component in the manufacture of certain types of soda lime glass compositions.

3,511,602
PROCESS FOR FILTERING PHOSPHATE ROCK ACIDULATION SLURRIES
Elliot Bryant Fitch, Hackleberry Lane, Weston, Conn. 06880, and David William Leyshon, 110 Cross Highway, Westport, Conn. 06880
Filed Apr. 19, 1967, Ser. No. 632,041
Int. Cl. C01f *1/46*
U.S. Cl. 23—122 3 Claims

The present invention relates to the filtration step in the hemihydrate wet process preparation of phosphoric acid. More particularly, the present invention relates to the use of a single shared-time filter as the filter medium for separating the phosphoric acid from both the hemihydrate filter cake and the gypsum filter cake.

3,511,603
PREPARATION OF HYDROGEN FLUORIDE
Carl L. Yaws, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 27, 1967, Ser. No. 693,723
Int. Cl. C01b *7/22, 11/24, 33/00*
U.S. Cl. 23—153 3 Claims

A process for producing hydrogen fluoride from aqueous fluosilicic acid by decomposing the fluosilicic acid to aqueous hydrogen fluoride and silicon tetrafluoride; fluorinating metal oxide to metal fluoride with the aqueous hydrogen fluoride; hydrolyzing the silicon tetrafluoride to fluosilicic acid for recycle; defluorinating the metal fluoride to anhydrous hydrogen fluoride and metal oxide for recycle.

3,511,604
CORROSION INHIBITION DURING PHOSPHATE ROCK ACIDULATION
George M. Lloyd, Jr., Lakeland, Fla., and William P. Banks, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Apr. 7, 1967, Ser. No. 629,119
Int. Cl. C01b *25/00*
U.S. Cl. 23—165 4 Claims

Corrosion occurring during sulfuric acid acidulation of phosphate rock, especially that of high sulfide content, is drastically reduced by incorporation of arsenic or its compounds.

3,511,605
DEFLUORINATION OF PIGMENTARY SILICA
John E. Smith, Kendall Park, N.J., and James M. O'Neal, Monroe, La., assignors to Columbian Carbon Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 29, 1968, Ser. No. 725,167
Int. Cl. C01b *33/18*
U.S. Cl. 23—182 12 Claims

A reaction mixture comprising a fluorine-containing silica, steam and volatilized boric acid is maintained at a temperature of at least about 850° F. until a substantial portion of the fluorine has been released from the silica as a volatile reaction product.

3,511,606
PROCESS FOR REMOVING ALUMINATE FROM AQUEOUS ALKALI METAL HYDROXIDE SOLUTIONS
Albert H. Halff, 3514 Rock Creek Drive, Dallas, Tex. 75204, and Allen F. Reid, Dallas, Tex. (258 Mill Spring Road, Manhasset, N.Y. 11030)
Filed May 29, 1967, Ser. No. 641,932
Int. Cl. C01d *1/34*
U.S. Cl. 23—184 5 Claims

Sodium hydroxide is separated from an aqueous mixture of sodium hydroxide and an aluminate by adding ethanol to the mixture and forming a light phase and a heavy phase. The light phase has a high concentration of ethanol with sodium hydroxide and a little of the aluminate. The heavy phase has a low concentration of ethanol with most of the aluminate and some sodium hydroxide. The ethanol is removed from the light phase to form ethanol and the recovered aqueous sodium hydroxide. The heavy phase may be further treated or discarded or the ethanol removed and the remainder further treated or discarded.

Instead of ethanol, methanol may be added to the sodium hydroxide solution with the excessive aluminate. An aluminum hydroxide is formed and precipitates. The precipitated aluminum hydroxide and the methanol are separated from the solution to produce a reusable solution of sodium hydroxide.

3,511,607
LABORATORY REAGENT FOR ASSAY OF TOTAL BILIRUBIN

Stanley E. Green, Los Angeles, Calif., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

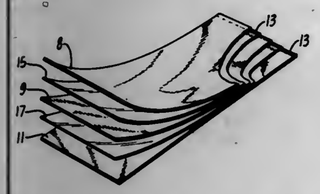
No Drawing. Filed Oct. 6, 1967, Ser. No. 673,303
Int. Cl. G01n 21/20, 31/22
U.S. Cl. 23—230 5 Claims

The stability of diazobenzene-p-sulfonic acid, a known reagent for measuring total bilirubin, is significantly enhanced by preparing a borofluoride salt thereof, as the assay reagent.

3,511,608
MULTIPLE LAYER PAPER TEST STRIP

Harold P. Anderson, 21650 Summit Road, Los Gatos, Calif. 95030

Filed Dec. 14, 1967, Ser. No. 690,504
Int. Cl. G01n 31/22, 33/16
U.S. Cl. 23—253 9 Claims

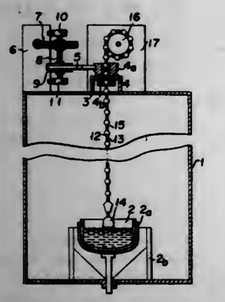


A composite test strip for detecting chemical compounds consisting of two or more layers of paper impregnated with suitable chemical reagents so that a drop of material to be tested, containing a material normally undetectable by simple color change measurements, passes through the first paper where it is converted to a detectable compound and into the second paper where it is detected by a color change.

3,511,609
SINGLE CRYSTAL GROWING APPARATUS

Ichiro Kato, Yokohama-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Jan. 24, 1967, Ser. No. 611,449
Claims priority, application Japan, Jan. 26, 1966 (utility model), 41/5,818
Int. Cl. B01j 17/00
U.S. Cl. 23—273 3 Claims

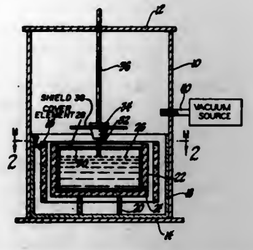


The invention concerns itself with a crystal growing apparatus having a seed crystal suspending means to suspend the seed crystal at the lower end for bringing the seed crystal in contact with the surface of a mother liquor to be grown into a single crystal and gradually drawing up the seed crystal while rotating it as it progressively grows, wherein said seed crystal growing means is constructed by a plurality of spheres serially connected to each other in a so-called ball and chain, thereby preventing the seed crystal from executing vibratory motion or pendulum motion due to rotation and upward movement of a conventional rigid bar suspending means and obtaining exact rotation of the seed crystal completely free from gyroscopic motion.

3,511,610
SILICON CRYSTAL GROWING

Hubert G. Dehmen, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 14, 1966, Ser. No. 586,868
Int. Cl. B01j 17/18
U.S. Cl. 23—273 3 Claims



An apparatus for growing semiconductor monocrystals under vacuum conditions that eliminates the twinning problem previously inherent to growth under vacuum conditions. The apparatus suppresses melt evaporation and inhibit solid particles of evaporated melt from forming in the crystal growing environment and dropping back into the melt adjacent the crystal growing interface.

3,511,611
BLOOD UREA NITROGEN TEST

Robert L. Rush, Bayside, N.Y., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

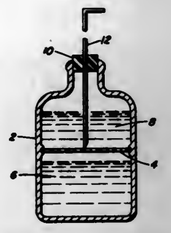
No Drawing. Filed Jan. 23, 1968, Ser. No. 699,770
Int. Cl. G01n 21/06
U.S. Cl. 23—230 5 Claims

A colorimetric procedure for the determination of urea nitrogen in human blood serum utilizing as the color developer an aqueous solution containing diacetyl monoxime, thiosemicarbazide, and ethy.enediamine tetraacetic acid.

3,511,612
CHEMILUMINESCENT SYSTEMS

George Warren Kennerly, Darien, and Michael McKay Rauhut, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Mar. 20, 1967, Ser. No. 624,275
Int. Cl. B01l 1/00
U.S. Cl. 23—252 9 Claims

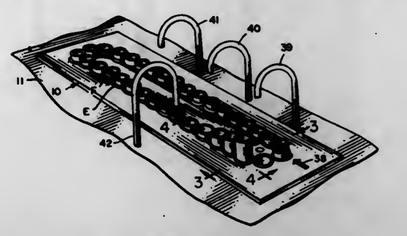


Systems and devices for providing chemiluminescent light from a chemical reaction of suitable compounds in the presence of a fluorescent compound, and means to display said chemiluminescent light.

3,511,613
TRANSPORTER FOR SAMPLE TUBES

Alan Richardson Jones, Miami, Fla., assignor, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

Filed Dec. 5, 1967, Ser. No. 688,144
Int. Cl. B01l 9/06, 11/00
U.S. Cl. 23—259 15 Claims

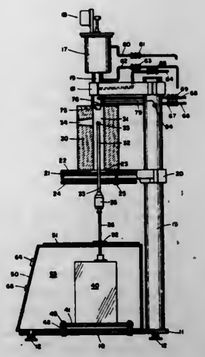


A sample tube transporter which is particularly suited for use in conjunction with automatic chemical analysis equipment. The transporter includes a frame having an endless horizontal channel in which a multiplicity of vertical sleeves are intermittently advanced in single file. Each sleeve is adapted to receive a sample tube and thereby transport the tube through a plurality of stations along the channel where treatment and analytical steps may be performed. The contents of the sample tubes are maintained at constant temperature and after such tubes have been transported through all of the treating and analyzing stations such tubes and their remaining contents are automatically discarded.

3,511,614
HEAT SENSITIVE FUEL CONTROLLED VERNEUIL PROCESS

Joseph F. Wenckus, Needham, and Paul R. Doherty, Woburn, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed June 16, 1967, Ser. No. 646,523
Int. Cl. B01j 17/24
U.S. Cl. 23—273 11 Claims

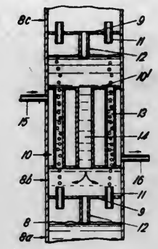


An improved apparatus for growing crystals by the Verneuil process. The apparatus comprises a powder feeding mechanism, a torch and a crystal support which is movable in both vertical and rotational directions. The operation may be entirely automated and has incorporated therein a flame sensor which interlocks the gas supply valves; and in the event the flame of the torch is not ignited after a set time the entire mechanism will automatically shut down.

3,511,615
STEPWISE REACTOR

Jean François Roget and Philippe Yvon Tarbouriech, Lyon, France, assignors to Phone-Poulenc S.A., Paris, France, a French body corporate

Filed June 1, 1966, Ser. No. 554,566
Claims priority, application France, June 9, 1965, 20,073
Int. Cl. B01j 1/00
U.S. Cl. 23—283 5 Claims

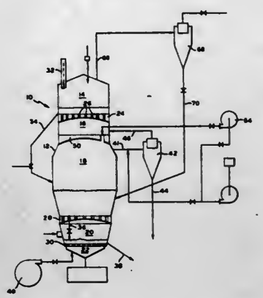


Multistage reactor including a vertical column divided in stages by horizontal separation plates. Each stage includes a bundle of vertical tubes which serve for the ascent and descent of liquid within such stage. Through-pipes are provided in each separation plate for the passage of gas or vapour from a lower stage to the upper stage, these through-pipes being coaxial with the liquid ascent tubes of the bundles of tubes with the upper stage. A down-tube for the passage of liquid leads from one stage to the stage below and extends downwardly partially into the space above the bundle of tubes immediately below the plate in question.

3,511,616
FLUIDIZED BED REACTOR WINDBOX WITH SCAVENGING JETS

Andrew B. Steever, Old Greenwich, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware

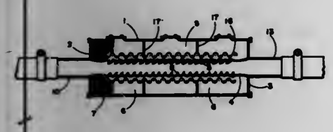
Filed Mar. 31, 1967, Ser. No. 627,489
Int. Cl. B01j 6/00; F27b 15/02
U.S. Cl. 23—284 3 Claims

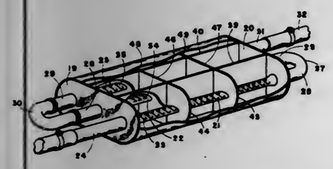


The present invention relates to a multi-compartmented fluidized bed reactor and to an aspirating system which

prevents fine solids and dust which may be deposited by the gas stream entering the hot windbox or material falling through the tuyeres in the bed above the hot windbox from remaining in the hot windbox.

3,511,617
CATALYTIC MUFFLER
Raymond G. Lyben, Detroit, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Filed June 9, 1967, Ser. No. 645,059
Int. Cl. B01j *9/04*; F01n *3/14*
U.S. Cl. 23—288 15 Claims

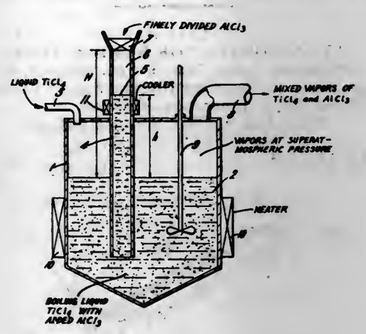




A non-plugging muffler adapted to contact exhaust gas with a treating agent comprising a body containing one or more compartments with an exhaust conduit extending through each compartment, each conduit connected in series or parallel with the next adjoining conduit, forming a continuous exhaust path through the one or more conduits, the conduits having rows of louvers along opposing surfaces arranged transverse to the axis of the conduit such that one row of louvers scoops exhaust gas into the space outside the conduit, but within the compartment, and the opposing row aspirates exhaust gas from this space back into the conduit, causing the exhaust gas to circulate within the space outside the conduit whereat it contacts an exhaust conditioning agent such as alumina, alumina impregnated with metal catalysts, or wire mesh.

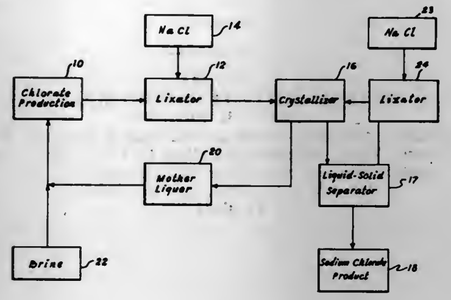
3,511,618
MIXED VAPORS OF $TiCl_4$ AND $AlCl_3$
André Louis Michaud, Vieux-Thann, and Robert Jean Mas, Thann, Haut-Rhin, France, assignors to Fabriques de Produits Chimiques de Thann et de Mulhouse, Thann, Haut-Rhin, France, a French body corporate
Filed July 26, 1966, Ser. No. 567,968
Claims priority, application France, July 26, 1965, 26,016
Int. Cl. B01f *3/02*; C09c *1/36*
U.S. Cl. 23—293 6 Claims

Solid aluminium trichloride is introduced into liquid titanium tetrachloride via a dip tube which penetrates below the surface of liquid titanium tetrachloride maintained at its boiling point in a closed vessel. The superatmospheric pressure generated in the vessel maintains a column of liquid in the dip tube, the top of the column of liquid being above the level of the liquid in the vessel and at atmospheric pressure. The column of the liquid preferably extends into an upper portion of the tube above the vessel which is cooled to inhibit evaporation of the liquid from the column. The titanium tetrachloride/aluminium trichloride mixture may be withdrawn as a liquid



of a vapour and the mixing process may be operated continuously.

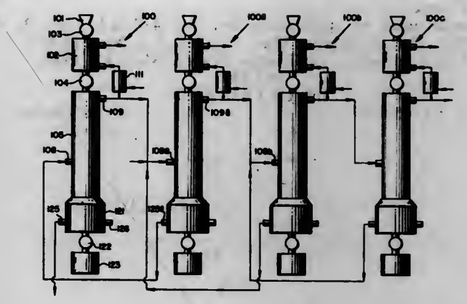
3,511,619
CRYSTALLIZATION OF ALKALI METAL CHLORATE FROM AN ALKALI METAL CHLORATE-ALKALI METAL CHLORIDE SOLUTION
Willard A. Fuller, Grand Island, and Harry R. Oswald, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Filed Nov. 30, 1965, Ser. No. 510,593
Int. Cl. C01d *1/30*; C01b *7/06*
U.S. Cl. 23—302 2 Claims



A process for increasing the quantity of sodium chlorate precipitate from a non-saturated aqueous solution of sodium chlorate and sodium chloride which comprises adding sodium chloride and cooling the solution.

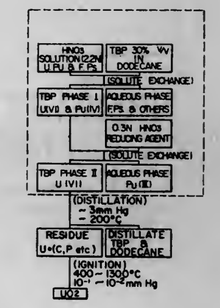
3,511,620
ION EXCHANGE METHOD FOR SEPARATING URANIUM ISOTOPES
Junichi Shimokawa, 766 Oaza Funaishikawa; Gunji Nishio, 945 Oaza Muramatsu; and Fumiaki Kobayashi, 1228 Oaza Muramatsu, all of Tokai-mura, Naka-gun, Ibaraki-ken, Japan
Continuation-in-part of application Ser. No. 473,692, July 21, 1965. This application Nov. 21, 1967, Ser. No. 684,711
Claims priority, application Japan, July 30, 1964, 39/42,907
Int. Cl. C01g *43/00*
U.S. Cl. 23—338 3 Claims

A cation exchange resin carrying adsorbed cations of quadrivalent uranium is contacted with an acid solution of hexavalent uranium cations having an acidity not substantially above 1 N. Shortly thereafter, a higher proportion of U^{235} is found in the dissolved uranium than in the adsorbed uranium, the ratio being 1.0007:1 at isotope



equilibrium. Natural uranium is thus separated into fractions respectively enriched with, and depleted of, U^{235} by countercurrent flow of resin and solution in multiple stages.

3,511,621
PROCESS FOR RECOVERING URANIUM AS URANIUM DIOXIDE
Tomitaro Ishimori, Mito-shi, and Kaoru Ueno and Eiko Akatsu, Naka-gun, and Michiko Kawasaki, Hitachi-shi, Japan, assignors to Japan Atomic Energy Research Institute
Filed Jan. 31, 1968, Ser. No. 702,051
Claims priority, application Japan, Feb. 3, 1967, 42/6,558
Int. Cl. C01g *43/02*
U.S. Cl. 23—355 5 Claims



Tri-n-butyl phosphate (TBP) containing uranyl nitrate complex was directly distilled. It was found that the distillation residue gives UO_2 upon ignition.

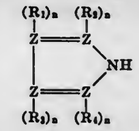
3,511,622
TITANIUM WIRE AND WIRE ROPE
Milton A. Nation, 905 Moraga Drive, Los Angeles, Calif. 90045
No Drawing. Filed Oct. 12, 1965, Ser. No. 495,313
Int. Cl. B21f *9/00*
U.S. Cl. 29—193 8 Claims

A high performance wire rope in which there are a plurality of individual wires consisting predominantly of titanium, twisted into axially symmetric wire rope, and thereafter prestressed as necessary to a level approaching the elastic limit of the wires before subjecting the rope to ultimate use, to provide increased torsional stability and minimum kinking. Titanium cable according to this invention provides unique corrosion resistance to result in level performance, and inertial properties to result in high performance at low fatigue rates.

The combination of mechanical properties of titanium wire together with the range of process variables effective during wire and cable production results in inertial characteristics uniquely suited to high performance systems required for aerospace and hydrospace.

3,511,623
GASOLINE COMPOSITION CONTAINING A METAL SALT OF AN AZOLE COMPOUND
Seymour H. Patinkin, Chicago, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 645,490, June 12, 1967, which is a continuation-in-part of applications Ser. No. 399,349 and Ser. No. 399,350, both filed Sept. 22, 1964. This application Apr. 14, 1969, Ser. No. 824,719
Int. Cl. C10l *1/22, 1/26, 1/30*
U.S. Cl. 44—63 21 Claims

A gasoline composition consisting essentially of hydrocarbon gasoline, an anti-knock quantity of tetra-lower-alkyl lead compound, and a gasoline-soluble metal salt of an azole having the formula:



wherein Z is an atom selected from the group consisting of nitrogen and carbon and at least one Z is carbon; R_1, R_2, R_3 and R_4 are hydrocarbon radicals of up to 30 carbon atoms; and n is an integer of 0 to 1, with the proviso that when n is 0, Z is selected from the group consisting of a nitrogen atom and the radical



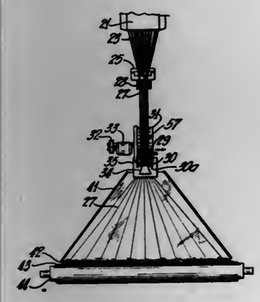
and when n is 1, Z is a carbon atom. The metal is selected from the group consisting of Groups I*a*, II*a*, III*a*, V*a*, I*b*, II*b*, III*b*, IV*b*, V*b*, VI*b*, VII*b*, VIII and tin. The invention also contemplates adding an alkali metal salt of an azole to the gasoline composition in combination with a metal salt of an azole wherein the metal is one of Groups III*a*, V*a*, I*b*, II*b*, III*b*, IV*b*, V*b*, VI*b*, VII*b*, VIII and tin.

3,511,624
PROCESS FOR PREPARING METHANE-CONTAINING GASES
Kelvin James Humphries and Thomas Alan Yarwood, Solihull, England, assignors to The Gas Council, London, England, a British body corporation
No Drawing. Filed Feb. 20, 1967, Ser. No. 617,049
Claims priority, application Great Britain, Feb. 24, 1966, 8,257
Int. Cl. C10k *3/04*; C07c *9/04*
U.S. Cl. 48—197 11 Claims

The catalytic methanation in at least two stages of mixtures containing carbon oxides, hydrogen, steam and at least 25% by volume of methane. The mixture is passed in a first stage over a methanation catalyst which is at a temperature of from 200° C .to 450° C.; steam is then partially removed from the mixture, which is then passed in a second stage over a methanation catalyst which is at a temperature within a range lower than

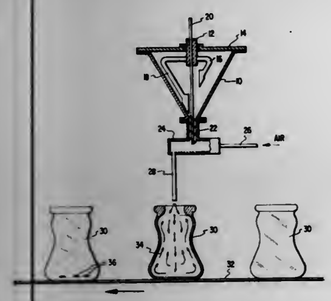
the temperature of the mixture leaving the first stage; steam and carbon dioxide are subsequently removed from the mixture. The amount of steam present in each stage is at least sufficient to prevent carbon deposition on the catalyst.

3,511,625
APPARATUS AND METHOD FOR MAKING A BODY OF MULTIFILAMENT STRANDS
Richard E. Pitt, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Aug. 2, 1966, Ser. No. 569,625
Int. Cl. C03c *37/02*
U.S. Cl. 65—4 **10 Claims**



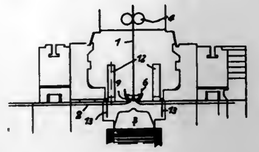
The disclosed invention relates to a method and apparatus for forming a body of glass fibers on a collecting surface in which strands are formed and projected by a pull wheel onto a curved surface that disperses the strands in a parallel relation as a planar band onto a collecting surface below.

3,511,626
PROCESS FOR THE PREVENTION OF ADHERED GLASS
Robert C. Wynn, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Aug. 2, 1967, Ser. No. 657,991
Int. Cl. C03b *21/00*
U.S. Cl. 65—24 **1 Claim**



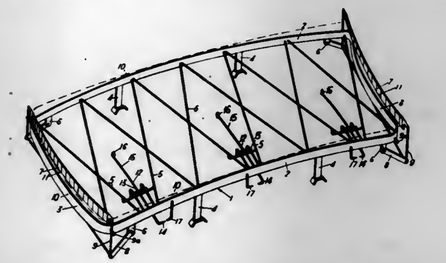
A mixture of alumina powder and air under pressure is directed at a hot glass body to substantially surround the hot glass body with a cloud of alumina powder. Any excess glass fragments are then trimmed from the hot glass body, while in the cloud of alumina powder, so that the alumina powder will coat the surface of the hot glass body as well as the hot glass fragments trimmed from the hot glass body, as they pass through the cloud of alumina powder prior to falling on the hot glass body.

3,511,627
METHOD AND APPARATUS FOR THE PRODUCTION OF FLAT GLASS WITH EDGE TEMPERATURE SENSING MEANS
Jean Francois Flori, Chalon-sur-Saone, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Continuation of application Ser. No. 438,324, Mar. 9, 1965. This application Mar. 13, 1968, Ser. No. 712,868
Claims priority, application France, Mar. 17, 1964, 967,687
Int. Cl. C03b *9/00*
U.S. Cl. 65—85 **16 Claims**



Method and apparatus for production of sheet glass by drawing, wherein the width of the sheet is maintained by edge holders. Each holder is equipped with a thermocouple and means for controlling the temperature of the respective edges of the sheet instantaneously traversing the holder, by circulation therethrough or thereadjacent, of a heat exchange fluid. The thermocouple is included in control circuitry for a valve controlling the rate of circulation of fluid. The circuitry may be set for a desired temperature as sensed by the thermocouple and which will be the optimum temperature for the edges of the glass as they pass through the holders. Heater means may be immersed in, or operate upon the body of molten glass, at the locations where the edges of the incipient sheet emerge, to maintain the glass at these edges somewhat higher than the optimum temperature aforesaid. This assures precise and accurate control and also prevents the accumulation of encrustations adjacent the holders. Means are provided whereby the optimum temperature may be varied in accordance with the rate of draw.

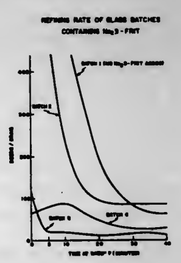
3,511,628
METHOD AND APPARATUS FOR BENDING GLASS IN SHEET FORM
John Adamson, Bromsgrove, England, assignor to Triplex Safety Glass Company Limited, London, England, a corporation of Great Britain
Filed Nov. 29, 1966, Ser. No. 597,629
Claims priority, application Great Britain, Dec. 2, 1965, 51,239/65
Int. Cl. C03b *23/02*
U.S. Cl. 65—107 **7 Claims**



A method of imposing upon glass in sheet form two curvatures in opposing directions about axes of the glass sheet perpendicular to each other, employs a generally rectangular horizontally disposed bending frame of which the longitudinal side members have a convex profile in

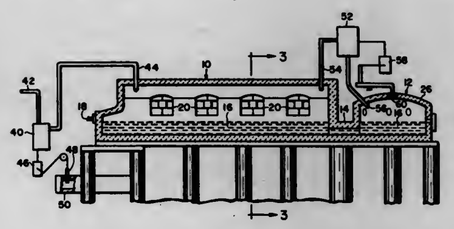
respective upright imaginary surfaces which may be planes and the transverse end members have a concave profile in respective upright imaginary surfaces planes which may be planes. The sheet is secured on the frame and then heated until it sags under gravity onto the side members, the gravital force from the middle outwardly across the extremities of the sheet being progressively employed to gradually force the full width of the sheet ends onto the end members. Conforming members pivotally mounted near opposite ends of the bending frame are employed to apply the gradually progressive force to the sheet ends.

3,511,629
METHOD FOR REFINING GLASS WITH A METAL SULFIDE FRIT
William C. Bauer and Alfred R. Conroy, Jr., Denver, Colo., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 1, 1966, Ser. No. 598,433
Int. Cl. C03b *5/22*
U.S. Cl. 65—134 **9 Claims**



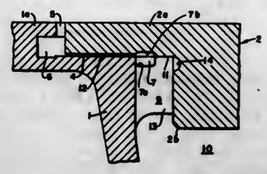
This invention relates to the manufacture of glass and, more specifically, to an improvement in the refining and melting of a glass batch by introduction of a specially prepared frit in the glass batch as a refining and melting aid, whereby the frit added contains a metal sulfide which acts as a refining and melting agent.

3,511,630
GLASS MELTING AND REFINING FURNACE WITH GLASS LEVEL CONTROL MEANS
Frank J. Hickey, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed May 9, 1967, Ser. No. 637,291
Int. Cl. C03b *5/24*
U.S. Cl. 65—160 **4 Claims**



A glass melting and refining furnace in which the refining end is circular in horizontal cross-section and is spaced from the melting end. The refining end has a wall structure independent of that of the melting end and is connected to the melting end by a narrow submerged throat. The pressures within the respective ends are independently controllable.

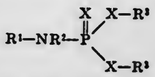
3,511,631
TUYERE FOR THE GASEOUS FLOTATION OF SHEET GLASS
Henri Chaumont, Brussels, Belgium, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed Dec. 6, 1967, Ser. No. 688,519
Claims priority, application France, Dec. 7, 1966, 86,484
Int. Cl. C03b *18/00*
U.S. Cl. 65—182 **11 Claims**



Apparatus for supporting a sheet of material being processed, on a cushion of air, is of particular utility in the support of a hot, plastic sheet of glass while cooling the glass to essential solidity. A multiplicity of coplanar tuyeres distributed over an area, form upwardly-directed jets which support the sheet. The tuyeres contain horizontal and vertical passageways with the horizontal passageway being unobstructed and being longer radially than the length of the vertical passageway. A construction is provided wherein the horizontal passageway discharges into an expansion chamber of relatively large volume, so that air entering it loses its kinetic energy in large part, before passing upwardly to and through the vertical passageway. A structure is provided whereby one end of the apparatus may be introduced into the space between forming rollers for the sheet, thereby avoiding or reducing the hiatus between the line where the sheet emerges from between rollers and the line where it becomes fully airborne.

3,511,632
HERBICIDAL ORGANOPHOSPHORUS-NITROGEN COMPOSITIONS AND METHOD USING SAME
John C. Wollensak, Royal Oak, Kenneth M. Christenson, Detroit, and David W. Zutaut, Pleasant Ridge, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Aug. 4, 1967, Ser. No. 658,321
Int. Cl. A01n *9/36*
U.S. Cl. 71—86 **2 Claims**

Formulations containing organophosphorus-nitrogen compounds are useful plant defoliants and herbicides. The active compounds in such formulations have the general formula:

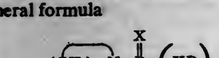


wherein R^1 and R^3 are alkyl, alkenyl, aryl, aralkyl, alkaryl, and alicyclic groups having up to 12 carbon atoms; R^2 is hydrogen or a hydrocarbon group as described for R^1 and R^3, and X is oxygen or sulfur.

3,511,633
HERBICIDAL ORGANOPHOSPHORUS-NITROGEN COMPOSITIONS AND METHOD USING SAME
Joseph P. Kleiman, Royal Oak, Mich., and Robert L. Mack, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Aug. 4, 1967, Ser. No. 658,322
Int. Cl. A01n *9/36*
U.S. Cl. 71—86 **3 Claims**

Organophosphorus-nitrogen compounds having herbicidal properties are used to control undesirable vegetation or in plant defoliation without killing the plant itself.

Formulations containing as the active ingredient a compound of general formula



wherein R is a hydrocarbon group having up to about 12 carbon atoms or a hydrocarbon group containing various substituents, both being selected from alkyl, alkenyl, aryl, alkaryl, aralkyl and alicyclic groups, X is oxygen or sulfur, and *n* is an integer from 2 to 9.

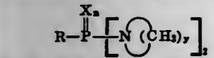
3,511,634

HERBICIDAL ORGANOPHOSPHORUS-NITROGEN COMPOSITIONS AND METHOD USING SAME

Joseph P. Kleiman, Royal Oak, Mich., and Robert L. Mack, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Aug. 4, 1967, Ser. No. 658,340
Int. Cl. A01n *9/36*
U.S. Cl. 71—86 **9 Claims**

Formulations containing organophosphorus-nitrogen compounds are useful in controlling undesirable vegetation and as plant defoliants. The active organophosphorus-nitrogen compounds have the general formula:



wherein R is an alkyl, alkenyl, aryl, alkaryl, aralkyl, or alicyclic hydrocarbon group having up to about 12 carbon atoms, X is oxygen, sulfur, or selenium, *n* is zero or one, and *y* is an integer from two to nine.

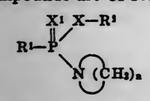
3,511,635

HERBICIDAL ORGANOPHOSPHORUS-NITROGEN COMPOSITIONS AND METHOD USING SAME

Henry G. Braxton, Jr., Franklin Village, Mich., and Evelyn J. Lajiness, Racine, Wis., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Aug. 4, 1967, Ser. No. 658,341
Int. Cl. A01n *9/36*
U.S. Cl. 71—87 **3 Claims**

Formulations containing organophosphorus-nitrogen compounds have herbicidal properties and are useful in controlling undesirable vegetation. Active organophosphorus-nitrogen compounds are of formula:



wherein R^1 and R^2 are alkyl, alkenyl, aryl, alkaryl, or aralkyl groups having up to 12 carbon atoms, X and X^1 are oxygen, sulfur or selenium, and *n* is an integer from 2 to 9.

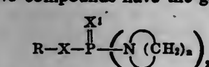
3,511,636

HERBICIDAL ORGANOPHOSPHORUS-NITROGEN COMPOSITION AND METHOD USING SAME

John C. Wollensak, Royal Oak, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Aug. 4, 1967, Ser. No. 658,343
Int. Cl. A01n *9/36*
U.S. Cl. 71—86 **3 Claims**

Organophosphorus-nitrogen compounds possessing herbicidal properties are used to control undesirable vegetation. The active compounds have the general formula:



wherein R is an aryl, alkaryl, or aralkyl group having up to 12 carbon atoms, X and X^1 are independently selected from oxygen and sulfur and *n* is an integer from 2 to 9.

3,511,637

OIL-SOLUBLE HERBICIDAL ESTER-AMIDES AND HERBICIDAL COMPOSITIONS THEREOF

Arthur E. Pflaumer, P.O. Box 309, Norristown, Pa. 15165

No Drawing. Filed Sept. 29, 1964, Ser. No. 400,202
Int. Cl. A01n *9/20*
U.S. Cl. 71—106 **9 Claims**

Water-insoluble, oil-soluble ester-amides of herbicidal monocarboxylic acids, e.g., the trichlorophenoxy acetic acid ester of N-2-hydroxyethyl oleyl amide, are found to be soluble in low cost organic solvents, e.g., diesel fuel, in large amounts to give clear solutions containing a high concentration of active herbicidal material and capable of being emulsified by mixture with water to form water-in-oil emulsions useful in the sling-spray method of herbicide application.

3,511,638

STABILIZED HALOGENATED HYDROCARBON TOXICANT COMPOSITIONS

Louis Joo, Crystal Lake, and Walter E. Kramer, Niles, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Original application Aug. 27, 1962, Ser. No. 219,785, now Patent No. 3,277,014, dated Oct. 4, 1966. Divided and this application Aug. 24, 1966, Ser. No. 641,063
Int. Cl. A01n *9/34, 9/00, 9/32*
U.S. Cl. 71—109 **6 Claims**

Toxicant compositions of improved stability particularly suitable for combating pests, bacteria and parasites, e.g., insecticidal, herbicidal, fungicidal, rodenticidal, disinfectant, and germicidal compositions, comprise:

(1) a halogenated hydrocarbon toxicant;
(2) a hydrocarbon solvent; and
(3) a stabilizer comprising certain fractions

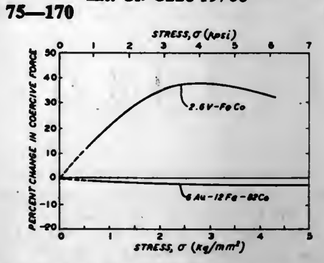
of complex carboxylic acids or their monomeric esters derived from complex sulfur-containing aromatic compounds of petroleum origin, i.e., solvent extracts obtained in the solvent refining of mineral lubricating oils and related sulfur containing starting materials such as hydrogenated solvents, extracts, FCC recycle stock and decant oil. The acids are prepared by metalation of said aromatic compounds to form the adduct, carbonation of the adduct to form the salt of the corresponding mixed mono-, di- and polycarboxylic acids, acidification of the salt mixture to form the free acids, and fractionation of the acid mixture to obtain acids which are predominantly monocarboxylic in nature.

3,511,639

MAGNETIC ALLOY MATERIAL

Gilbert Y. Chin, New Providence, N.J., Donald Jaffe, Emmaus, Pa., and Ethan A. Nesbitt, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Sept. 5, 1967, Ser. No. 665,340
Int. Cl. C22c *19/00*
U.S. Cl. 75—170 **9 Claims**



Alloys including from 75–95 weight percent cobalt, 0.5–17 weight percent gold, remainder iron, cold drawn

so as to result in a minimum thickness reduction of 20 percent evidence low levels of magnetostriction.

3,511,640

DEGASSING PLATINUM POWDERS

Denis G. Kelemen, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 27, 1968, Ser. No. 716,357
Int. Cl. C21d *1/78*; B22f *9/00*
U.S. Cl. 75—.5 **7 Claims**

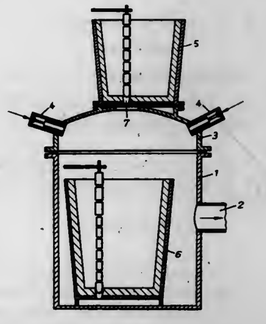
A process of preparing degassed platinum powders comprising mixing finely divided platinum powder with at least an equal volume of a diluent metal oxide powder, heating the powder mixture for a sufficient time to dissipate substantially all gases from the platinum powder, cooling the powder mixture and separating the platinum powder from the diluent. The degassed platinum powders are particularly suitable for application to "green" ceramic sheets employed in the production of monolithic multi-layer ceramic circuit components.

3,511,641

METHOD OF HEATING UP AND INITIATING METALLURGICAL REACTIONS IN THE POURING JET WHEN DEGASIFYING THE LATTER IN A VACUUM

Werner Coupette, Wattenscheid-Eppendorf, Germany, assignor to Standard-Messo Duisburg, Duisburg, Germany

Filed Aug. 5, 1966, Ser. No. 570,489
Claims priority, application Germany, Aug. 14, 1965, St 24,276
Int. Cl. C21c *5/52, 7/10*
U.S. Cl. 75—12 **4 Claims**



Heated plasma gases are directed upon the falling droplets of molten metal formed by vacuum stream degassing thereof. The plasma gases serve to minimize the metals heat losses during vacuum treatment. Also reactive gases can be utilized as the plasma when metallurigical reactions are desired.

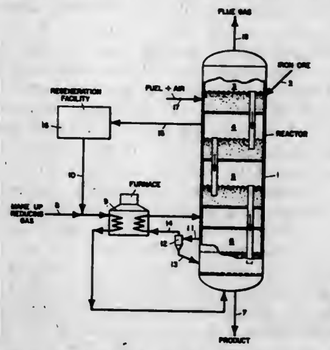
3,511,642

FLUID IRON ORE REDUCTION WITH INVERSE TEMPERATURE STAGING

Lewis D. Etherington, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Nov. 17, 1966, Ser. No. 595,214
Int. Cl. C21b *13/04, 13/14*
U.S. Cl. 75—26 **4 Claims**

Iron ore is reduced by an endothermic reaction in a series of fluidized bed stages wherein the ore and gas pass counter-current. Bogging is reduced by operating the final reduction stage at 900° to 1100° F. The reducing gas from the final stage is heated prior to passing to succeeding stages thereby providing a higher temperature



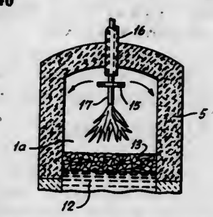
of operation in said succeeding stages than in said final stage.

3,511,643

METHOD FOR COOLING OF COMBUSTION OR HIGH TEMPERATURE REACTION CHAMBERS

Enn Vallak, 82 Route de Florissant, Geneva, Switzerland, and Sven Gustaf Harald Eketorp, Bromma, Sweden; said Eketorp assignor to said Vallak

Filed May 4, 1965, Ser. No. 452,977
Claims priority, application Sweden, May 6, 1964, 5,642/64
Int. Cl. C22b *5/00*; C21b *7/10*; F23m *5/08*
U.S. Cl. 75—40 **3 Claims**



The heat encountered in the smelting reduction of metal oxides is prevented from damaging the liner of the smelting chamber and the process of smelting is enhanced in various related manners. A curtain of solid or liquid material which may be the raw material, such as metal oxide to be smelted, is introduced, advantageously by centrifugal action between the heat temperature zone of the chamber and the liner thereof. Also gas containing oxygen can be introduced through pores in the liner. Introducing the oxygen in this way for cooling the wall warms the oxygen for use in the process. This gas introduction can also prevent penetration of the slag into the chamber wall. Combinations of the curtain of solid or liquid material with the introduction of gas through the pores can also be employed.

3,511,644

PROCESS FOR REDUCING AND CARBURIZING MELTING OF METALLIC MATERIAL IN A ROTARY FURNACE

Erik Anders Åke Josefsson and Erik Axel Bengtsson, Borlange, Sweden, assignors to Stora Kopparbergs Bergslags Aktiebolag, Falun, Sweden, a company of Sweden

No Drawing. Filed July 5, 1966, Ser. No. 562,482
Claims priority, application Sweden, July 9, 1965, 9,136/65
Int. Cl. C21b *11/00, 11/08, 13/08*
U.S. Cl. 75—40 **11 Claims**

A process has been provided for smelting, reducing and carburizing primarily an iron material in a rotary

furnace when using liquid and gaseous fuel as the smelting means. As the carburizing medium, a coke layer is maintained on the iron containing material. In order to prevent the combustion of the carburizing medium such as coke breeze, i.e. the undue disturbing of the reducing conditions and carbon introduction into the iron material, the undue combustion of the coke layer by water formed from the combustion of the fuel (which fuel consists merely of carbon and hydrogen) is prevented by directing and incompletely burning the fuel immediately above the carbonaceous layer on top of the melt puddle and slag layer, thus forming carbon monoxide and hydrogen. Thereafter, the incompletely burned fuel is burned further in a second zone by supplying oxygen thereto and forming carbon dioxide and water thus giving off the heat necessary to smelt the material. The carburizing and reducing conditions are kept from being disturbed by utilizing the combustion product from the first zone, i.e. carbon monoxide and hydrogen formation as a shield between the carburizing and reducing layer and the second combustion zone. The proper relationship of the desired, combustion sustaining materials in the two zones is established by the correct introduction of oxygen in the proper amounts in respect to the hydrocarbon fuel and in respect to the carbon monoxide and hydrogen in each of the combustion zones. For example, in the second combustion zone, oxygen is introduced countercurrently to the flue or exit gas to insure complete combustion and thus to enhance the efficiency of the process.

3,511,645

PROCESSES FOR EXTRACTING METALS FROM ROCKS OR ORES

Juan C. Goni, Orleans, France, assignor to Bureau de Recherches Geologiques et Minieres, Paris, France

No Drawing. Filed June 8, 1967, Ser. No. 644,482

Int. Cl. C22b *3/00, 49/00, 35/00*

U.S. Cl. 75—101 4 Claims

Trace elements, especially metals, removed from rocks and low grade ores by mobilizing the trade elements by contact with sequestering, chelating and complexing agents, and separating the mobilized trace elements without destruction of the crystalline system of the host material. Simultaneous use of solutions of two or more chelating agents is preferred. Concurrent contact of rock or ore with 10% molar citric acid and oxalic acid solution is especially effective. It is preferred to contact rock or ore in a bed of granules with extracting solutions, e.g., undersaturated solution, which may be percolated through the bed with agitation.

3,511,646

FILLER METAL FOR THE ELECTRIC ARC WELDING, AND METHOD FOR ITS MANUFACTURE

Henry Gert von Scheele and Anders Eric Bengtsson, Hoganas, Sweden, assignors to Hoganas-Billesholms Aktiebolag, Hoganas, Sweden, a company of Sweden

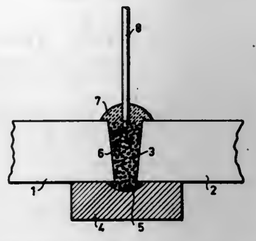
Filed May 16, 1966, Ser. No. 550,254

Claims priority, application Sweden, June 24, 1965, 8,433/65

Int. Cl. C22c *39/30*; B22f *9/00*; B23k *35/30*

U.S. Cl. 75—123 1 Claim

For carrying out a "submerged arc" electrical welding procedure, use is made of discrete rounded, compact highly dense particles of carbon-containing alloyed iron powder having a particle size of 0.5–5.0 mm. The iron powder contains at least one alloying agent having deoxidizing properties. It preferably contains 0.01–0.20%



by weight of carbon, together with 0.3–5.0% by weight of manganese.

3,511,647

PURIFICATION OF FERRO-SILICON ALLOYS

Gilbert S. Layne, James O. Huml, and Walter H. Boeckler, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,053

Int. Cl. C22c *33/00*; C21c *7/04*

U.S. Cl. 75—129 9 Claims

A process for purifying ferro-silicon alloys which comprises heating a ferro-silicon alloy, which is contaminated with other metal impurities, in the presence of a sulfurizing agent. The liquid mixture is allowed to come to equilibrium and cooled forming a metal sulfide slag phase containing the impurities and an essentially pure ferro-silicon phase.

3,511,648

ELECTROPHOTOGRAPHIC COATINGS

Walter L. Garrett, Freeland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 576,844, Sept. 2, 1966. This application May 27, 1969, Ser. No. 828,348

Int. Cl. G03c *5/00*

U.S. Cl. 96—1.7 8 Claims

The electrophotographic method of preparing etchable printing plates employing a photoconductive composition comprising a photoconductive zinc oxide suspended in a cross-linking resinous insulating film forming binder, wherein said composition as a coating on a plate of etchable base metal of magnesium is electrostatically charged, exposed to an illuminated image, thereby forming an electrostatic image thereon, which is then developed by contacting and subsequently heating said image with a catalyst material to promote cross-linking of said resinous binder, thereby to form an etch resist image pattern; is improved by employing as the resinous binder component of the photoconductive composition from about 15 to about 90 percent of a solid soluble epoxy resin of diglycidyl ether of bisphenol-A, and from about 0.25 to about 10 percent of polyvinylbutyral resin, balance remaining being a silicone intermediate resin, the total resin component of the photoconductive composition lying in the range of from about 90 to about 40 weight percent, the balance of the composition comprising said photoconductive zinc oxide.

The improved photoconductive composition for use in electrophotographic composition comprises from about 40 to about 90 weight percent of a photoconductive zinc

oxide, and from about 60 to about 10 percent by weight of a resinous binder comprising from about 15 to about 90 percent of a solid soluble epoxy resin of diglycidyl ether of bisphenol-A, and from about 0.25 percent to about 10 percent polyvinylbutyral resin, the balance of resin content being up to 84.75 percent silicone intermediate resin.

3,511,649

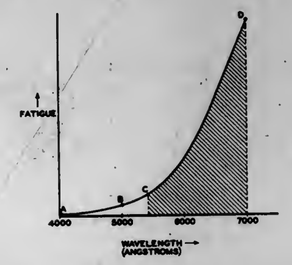
PROCESS OF REDUCING FATIGUE IN PHOTOCONDUCTIVE GLASSES

Evan J. Felty and James W. Sparks, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed May 2, 1966, Ser. No. 546,616

Int. Cl. G03g *13/22, 13/04*

U.S. Cl. 96—1 4 Claims



A method of reducing fatigue in arsenic-selenium photoconductive layers which comprises uniformly charging the arsenic-selenium layer and exposing said layer to a source of electromagnetic radiation to form a latent electrostatic image thereon, while selectively filtering out radiation exceeding about 5400 to 6000 angstroms.

3,511,650

ELECTROPHOTOGRAPHIC IMAGING PROCESS

Benjamin L. Shely, White Bear Lake, and Joseph W. Shepard, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Original application Mar. 22, 1962, Ser. No. 181,796, now Patent No. 3,363,556, dated Jan. 16, 1968. Divided and this application June 9, 1967, Ser. No. 660,848

Int. Cl. G03g *5/00*

U.S. Cl. 96—1 14 Claims

Process of image formation whereby a photoconductive copy sheet capable of electrolytic development is exposed to activating radiation. A vaporizable material is then brought in the vicinity of the photoconductive surface and is electrically modified by oxidation, reduction, masking or complex formation in the more conductive areas. A receptive surface capable of changing color upon contact with the vaporizable material is positioned adjacent to the photoconductive copy sheet and said vaporizable material is transferred upon heating copy sheet.

3,511,651

PERSISTENT INTERNAL POLARIZATION IMAGING SYSTEM WITH ELECTROPHORETIC DEVELOPMENT

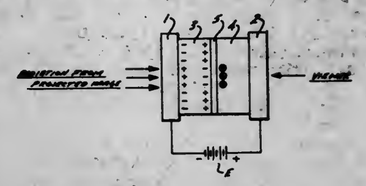
Barnett Rosenberg, Lansing, Mich., assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Aug. 22, 1966, Ser. No. 574,212

Int. Cl. G03g *13/22*; B01k *5/00*; B01d *13/02*

U.S. Cl. 96—1.5 5 Claims

A five layer system is employed to produce visible images. The system is composed of a conductive transparent electrode, a photoconductive layer, an opaque layer, a layer of liquid toner, and a second electrode. The system forms images on the opaque layer by electro-



phoretic deposition of toner particles in image configuration. The system may be erased and reused.

3,511,652

PROCESS FOR THE REPRODUCTION OF INFORMATION BY SHORT-DURATION, HIGH-INTENSITY EXPOSURE OF A HEAT-SENSITIVE MATERIAL TO VISIBLE LIGHT

Marcel Nicolas Vrancken, Hove, Belgium, and Wolfgang Lassig, Cologne-Stammheim, Germany, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

Filed June 13, 1966, Ser. No. 557,259

Claims priority, application Germany, June 12, 1965, A 49,469

Int. Cl. G03c *5/04*

U.S. Cl. 96—27 5 Claims

Difficulties normally encountered in thermographically copying multi-colored originals due to the differing absorption of infrared radiation by the different colors are avoided by using a thermographic copying material including a layer having uniformly incorporated therein a substance which absorbs visible radiation and converts the same to heat and filtering the radiation impinged upon the original to remove at least a major portion, and preferably substantially all, of the infrared radiation therefrom. Preferably, the radiation is emitted by a flash lamp having a very brief exposure. A thermographic material having in heat-conductive relation with the radiation absorbing-converting substance a heat-sensitive layer composed essentially of particles of hydrophobic thermoplastic polymer dispersed in a hydrophilic binder gives particularly good results.

3,511,653

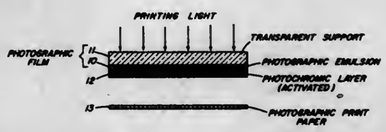
CONTRAST ENHANCEMENT OF OPTICAL IMAGES

Alwyn Frederick Wiebe, Ridgefield, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed July 1, 1966, Ser. No. 562,164

Int. Cl. G03c *5/04*

U.S. Cl. 96—27 3 Claims



A photographic film producing prints of enhanced contrast is obtained by providing, in superposed integral arrangement with a sensitized or exposed transparency, a photochromic layer which is characterized by a relatively high optical density but which forms areas of lower optical density by the bleaching action of light passing through an optical image formed on the transparency and which is preferably a mixture of 1',3',3'-trimethyl-6-nitro-spiro[2H-1-benzopyran-2,2'-indoline] and a haloalkylphosphonic acid.

3,511,654
REPROGRAPHIC PROCESS
Toshimi Kishida, Masaaki Yoshioka, and Isamu Fushiki, Tokyo, Japan, assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 29, 1965, Ser. No. 517,483
Claims priority, application Japan, Dec. 30, 1964, 39/74,522
Int. Cl. G03c 11/12
U.S. Cl. 96—28 10 Claims

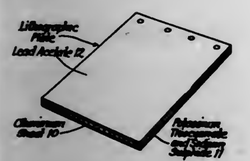
Reprographic materials including a coating of light-sensitive diazonium salt are exposed imagewise to light to create a corresponding image of photo-decomposition products which exhibit a substantially greater adhesiveness for finely divided powder or dust than the original diazonium salt. The material thus exposed is contacted with a finely divided powder which adheres to the photo-decomposition products, thereby rendering visibly distinct the light exposed image areas.

3,511,655
LAMINATIONS
Howard C. Haas, Arlington, and Harold O. Buzzell, Wollaston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 451,894
Int. Cl. G03c 5/54
U.S. Cl. 96—29 25 Claims



Laminar structures comprising a color photograph bonded to a transparent embossable rigid or semi-rigid vinyl overlay through an intermediate layer of a vinyl lower alkyl ester-vinyl chloride copolymer, the surface of which is hydrolyzed, the image-bearing surface of the color photograph being bonded directly to the hydrolyzed surface of said intermediate layer or being bonded indirectly thereto through a layer consisting essentially of polyvinyl alcohol; and transparent ID cards having this structure.

3,511,656
SINGLE SHEET LITHOGRAPHIC DTR MASTER AND METHOD OF USE
Francis A. Regan, Jr., Palatine, and Seamon A. Lincoln, Wheaton, Ill., and Donald E. Hanson, Flemington, N.J., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 498,192, Mar. 31, 1955. This application Aug. 24, 1966, Ser. No. 574,753
Int. Cl. G03c 5/54
U.S. Cl. 96—29 3 Claims

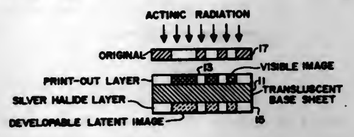


A one sheet lithographic duplicating DTR master in which both the silver halide negative layer and the silver receptive hydrophilic lithographic layer are present in a single base sheet with the silver halide negative layer overlying the silver receptive lithographic layer.

3,511,657
METHOD OF STRIPPING GELATIN EMULSIONS FROM POLYESTER SUPPORTS
Edward A. Smith, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed May 10, 1967, Ser. No. 637,343
Int. Cl. G03c 5/26
U.S. Cl. 96—50 11 Claims

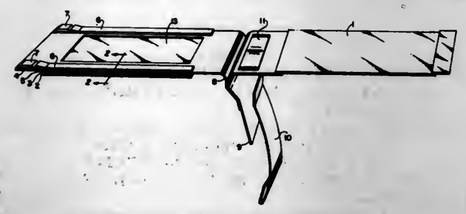
Gelatin emulsion layers are stripped from temporary supports composed of a polyester material by treatment with 1,4-dioxane, 1,3-dioxolane or cyclohexanone. The employment of these solvents permits the stripping of photosensitive gelatin-silver halide emulsion layers from a polyester support without the need for a special stripping layer. In addition, the utilization of these solvents permits the stripping of a temporary support from the emulsion in a semi-dry state for transfer to a second support.

3,511,658
PHOTOGRAPHIC REPRODUCTION MATERIALS
William H. Manko, Florham Park, and Leonard May, Union, N.J., assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Filed Sept. 28, 1966, Ser. No. 583,131
Int. Cl. G03c 1/76, 4/00, 5/04
U.S. Cl. 96—68 2 Claims



The present invention relates to photographic reproduction materials which may be used in contact or projection image printing from master transparencies, or may be employed to record graphic intelligence. The materials of the present invention generally comprise composite layers of a direct print-out photographic material and a latent image producing photographic material, whereby photo exposure of the invention material will produce an immediately visible image simultaneously with a latent image which may be later developed to form a visible, high-density image of archival permanence. The print-out image may be employed for immediate interim evaluation of photographic intelligence or may be used as a guide to aid in the registration of additional photographic exposures in processes for preparing composite photographic images.

3,511,659
NOVEL DETACHABLE MASKS
John J. Dennis, Jr., Watertown, and Lloyd D. Taylor, Everett, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,175
Int. Cl. G03c 1/48
U.S. Cl. 96—76 12 Claims



A photographic diffusion transfer image-receiving sheet comprising a mask directly adhered thereto by an adhesive

comprising a mixture of polyvinyl pyrrolidone and a copolymer of vinyl acetate and a monoethylenically unsaturated monocarboxylic acid.

3,511,660
ANTIHALATION BACKING FOR PHOTOGRAPHIC SILVER HALIDE RECORDING ELEMENTS
Guy William Willis Stevens, Harrow, England, and Claude Masson, Vincennes, France, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 18, 1966, Ser. No. 587,398
Claims priority, application Great Britain, Oct. 19, 1965, 44,276/65; France, Dec. 1, 1965, 40,414
Int. Cl. G03c 1/84
U.S. Cl. 96—84 8 Claims

A photographic element comprises a support having on one side a photosensitive layer such as a silver halide emulsion and on the other side an antihalation layer compising carbon black in a binder such as cellulose acetate phthalate and having colloidal silver in the antihalation layer. The colloidal silver inhibits fading, etc., caused by carbon black contacting the silver halide in film rolls and the like.

3,511,661
LITHOGRAPHIC PRINTING PLATE
Frederick J. Rauner and Reubin D. Deerhake, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 1, 1966, Ser. No. 567,031
Int. Cl. G03c 1/94
U.S. Cl. 96—86 16 Claims

A lithographic printing plate comprises an aluminum surface which is anodized with phosphoric acid and which has thereon ink receptive image patterns or image forming layers. The aluminum surface comprises a cellular pattern of aluminum oxide consisting of cells with porous openings about 200 to 750 A. in average diameter and the surface comprises about 10 to 200 mg./square meter aluminum phosphate.

3,511,662
METHOD OF PREPARING SILVER HALIDE GRAINS HAVING HIGH INTERNAL SENSITIVITY
Alain-Daniel Jouy, Vincennes, France, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 28, 1965, Ser. No. 505,461
Int. Cl. G03c 1/02
U.S. Cl. 96—94 7 Claims

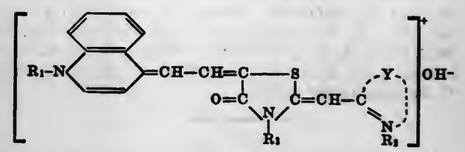
Silver halide grains which have high internal sensitivity are prepared by reacting a water-soluble silver salt with a water-soluble inorganic halide in a medium containing approximately 170 to 200 grams of ammonia per liter of the reaction system to form a silver halide-ammonia complex which upon reduction of the ammonia content to a value below approximately 85 grams per liter decomposes to yield silver halide grains having high internal sensitivity. The silver halide grains thus formed are useful for preparing photographic emulsions which may be used, for example, in reversal processes or direct X-ray emulsions. The internalizing of the silver halide grains can be furthered by placing them in a bath rich in potassium iodide.

3,511,663
SILVER HALIDE EMULSIONS CONTAINING 2-AMINO IMIDAZOLES AS FOG INHIBITORS
Brunello Mariani and Luigi Bassglia, Milan, Italy, assignors to Ferrania, S.p.A., Milan, Italy
No Drawing. Filed Sept. 29, 1965, Ser. No. 491,390
Int. Cl. G03c 1/34
U.S. Cl. 96—109 8 Claims

Silver halide photographic emulsions are shown containing a 2-amino imidazole as a fog inhibitor.

3,511,664
PHOTOGRAPHIC SILVER HALIDE LIGHT-SENSITIVE ELEMENT
Yoshiyuki Nakazawa, Reiichi Ohi, Hiroshi Misu, and Masanao Hinata, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan, a corporation of Japan
No Drawing. Filed Aug. 29, 1966, Ser. No. 575,510
Claims priority, application Japan, Aug. 30, 1965, 40/52,488
Int. Cl. G03c 1/10
U.S. Cl. 96—104 18 Claims

A photographic silver halide element comprising a support and a light-sensitive emulsion containing the sensitizing dye having the general formula:



wherein R_1 represents a member selected from the group consisting of the following class A and the following class B.

Class A:

$(CH_3CH_2O)_2SO_2H$, $CH_3CHCH_2OSO_2H$, $CH_3CHCH_2SO_2H$
(OH) (OH)

$CH_3CH_2SO_2H$, $CH_3CH_2CH_2SO_2H$, $CH_3CH_2CH_2CH_2SO_2H$

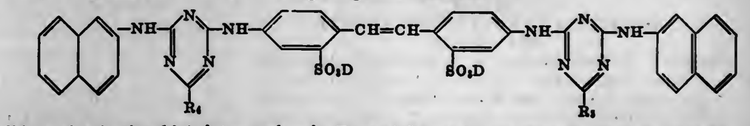
$CH_3CHCH_2O-(CH_2)SO_2H$, $CH_3CHCH_2OCH_3$
(OH) (O(CH2)3SO2H)

$CH_3CH_2O(CH_2)_3SO_2H$, $(CH_3CH_2O)_2-(CH_2)_3SO_2$

and

$CH_3CHCH_2SO_2H$
($OCOCH_3$)

Class B: an alkyl group having less than 6 carbon atoms and an allyl group; R_2 represents a member selected from the above-mentioned class B; R_3 represents a member selected from the above-mentioned class A; and Y represents a non-metal atom necessary for completing a heterocyclic ring selected from the group consisting of thiazoles and benzothiazoles and the compound having the general formula:



wherein R_4 and R_5 each represents a member selected from the group consisting of a halogen atom, a hydroxyl group, and NHR_6; R_6 represents a member selected from the group consisting of an aryl group and aralkyl group; and R represents a member selected from the group consisting of a hydrogen atom, an alkali metal, ammonium, and an amine salt.

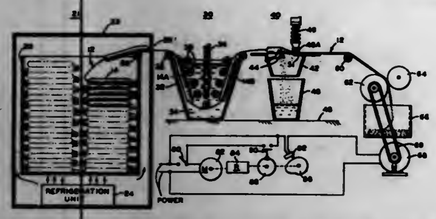
3,511,665
DISPENSING METHOD FOR FOOD

Luther G. Simjian, Greenwich, Conn., assignor to General Research, Inc., Greenwich, Conn., a corporation of Connecticut

Continuation-in-part of application Ser. No. 462,612, June 9, 1965. This application Aug. 21, 1967, Ser. No. 662,066

Int. Cl. B67b 7/28

U.S. Cl. 99—1 9 Claims



Food to be dispensed for consumption is stored in a flexible plastic tubing divided into spaced and sealed compartments. The material forming the tubing and compartments is amenable to cutting by a cutter for creating an opening for discharging the food. As required for automated dispensing, the tubing is stored for preserving the food, incrementally advanced for conditioning (heating) the food in a compartment and then the compartment is advanced further and brought into contact with a cutter which opens the compartment to obtain discharge of the conditioned food.

3,511,666
METHOD OF MAKING A PELLETIZED COFFEE BREWING PACKAGE

Robert A. Hudson, White Plains, and Willie J. Richards, Ossining, N.Y., and Gary V. Jones, Bergenfield, N.J., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 11, 1967, Ser. No. 608,502

Int. Cl. A23f 1/00

U.S. Cl. 99—77.1 2 Claims

Roasted and ground coffee is degassed and compressed to form a pellet. The pellet is packaged loosely in a porous filter bag.

3,511,667
COLOR COMPOSITION

Arthur T. Schramm, Chicago, and Jerome L. Mostek, Niles Ill., assignors to Stange Co., a corporation of Delaware

No Drawing. Filed Aug. 4, 1965, Ser. No. 477,291

Int. Cl. A23l 1/27

U.S. Cl. 99—78 13 Claims

A particulate food product comprising a solid carrier, containing a water soluble acid ingredient, and a water insoluble lake of a dye which is water soluble in its acid form plated on the carrier. The food product is dissolved in water to provide a beverage or dessert.

3,511,668
ARTIFICIALLY SWEETENED FREEZE DRIED FOOD

Willard L. Vollink, Rudolph K. Scharschmidt, and Ralph Edward Kenyon, Battle Creek, Mich., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 370,350, May 26, 1964. This application Nov. 17, 1967, Ser. No. 683,777

Int. Cl. A23b 7/00

U.S. Cl. 99—83 10 Claims

Fruit is impregnated with an artificial sweetener prior to freeze-drying. The fruit can be combined with a dried breakfast cereal the moisture content of both being below 3%.

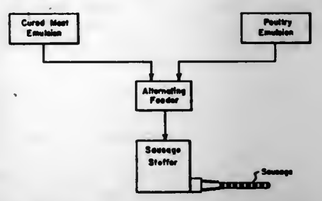
3,511,669
METHOD OF MAKING A SAUSAGE PRODUCT

William E. Swartz, McKeesport, and Kenneth L. Palmer, Mount Lebanon Township, Allegheny County, Pa., assignors, by mesne assignments, to Calgon Corporation, a corporation of Delaware

Filed July 27, 1966, Ser. No. 568,277

Int. Cl. A22c 11/00

U.S. Cl. 99—109 3 Claims



A sausage product and method of producing the same are provided having an elongated cooked solidified meat mass of alternate discrete side-by-side segments of meat of different appearance. The method comprises stuffing a casing with alternate side-by-side slugs of different colored meat emulsions and thereafter heat processing the stuffed casing.

3,511,670
MONO- AND DIACYL GLYCEROL HYDROGEN DICARBOXYLATES AND FOODSTUFFS CONTAINING SAME

Robert Grover Folzenlogen, Green Township, Hamilton County, and James Bruce Martin, Hamilton, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Original application Oct. 29, 1963, Ser. No. 319,698. Divided and this application Dec. 5, 1966, Ser. No. 598,972

Int. Cl. A23d 5/00

U.S. Cl. 99—118 4 Claims

Shortenings containing as additives monoacyl glycerol di hydrogen dicarboxylates and/or diacyl glycerol hydrogen dicarboxylates are utilized as ingredients in cake preparation to provide baked cakes of increased volume and as ingredients in icing preparation to provide icings of reduced density. Examples of additives are 1,3-distearin hydrogen succinate and 1-monostearin di hydrogen succinate.

3,511,671
PROCESS FOR DEHYDRATION OF FOODSTUFF

Kenneth L. Miles, 22919 Leonora Drive, Woodland Hills, Calif. 91364

Filed Sept. 20, 1965, Ser. No. 488,645

Int. Cl. A23b 7/02

U.S. Cl. 99—199 10 Claims

Foodstuff which has been partially dried is contacted with pressurized nitrous oxide to remove additional moisture. The contact step is followed by further drying. Thereafter an additional contacting step with pressurized nitrous oxide may be employed.

3,511,672
GERMANIUM-SELENIUM-MANGANESE GLASS COMPOSITIONS

Albert Ray Hilton, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

No Drawing. Filed Nov. 7, 1967, Ser. No. 681,122

Int. Cl. C03c 3/12, 3/30

U.S. Cl. 106—47 2 Claims

Disclosed are compositions of matter comprising germanium, selenium, and manganese which have been found to be glasses transmitting in the infrared region of the electromagnetic spectrum. Also disclosed are methods of compounding these compositions, of obtaining softening point data for the glasses, and a description of the use of the glasses of this invention as a transmitting element within an infrared detection system.

3,511,673
GERMANIUM-SELENIUM-ZINC GLASS COMPOSITIONS

Albert Ray Hilton, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

No Drawing. Filed Nov. 7, 1967, Ser. No. 681,104

Int. Cl. C03c 3/12, 3/30

U.S. Cl. 106—47 2 Claims

Disclosed are compositions of matter comprising germanium, selenium, and zinc which have been found to be glasses transmitting in the infrared region of the electromagnetic spectrum. Also disclosed are methods of compounding these compositions, of obtaining softening point data for the glasses, and a description of the use of the glasses of this invention as a transmitting element within an infrared detection system.

3,511,674
CERAMIC POTTING COMPOSITIONS

Robert C. Harris, Unadilla, and Joseph Hendrick, Sidney, N.Y., assignors to The Bendix Corporation, a corporation of Delaware

Filed Sept. 29, 1965, Ser. No. 491,147

Int. Cl. C04b 7/02

U.S. Cl. 106—85 6 Claims

A potting composition of calcium silicate and monoaluminum phosphate, in which the calcium silicate has been stablished against immediate reaction with the monoaluminum phosphate by treatment with an acid, such as oxalic acid, citric acid, phosphoric acid or dilute sulphuric acid, whereby a slurry of said compounds has a shelf of at least thirty minutes at room temperature. The invention includes a method of using said slurry and the ceramic produced.

3,511,675
COLORED ALUMINUM-BITUMINOUS COATING COMPOSITIONS

Earl F. Carlston, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Apr. 18, 1967, Ser. No. 631,591

Int. Cl. C09d 3/24

U.S. Cl. 106—280 5 Claims

A colored aluminum-containing, bituminous-base, weather-resistant coating composition which comprises a bituminous binder, a hydrocarbon solvent therefor, asbestos fibers, ground mica, a color pigment and a polyurea material effective as an additive which prevents settling out of fillers and pigments and enhances the color of the finished coating.

3,511,676
NONIONIC ASPHALT EMULSIFIERS

Mervin E. Conn, Westfield, and Alexander H. Popkin, Maplewood, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Original application Apr. 1, 1963, Ser. No. 269,749. Divided and this application Sept. 18, 1967, Ser. No. 668,666

Int. Cl. C08h 13/00; C08j 1/46; C09d 3/24

U.S. Cl. 106—280 7 Claims

Water-insoluble polyethoxylated C_8 Oxo bottoms are prepared by ethoxylating the C_8 Oxo bottoms with from about 1 to about 10 units of ethoxylating agent per alcohol equivalent of said C_8 Oxo bottoms. The polyethoxylated C_8 Oxo bottoms are admixed with asphalt and the resultant admixture, which has a high resistance to stripping, is employed as a coating and bonding agent for nonacidic aggregates or substrates.

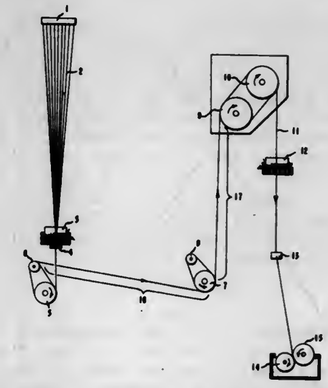
3,511,677
PROCESS FOR PREPARATION OF A SIZED ZERO-TWIST SYNTHETIC FIBER YARN AND PRODUCT THEREOF

Alfred J. Strohmaier and Robert W. Whitman, Seaford, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 435,360, Feb. 25, 1965, which is a continuation-in-part of application Ser. No. 261,852, Feb. 28, 1963. This application June 25, 1968, Ser. No. 739,727

Int. Cl. D06m 3/42; B32b 27/02

U.S. Cl. 117—7 8 Claims



A process for preparing a coherent zero-twist continuous filament yarn comprising applying a coating of a volatile medium containing a thermoplastic film-forming polymeric material to an undrawn yarn, drawing the yarn while wet with the volatile medium and then heating the drawn yarn to dry the coating before winding the yarn on a package. The yarn produced exhibits a high degree of filament parallelism within the yarn bundle.

3,511,678
CATHODE-RAY TUBE

Gerardus Antonius Wilhelmus Vermeulen and Jacobus Cornelis Gravesteyn, Emmasingel, Eindhoven, Netherlands, assignors to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 251,406, Jan. 14, 1963. This application July 29, 1966, Ser. No. 568,976

Int. Cl. H01j 29/18

U.S. Cl. 117—33.5 4 Claims

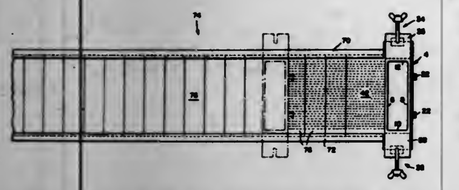


A method of manufacturing a display screen for a color television tube in which an array of phosphor dots are deposited on a display window and the array covered with a light hardenable binder which fills the interstices and covers the dots. Before a second set of dots are applied, the binder is exposed from both sides to harden the binder in the interstices but not over the dots. The latter portions of the binder covering the dots are removed by washing and a second array of dots deposited over the exposed binder.

3,511,679
METHOD OF PREPARING GRADIENT LAYERS FOR THIN-LAYER CHROMATOGRAPHY

Brian Warren, Minister-in-Sheppey, Kent, England, assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

Original application Aug. 9, 1966, Ser. No. 571,333. Divided and this application May 14, 1969, Ser. No. 824,654
Claims priority, application Great Britain, Aug. 17, 1965, 35,324/65
Int. Cl. B44d *1/02, 1/10*
U.S. Cl. 117—37 1 Claim

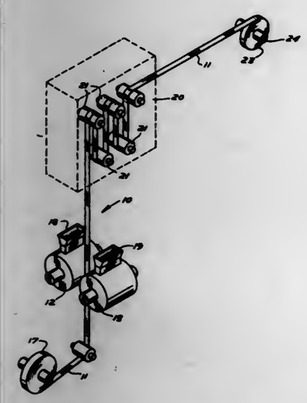


Method of preparing and applying gradient layers of absorbents for thin-layer chromatography which includes filling a trough which has been divided by a diagonal separator into two separate areas with materials of different absorbent characteristics, removing the diagonal divider and placing a plurality of vertical plates in said trough, agitating and mixing the contents of each compartment and finally removing said vertical plates and applying said mixtures.

3,511,680
EDGE COATING OF FLAT WIRES

Gerald V. Marcell and Harold I. Reynolds, Northfield, Minn., and John W. Andersen, Wheeling, W. Va., assignors to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota

Filed July 5, 1966, Ser. No. 562,558
Int. Cl. B44d *1/02*
U.S. Cl. 117—43 3 Claims



An apparatus and technique for the coating of the edge surfaces of flat ribbon conductors with an adherent coating of a dielectric insulating material, which includes means for passing the ribbon conductors between a pair of generally axially aligned rollers, the edge surfaces of the conductor being disposed adjacent to and generally tangentially to the confronting surfaces of the roller so as to form a fillet of dielectric material along the edge surface of the conductor.

3,511,681
DECORATION FOR CERAMIC ARTICLES

James Q. Huey, Jr., Winchester, Va., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Jan. 15, 1968, Ser. No. 697,852
Int. Cl. B44d *1/14;* C03c *17/32, 21/00*
U.S. Cl. 117—45 4 Claims

This invention relates to the decorating of glass-ceramic articles through the staining thereof wherein random patterns and different colors can be incorporated into the surface of glass-ceramic articles in a single staining and firing operation. The decorating is accomplished by applying a staining material and an organic base breakup material, such as gum arabic, to a glass-ceramic article and then firing the coated article at a temperature such that the stain will diffuse within the article and concurrently therewith the organic base breakup material acts to disperse the staining material into random patterns which results in the article being stained in the random patterns.

3,511,682
PRODUCTION OF SINTERED POLYTETRAFLUOROETHYLENE FILMS ON ELASTOMERS

Arthur G. Sands, Cheverly, Md., and Earl J. Kolin, Springfield, Va., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Continuation-in-part of application Ser. No. 302,216, Aug. 14, 1963. This application Dec. 30, 1965, Ser. No. 517,798
Int. Cl. B44d *1/44;* B32b *27/08*
U.S. Cl. 117—46 6 Claims

A thin film of polytetrafluoroethylene is sintered directly on vulcanized synthetic elastomers by rapid heating of a thin dry film of the polymer.

3,511,683
METHOD OF ELECTROLESSLY DEPOSITING METALS ON PARTICLES

Wilton F. Espenscheld and Israel J. Heilwell, Princeton, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed June 20, 1967, Ser. No. 647,345
Int. Cl. C23c *3/02*
U.S. Cl. 117—47 24 Claims

This specification discloses a method for depositing a metal on a high surface area colloidal substrate. The substrate particles may consist entirely of, or may be a nonmetal having a surface coating of, a metal which is, in the electromotive series, above the metal to be deposited on them. The method involves dissolving a compound on the metal to be deposited on the substrate in a nonaqueous anhydrous solvent and adding the substrate to the resulting solution. In a specific embodiment, there is first deposited electrolessly on the substrate particles a reactive metal which is, in the electromotive series, above the metal to be deposited on them from the nonaqueous anhydrous solvent.

3,511,684
METHOD OF TREATING POLYMERIC RESIN TO DISPLAY NONTHROMBOGENICITY

Dennis Lloyd Huffaker, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

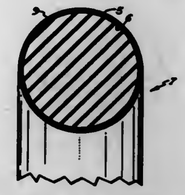
No Drawing. Filed May 17, 1967, Ser. No. 639,009
Int. Cl. B44d *1/092;* A61f *1/00*
U.S. Cl. 117—47 1 Claim

This invention is directed to a method of treating polymeric resin material such that the resin material is rendered nonthrombogenic when in intimate contact with the blood of warm-blooded animals. The method comprises first contacting the resin material with a concentrated acid for a period of time followed by treatment with a solution of an anticoagulant.

3,511,685
METHOD OF MAKING SEALING RINGS

John H. Rentschler, Minneapolis, Minn., assignor to Minnesota Rubber Company, Minneapolis, Minn., a corporation of Minnesota

Continuation of application Ser. No. 604,055, Dec. 22, 1966, which is a division of application Ser. No. 350,747, Mar. 10, 1964, now Patent No. 3,322,433. This application Jan. 30, 1968, Ser. No. 701,790
Int. Cl. B44d *1/14, 1/22;* B32b *25/08*
U.S. Cl. 117—47 12 Claims

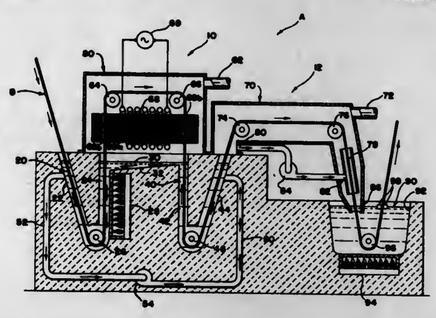


A method of making a sealing ring consisting in bonding directly to an all elastomeric ring a very thin film of less than three mils of a prepolymer polyurethane resin dissolved in a suitable solvent and permitting the same to dry in moist air, the resin in the preferred form having a quantity of an anti-friction filler of ten to twenty percent by volume contained therein. If a coating in excess of three mils thickness is required, it must be applied in individual laminates, each of which has a thickness of no more than three mils and must be permitted to dry separately in moist air.

3,511,686
METHOD FOR ANNEALING AND COATING METAL STRIP

David A. Withrow, Willoughby, Ohio, assignor to Production Machinery Corporation, Mentor, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 381,976, July 13, 1964. This application Jan. 11, 1968, Ser. No. 701,526
Int. Cl. C23c *1/02, 1/04, 1/08*
U.S. Cl. 117—51 4 Claims



There is provided a method of coating a ferrous metal strip with a metal, such as zinc, tin, aluminum, and alloys thereof. While the strip is moving, it is first heated in a molten metal bath to a temperature below the annealing temperature of the strip. Then, the strip is heated to the annealing temperature while in an oxidizing atmosphere to form an oxide on the strip; quenched in a bath of molten metal; and, then passed into a reducing atmosphere. This reduces the oxide on the strip and prepares the strip for subsequent coating. While in the reducing atmosphere, the strip temperature is regulated to the proper temperature for subsequent coating.

3,511,687
HIGH ENERGY CURING OF PHOTOPOLYMERIZABLE NONAIR INHIBITED POLYESTER RESIN COATINGS

Alex C. Keyl, Walnut Creek, Calif., and Mary G. Brodie, Chicago, Ill., assignors to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 360,359, Apr. 16, 1964. This application Dec. 5, 1967, Ser. No. 701,023
Int. Cl. B44d *1/50*
U.S. Cl. 117—62 11 Claims



Photopolymerizable nonair inhibited polyester resin coatings having a thickness of 2 to 12 mils (0.002 to 0.012 inch) preferably containing a photosensitizer, are cured by subjecting them to light waves within the range of 1850 to 4000 angstroms in flashes or pulses at a total input energy level of at least 50,000 watt seconds or a total output energy level of at least 30,000 watt seconds. The process is useful in forming coatings on metal, wood or other substrate but is especially valuable for producing cured resinous coatings on wood, e.g., plywood panels.

3,511,688
METHOD FOR ADHESIVELY SECURING A RESINOUS MATERIAL TO A POROUS SUBSTRATE

Marion O. Brunson, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 4, 1966, Ser. No. 531,774
Int. Cl. B65b *31/02;* B44d *1/14*
U.S. Cl. 117—67 5 Claims

A method for adhesively securing a resinous material to a porous substrate including the steps of spraying the substrate with an adhesive resin dissolved in a volatile liquid carrier, evaporating the volatile carrier to leave a porous layer of the resin.

3,511,689
LAYERED FOAM PRODUCT

Joseph Winkler, Hazleton, Pa., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Application Sept. 12, 1966, Ser. No. 578,454, now Patent No. 3,408,180, dated Oct. 29, 1968, which is a continuation-in-part of application Ser. No. 519,530, Jan. 10, 1966. Divided and this application May 23, 1967, Ser. No. 652,643
Int. Cl. B44d *1/14;* B32b *5/18*
U.S. Cl. 117—70 7 Claims

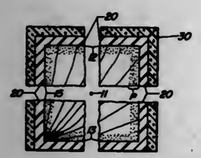
A composition suitable for use in the preparation of inorganic foams is described. The composition is prepared

by coating an open pore organic foam such as polyurethane with a carbonizable support layer such as an acrylic resin and thereafter drying. This two layered composition is converted to the three layered product of the invention by coating with sinterable inorganic particles. The conversion of the product of the invention to the inorganic foam by heat decomposition of the foam followed by carbonization of the support layer and sintering of the inorganic particles with heat is also described.

3,511,690
PRODUCTION OF POLYTETRAFLUOROETHYLENE-CONTAINING COATINGS ON METALLIC BASES
Shaul M. Aharoni, Eau Claire, Wis., assignor to National Presto Industries, Inc., Eau Claire, Wis., a corporation of Wisconsin
No Drawing. Filed June 5, 1967, Ser. No. 643,393
Int. Cl. B44d *1/14*; B65d *25/14*
U.S. Cl. 117—71 8 Claims

A process for the co-deposition of polytetrafluoroethylene and mixtures of metal powders with anhydrous metal oxides or metal carbide powders on metallic surfaces.

3,511,691
METHOD FOR CHEMICALLY STABILIZING AND PROTECTING ELONGATE WOOD STRIPS
Eldon D. Johnson and Randol C. Crooks, Stillwater, Minn., assignors to Andersen Corporation, Bayport, Minn., a corporation of Minnesota
Filed Apr. 10, 1968, Ser. No. 720,317
Int. Cl. B44d *1/14*, *1/28*; B27k *2/50*
U.S. Cl. 117—72 10 Claims

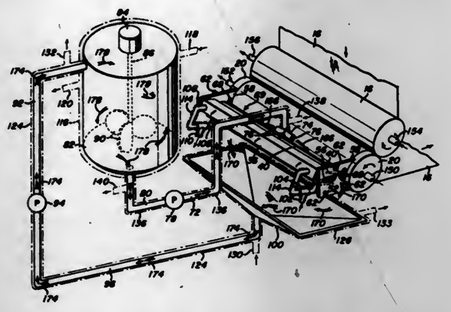


This invention relates to the chemical treatment of normally-porous fibrous natural wood materials so as to render the wood materials resistant to inimical environmental conditions such as excess humidity, temperature extremes, fungus growths, and various insects and larvae. In particular, the wood is treated with pentachlorophenol or some other pesticidal agent and sealed fully or partially with one of a number of polyurea resins. The resulting product may be painted or stained.

3,511,692
PROCESS FOR COATING OPEN-TOP POROUS CONTAINERS
Richard J. Pratt, Flossmoor, Donald E. Safford, Park Forest, and William S. Hoock, Flossmoor, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 6, 1967, Ser. No. 680,955
Int. Cl. B05c *8/00*
U.S. Cl. 117—94 13 Claims

An open-top, porous container made of light weight aggregate and a binder such as sodium silicate or Portland cement is dipped in an aqueous medium containing sodium silicate and finely divided silica filler. The dipping operation is conducted to wet and coat the exterior but not the interior surfaces of the container and after heat curing of the coated container the exterior surfaces are effectively sealed while the interior surfaces remain porous. Such porous surfaces can exert a wicking action when a hydrocarbon fuel, e.g., wax, in the container is burned to supply heat, for instance, to orchards or other crops in combating frost.

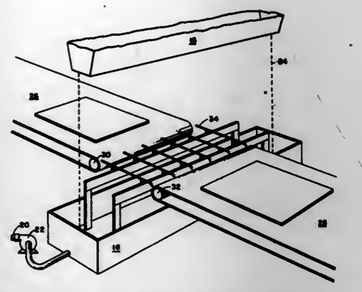
3,511,693
HOT MELT COATING
David M. Davidson, Dayton, Ohio, assignor to The Standard Register Company, a corporation of Ohio
Filed May 1, 1967, Ser. No. 634,979
Int. Cl. B05c *3/12*, *5/02*
U.S. Cl. 117—102 9 Claims



This invention relates to apparatus and methods of applying coating material to a web such as paper or the like, in which the coating material is one which solidifies at a temperature somewhat above normal room temperature and thus must be heated to a fluid state for application thereof to a web. Such a coating material is referred to as a hot melt coating.

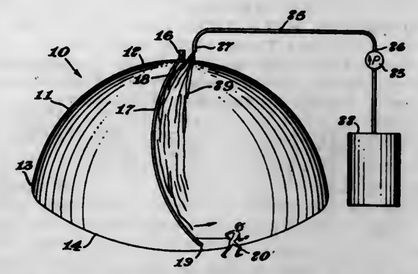
The invention relates still more particularly to the application of such a hot melt coating material by methods known as trailing blade methods.

3,511,694
METHOD OF MAKING A COATED AGRICULTURAL MULCH SHEET
Richard F. Lippoldt and Warren W. Woods, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Original application Nov. 27, 1964, Ser. No. 414,106, now Patent No. 3,427,194, dated Feb. 11, 1969. Divided and this application July 8, 1968, Ser. No. 760,371
Int. Cl. A01c *1/06*; B05c *5/00*
U.S. Cl. 117—105.3 7 Claims



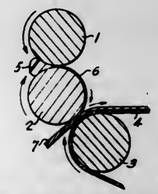
A method of making a mulch sheet comprising using a curtain coating apparatus to apply to a substrate of a fibrous biodegradable material a thin coating of a low blocking asphalt or such as asphalt mixed with an ethylene-containing copolymer.

3,511,695
METHOD OF COATING DOME-LIKE STRUCTURES
Donald R. Wright, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 7, 1966, Ser. No. 532,164
Int. Cl. B44d *1/02*
U.S. Cl. 117—111 7 Claims



Domes are quickly and easily coated with a flexible spreading element such as a rope by securing the rope to an upper portion of the dome, placing a quantity of paint on the upper portion of the dome, rotating the rope about the dome, spreading the paint as gravity causes the paint to flow downwardly.

3,511,696
REVERSE ROLL COATING PROCESS AND APPARATUS
Charles R. Murray, Toronto, Ontario, Canada, assignor, by mesne assignments, to Stauffer Chemical Company of Canada, Ltd., a corporation of Canada
Filed June 5, 1967, Ser. No. 643,711
Claims priority, application Canada, June 16, 1966, 963,156
Int. Cl. B05c *1/08*
U.S. Cl. 117—111 6 Claims



A reverse roll coating apparatus for applying a coating to a travelling porous or open mesh type web with controlled penetration of said web by said coating. Contact between transfer roll and travelling web is prevented by means of a scraper blade or a combination of scraper blade and doctor blade.

3,511,697
METHOD OF APPLYING REACTIVE COATING TO GLASS FIBER
Richard L. Van Auken and Vance A. Chase, Marion, Va., assignors to Brunswick Corporation, a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,867
Int. Cl. C03c *25/00*
U.S. Cl. 117—126 5 Claims

A shelf storage stable wound foraminous heat-resistant spool of glass fiber coated with coupling agent which is fixed to the glass fiber surface by reaction therewith and has free reactable functional groups for further reaction with a laminating resin. The wound spool is provided by burning the starch size from a foraminous spool of starch sized glass fiber, saturating the glass fiber with coupling agent by flowing coupling agent through the foraminous perforations in the core, removing excess occluded coupling agent from the spool and heating and drying until the coupling agent reacts with and is fixed to the fiber without material reaction of the groups reactable with the laminating resin. The apparatus for carrying out the method includes a press for sealing the spool ends and a system for injecting fluid into a circular core of the spool and through the foramens under pressure. The wound spool, in combination with the press, forms walls defining a pressurizable chamber for receiving the coupling agent.

3,511,698
WEATHERABLE ELECTRICAL INSULATORS MADE OF THERMOSETTING RESIN
Thomas D. Talcott, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Continuation-in-part of application Ser. No. 559,752, June 23, 1966. This application Oct. 26, 1966, Ser. No. 589,487
Int. Cl. B32b *25/20*; B44d *1/40*
U.S. Cl. 117—138.8 6 Claims

This invention concerns the use of silicone elastomers which cure by the addition of SiH groups to $SiCH{=}CH_2$ or $SiCH_2CH{=}CH_2$ groups under the influence of a platinum catalyst, as coatings on thermosetting organic resin electrical insulators.

3,511,699
USE OF MODIFIED EPOXY SILICONES IN TREATMENT OF TEXTILE FABRICS
Gordon C. Johnson and Samuel Sterman, Williamsville, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Feb. 15, 1967, Ser. No. 616,206
Int. Cl. C08g *47/04*; D06m *15/66*
U.S. Cl. 117—135.5 3 Claims

Cellulosic and synthetic textile materials of improved softness, strength and water repellency are produced when coated or impregnated epoxy-modified silicons are cured. The epoxy silicons can be employed alone or in combination with conventional finishing resins such as urea-formaldehyde polymers.

3,511,700
ELECTRO-SENSITIVE MARKING BLANK
Frank Miro, Scranton, Pa., assignor to Litton Business Systems, Inc., a corporation of New York
Continuation of application Ser. No. 405,405, Oct. 21, 1964. This application June 21, 1968, Ser. No. 744,604
Int. Cl. G03g *5/00*
U.S. Cl. 117—201 6 Claims

This invention relates to an electro-sensitive recording blank in which a blush coated conductive substrate has incorporated therein sufficient conductive pigment to render the blush coating capable of allowing passage of electric current.

3,511,701
WELDING ELECTRODE WITH A BASIC COATING
René-Jacques Monton, Le Perchoir Montvert, Aix-en-Provence, France
No Drawing. Filed Mar. 22, 1967, Ser. No. 624,984
Claims priority, application France, Apr. 1, 1966, 56,089
Int. Cl. B23k *9/24*, *35/00*
U.S. Cl. 117—206 9 Claims

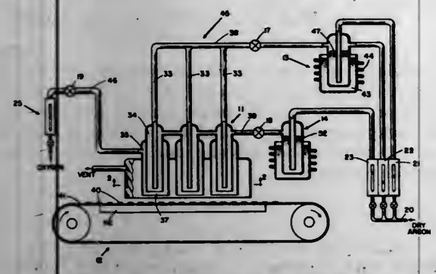
This invention relates to a welding electrode with a basic coating consisting, on the one hand, essentially of alkali metal or alkaline earth metal carbonates and fluorides to which its basic character is due, and, on the other hand, of boric anhydride (B_2O_3) in the free or com-

bined form. According to the invention, the coating contains at least 0.5% of boric anhydride and at least 1% of iron carbonate and/or manganese carbonate, these two carbonates being replaceable at least partially by at least one of the higher iron and manganese oxides.

3,511,702
EPITAXIAL GROWTH PROCESS FROM AN ATMOSPHERE COMPOSED OF A HYDROGEN HALIDE, SEMICONDUCTOR HALIDE AND HYDROGEN
Don M. Jackson, Jr., and Bernard W. Boland, Scottsdale, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 20, 1965, Ser. No. 481,331
Int. Cl. B44d *1/18*
U.S. Cl. 117—212 10 Claims

The epitaxial growth of semiconductor layers is confined to selected areas with the use of an oxide mask. The simultaneous growth of polycrystalline semiconductor material on the oxide mask is prevented by the continuous addition of a small amount of hydrogen halide to the gaseous mixture passed through the epitaxial reactor.

3,511,703
METHOD FOR DEPOSITING MIXED OXIDE FILMS CONTAINING ALUMINUM OXIDE
David R. Peterson, Menlo Park, Calif., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Continuation of application Ser. No. 648,175, Mar. 9, 1967, which is a continuation-in-part of application Ser. No. 310,257, Sept. 20, 1963. This application Dec. 12, 1968, Ser. No. 785,047
Int. Cl. H01b *3/10*
U.S. Cl. 117—213 12 Claims



A process for coating a solid substrate by the vapor phase deposition of aluminum oxide, alone or in combination with other oxides, including silica, boria and titania. The aluminum oxide coating is formed by the oxidation of an aluminum alkyl, while the other oxides are obtained from the corresponding alkoxides or alcoholates. The primary application of the technique is in the protective dielectric coating of solid state devices such as transistors and integrated circuits.

3,511,704
ELECTRICALLY CONDUCTIVE FLOCK FOR ELECTROSTATIC FLOCKING
Daniel Wyss and Walter Wyss, Emmenbrucke, and Erwin Lerch, Stollberg, Switzerland, assignors to Societe de la Viscose Suisse, Lucerne, Switzerland, a Swiss corporation
No Drawing. Continuation-in-part of application Ser. No. 298,568, July 30, 1963. This application Mar. 8, 1967, Ser. No. 621,450
Int. Cl. B44d *1/18*
U.S. Cl. 117—215 7 Claims

Electrically conductive flock formed from a polymer selected from the group consisting of polyamides, polyesters, polyacrylonitriles, and cellulose esters which is suitable for electrostatic flocking. The flock is coated with a composition containing (in percent of flock weight) about 0.1 to 3.0 percent tannin and about 0.01 to 0.3 percent antimony (such antimony being present in the form of an antimony compound).

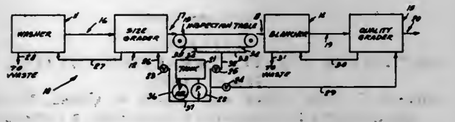
3,511,705
PROCESS FOR THE PRODUCTION OF INVERT SUGAR SOLUTIONS FROM MOLASSES
Erich Haack, Heidelberg, and Franz Braun, Ludwigshafen (Rhine), Oppau, Germany, assignors to C. F. Boehringer & Soehne GmbH, a corporation of Germany
No Drawing. Filed Feb. 28, 1967, Ser. No. 619,196
Claims priority, application Germany, Mar. 15, 1966, B 86,203; Nov. 19, 1966, B 89,907
Int. Cl. C13k *3/00, 1/04;* C13j *1/08*
U.S. Cl. 127—41 19 Claims

Process for the production of pure invert sugar solutions from molasses by subjecting molasses to an acid hydrolysis as for example by treating the molasses with HCl or H_2SO_4 (pH=1–4) at a temperature of about 60–105° C. for about 20 minutes to 2 hours and after the hydrolysis either neutralizing the mixture using for instance NaOH or KOH solution and thereafter introducing the neutralized molasses preparation into a suitably dimensioned chromatographic column filled with a cation exchange resin in salt form as for example a nuclear sulfonated polystyrene resin cross-linked with 4% divinyl benzene which has been charged with Na or K ions or directly following the hydrolysis introducing the hydrolyzed molasses into the chromatographic separation column. Preferably the chromatographic separation is carried out at a temperature of from 50–100° C. The process in accordance with the invention results in the recovery of a substantially salt-free and color-free solution of monoses, i.e. mixture of about equal amounts of glucose and fructose (invert sugar).

ERRATUM

For Class 127—58 see:
Patent No. 3,511,226

3,511,706
METHOD OF CLEANING AND SANITIZING FOOD PROCESSING DEVICES
Donald J. Orr, 952 14th Ave. SW., Rochester, Mich. 48063
Filed May 11, 1967, Ser. No. 637,676
Int. Cl. B08b *9/00, 9/02*
U.S. Cl. 134—23 6 Claims



A cleaning method for a series of food processing devices consisting of preparing a cleaning solution of proper concentration and temperature at a central location and passing the solution through the series of devices one after another and then passing a sanitizing solution through the devices. The method further includes utilizing thermo-shock treatment to remove baked or burned on contaminations from the devices.

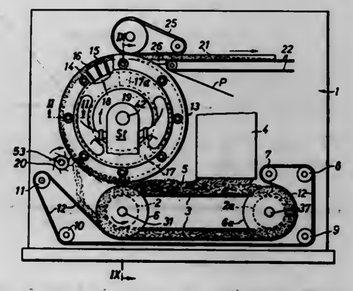
3,511,707
METHOD OF CLEANING A STONE SURFACE AND COMPOSITION THEREFOR
Paul E. La Flamme, St. Catherines, Ontario, Canada, assignor to North American Detergent Corporation, Washington, D.C., a corporation of Nevada
No Drawing. Filed May 8, 1967, Ser. No. 636,654
Int. Cl. B08b *3/02;* C11d *7/48*
U.S. Cl. 134—27 11 Claims

A stone-cleaning composition comprising 15 to 26% by weight of an alkali metal hydroxide, 3 to 8% by weight of a lignosulfonate, 0.1 to 3% by weight of a non-ionic wetting agent and the balance by weight of water. The composition is applied to the surface to be cleaned, left to stand in contact with the surface for an extended period of time and washed off with a spray of water delivered at a nozzle pressure of at least 300 pounds per square inch, a neutralizer composition is applied to the clean surface, left to stand in contact with the surface for a short period of time and then washed off with a spray of water delivered at a nozzle pressure of at least 300 pounds per square inch.

3,511,708
METHOD FOR DISPLACING LIQUID ORGANIC FILMS FROM SOLID SURFACES
William A. Zisman, Silver Spring, Md., and Marianne K. Bernett, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Oct. 18, 1966, Ser. No. 588,257
Int. Cl. B08b *7/00;* C23g *1/24, 5/02*
U.S. Cl. 134—40 3 Claims

A nonaqueous liquid surface-active composition for displacing liquid organic films from solid surfaces. The composition is a solution in an aliphatic naphtha of minimum flash point of about 108–140° F. of a small amount of a solute which may be a liquid low molecular weight dimethylsilicone, a liquid linear polyoxyalkylated dimethyl silicone or a liquid methyl ω-trifluoropropyl silicone.

3,511,709
TOBACCO ROD PRODUCING APPARATUS
Willy Richter, Hamburg-Bergedorf, Germany, assignor to Hauni-Werke Korber & Co. K.G., Hamburg-Bergedorf, Germany
Application May 23, 1961, Ser. No. 112,076, now Patent No. 3,316,917, dated May 2, 1967, which is a division of application Ser. No. 853,273, Nov. 16, 1959. Divided and this application Apr. 28, 1967, Ser. No. 634,740
Claims priority, application Germany, Nov. 21, 1958, H 34,865
The portion of the term of the patent subsequent to May 2, 1984, has been disclaimed
Int. Cl. A24c *5/18*
U.S. Cl. 131—66 10 Claims

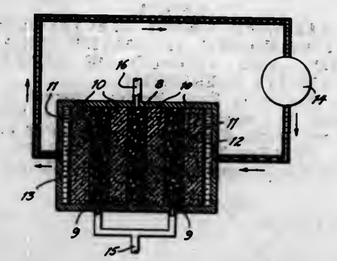


Surplus in a tobacco stream which is conveyed in the groove of a suction conveyor is trimmed off in a plurality of stages. The resulting filler rod is transferred onto a further conveyor and is wrapped into cigarette paper. The tobacco stream in the groove of the suction conveyor is compacted by stationary or rotary mechanical compacting means.

3,511,710
METHOD OF DIRECTLY CONVERTING THE CHEMICAL ENERGY OF COMPLEX HYDRIDES INTO ELECTRICAL ENERGY
Margarete Jung, Nieder-Eschbach, Germany, and Hanns H. Kroeger, Gainesville, Fla., assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 161,278, Dec. 21, 1961. This application July 28, 1965, Ser. No. 475,459
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 28 Claims

Method for direct production of electrical energy from a borohydride fuel in an alkaline electrolyte.

3,511,711
PROCESS FOR PRODUCING ELECTRICAL ENERGY IN A FUEL CELL
August Winsel, Kelkheim, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, and Varta Aktiengesellschaft, Frankfurt am Main, Germany, both corporations of Germany
Filed Nov. 14, 1966, Ser. No. 593,896
Claims priority, application Germany, Nov. 13, 1963, S 100,490
Int. Cl. H01m *27/12*
U.S. Cl. 136—86 5 Claims

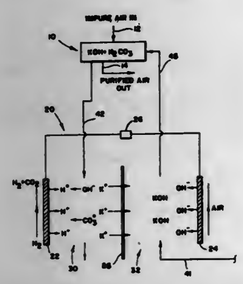


In an electrochemical process for converting an oxidizable fuel to electric energy in a fuel cell, the fuel cell being constructed with a porous, catalytically active gas diffusion electrode of substantial uniform hydrophobicity having intercommunicating large and small pores randomly distributed throughout the electrode, the method which comprises flowing electrolyte through the large pores through the electrode under a pressure sufficient to overcome the capillary pressure and the gas pressure while flowing the gaseous reactant through the small pores through the electrode, the gas and electrolyte flow being independent from each other. The electrode for carrying out the process and the fuel cell comprising such electrode.

3,511,712
PROCESS OF REMOVING CARBON DIOXIDE FROM GAS STREAMS USING FUEL CELL
Jose Giner, Sudbury, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,119
Int. Cl. H01m *27/14*
U.S. Cl. 136—86 12 Claims

A process and system are provided for scrubbing CO_2 from gas streams and regenerating the scrubbing medium. The scrubbing medium is an alkaline solution, preferably of an alkali metal hydroxide. The regeneration is effected

by one or more regenerating fuel cells which utilize spent scrubber solution as an electrolyte. Hydroxyl ions are consumed at the cell anode, and produced at the cell cathode, and positive alkali metal ions migrate from the anolyte to the catholyte to preserve the electroneutrality of the cell. The pH of the anolyte solution is thereby reduced to about 9, and CO_2 gas is evolved, regenerating the solution. The regenerating cell preferably contains a barrier spaced between the anode and cathode to prevent back diffusion of alkali metal hydroxide from the catholyte to the anolyte. The barrier can be a porous diaphragm, but is preferably a cation permeable membrane.

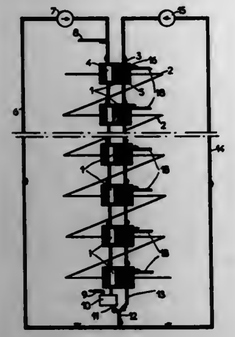


3,511,713

FUEL CELL WITH A BASIC ELECTROLYTE HAVING CONTINUOUS AUTOMATIC DECARBONIZATION, AND METHOD OF GENERATING ELECTRICITY THEREWITH

Bernard Warzawski, Paris, France, assignor to Societe Generale de Constructions Electriques et Mecaniques (Alsthom), Paris, France, a corporation of France

Filed Feb. 26, 1968, Ser. No. 708,033
Claims priority, application France, Feb. 24, 1967, 2,737
Int. Cl. H01m 27/26
U.S. Cl. 136—86 7 Claims



A fuel cell battery, subdivided into a number of individual unit-fuel cells, connected electrically, is arranged to have electrolyte passing, successively, through the cells. Each cell is subdivided by a semi-permeable membrane into two half-cells, each of about several tenths mm. to several millimeters wide to form anodic and cathodic half-cells. Electrolyte traverses these cells, parallel to the semi-permeable membrane. Electrolyte flow is regulated, for example by means of a pump, such that when the electrolyte passing the anodic half-cell attains a pH value at which carbonic gas is liberated, the electrolyte will be at the outlet of the cell; the carbonic gas is separated from the electrolyte, for example by decanting in a tank, and the remaining electrolyte is mixed with the electrolyte derived from the cathodic half-cell, and, after separation into respective portions, re-introduced into the cells of the battery for re-cycling.

3,511,714

CHEMICAL SOURCE OF ELECTRICAL CURRENT, CATALYST SUITABLE FOR USE THEREIN AND METHOD FOR THE MANUFACTURING THEREOF

Carlo V. Bocciarelli, Spring House, Pa., assignor, by mesne assignments, to Energy & Catalytic Corporation of America Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Jan. 24, 1967, Ser. No. 611,350
Int. Cl. H01m 27/10, 13/06; B01j 11/20
U.S. Cl. 136—86 15 Claims

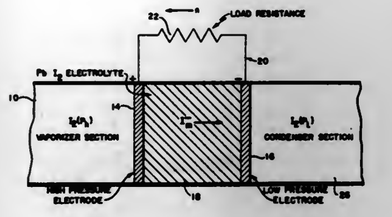
A substitute for the expensive platinum catalyst generally used at least at the oxidizing electrode of fuel cells, consisting of an alloy of a noble-metal major constituent with a non-noble polyvalent metal minor constituent which serves to increase the work function of the alloy above that of the major-constituent material along. The major constituent is preferably a stoichiometric ordered alloy of one of the following: Cu_3Au; CuAu; Cu_3Au_2; Cu_9Ag; CuAg; Cu_3Ag_3. The minor constituent is preferably a polyvalent metal such as gallium or aluminum, in an amount (e.g. 5–20%) sufficient to increase substantially the work function of the entire alloy. Preferably the alloy is applied to the oxidizing electrode of the fuel cell device as a coating of flakes having their major faces along the 1,0,0 crystal plane and in contact with the electrolyte of the cell.

3,511,715

METHOD AND APPARATUS FOR DIRECT CONVERSION OF THERMAL ENERGY TO ELECTRICAL ENERGY

John C. Angus, Cleveland, Ohio, assignor to Valley Company Incorporated, Atchison, Kans., a corporation of Kansas

Continuation-in-part of application Ser. No. 415,223, Nov. 30, 1964. This application Jan. 7, 1966, Ser. No. 519,365
Int. Cl. H01m 27/00
U.S. Cl. 136—86 28 Claims



The direct generation of electricity from thermal energy by isothermally expanding a working substance across an electrolytic cell to develop an electrical potential between the electrodes of the cell.

3,511,716

ELECTROCHEMICAL GENERATOR UTILIZING A LITHIUM ANODE, COPPER SULFIDE CATHODE AND NON-AQUEOUS ELECTROLYTES

Jean-Paul Gabano, Poitiers, and Gerard Marcel Gerbier, Biard, France, assignors to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France

Filed Mar. 21, 1968, Ser. No. 718,974
Claims priority, application France, June 30, 1967, 112,759
Int. Cl. H01m 17/02
U.S. Cl. 136—100 7 Claims

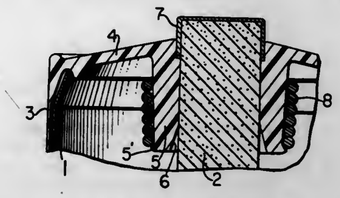
Electrochemical generators embodying positive electrodes of copper sulfide content, negative electrodes of lithium content and non-aqueous electrolyte comprising a solution of lithium perchlorate in tetrahydrofuran containing in addition a selected percentage of at least one other organic solvent capable of increasing the solubility of lithium perchlorate and selected from the group consisting 1-1 dimethoxyethane and 1-2 dimethoxy in percentage ranging from about 30% to not more than about 60% of the mixture.

3,511,717

ELECTROCHEMICAL CELLS WITH SEALING ARRANGEMENT

Jean Firmin Jammet, Poitiers, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a French company

Filed Nov. 7, 1967, Ser. No. 681,158
Claims priority, application France, Nov. 16, 1966, 83,884, Patent 1,509,008
Int. Cl. H01m 1/02
U.S. Cl. 136—133 6 Claims



Electrochemical cell embodying a cup-shaped electrode and a rod type electrode located therein and projecting upwardly and outwardly of a cover for the cup-shaped electrode and capped by a metallic contact cap, the cover preferably of plastic material being provided with a reentrant skirt portion through which the rod type electrode passes, the skirt portion being surrounded by an elastic member such as a coil spring or split ring which tightly clamps and seals the skirt portion to the rod type electrode in a plurality of adjacent zones or over a continuous zone of substantial width.

3,511,718

PROCESS OF FORMING AN OXIDE CRUST ON A PILE OF IRON PARTICLES

Marnell A. Segura, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 29, 1967, Ser. No. 686,743
Int. Cl. C23f 7/04
U.S. Cl. 148—6.14 8 Claims

This invention relates broadly to the art of powdered metallurgy, and particularly to the art of protecting particulate metals, especially powdered ferrous metals, from exposure. In particular, it relates to a process for forming protective oxide films, surfaces, layers, or coatings on piles of particulate ferrous metals by spraying the surfaces thereof with dilute aqueous solutions of iron halide salts or halogen acids.

3,511,719

PROCESS OF MAKING TITANIUM WIRE AND TENSION MEMBERS

Milton A. Nation, 905 Moroga Drive, Los Angeles, Calif. 90049

No Drawing. Filed Oct. 12, 1965, Ser. No. 495,312
Int. Cl. C22f 1/18
U.S. Cl. 148—11.5 7 Claims

A high performance tension member in the form of a monofilament predominantly containing titanium, and method of making the same, and cables in which the wires are converted from specially processed titanium rod stock into wire having no visible surface flaws, which wire is further subjected to flash pickling treatment after annealing to remove surface contamination, and wherein the cable made from such wires may be very highly prestressed and further processed prior to use in order to improve its dynamic and inertial performance.

Mechanical properties of the two alloys tested as wire, together with the wide range of process variables which are used to produce monofilament and cable, are especially suited dynamically and inertially for use in rigorous aerospace and ocean environments.

3,511,720

METHOD OF INCREASING CRITICAL CURRENT DENSITY OF TITANIUM NIOBIUM BINARY SUPERCONDUCTIVE ALLOYS

Jan W. Raymond, Canoga Park, Calif., assignor to North American Rockwell Corporation

Filed Aug. 8, 1966, Ser. No. 570,995
Int. Cl. C22f 1/18
U.S. Cl. 148—133 5 Claims

A method for increasing the critical current density of titanium-niobium superconductive alloys by heating a beta-phase titanium-niobium superconductive alloy containing from about 10 to 70 weight percent niobium at a temperature within the phase boundary region between the alpha+beta and beta phases to form a fine-grain beta structure, quenching the alloy to retain this beta structure, and then warm aging the alloy in the alpha+beta phase region to precipitate a homogenously dispersed second phase.

3,511,721

METHOD OF PRODUCING MALLEABLE IRON

Richard J. Light, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,022
Int. Cl. C21d 5/14
U.S. Cl. 148—138 1 Claim

This invention relates to a method of producing ferritic malleable iron from white cast iron and more particularly relates to an isothermal annealing cycle for the production of ferritic malleable iron. The inventive method disclosed herein provides a three-phase heat treatment for producing malleable iron from white cast iron wherein the cast iron is heated to a temperature of approximately 1750° F. and then fast cooled to a temperature of 1300° F., with a holding period at this temperature, and subsequently cooled to 1250° F., with a second hold period at this temperature. The iron is then cooled to ambient.

3,511,722

METHOD OF MAKING A NUCLEAR PARTICLE DETECTOR

Johannes Meulemans, Caen, France, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 22, 1966, Ser. No. 581,337
Claims priority, application France, Sept. 24, 1965, 32,625
Int. Cl. H01l 7/36
U.S. Cl. 148—175 8 Claims

A method of manufacturing a nuclear particle detector comprising a dE/dx detector and an E detector united

in a common semiconductive wafer, wherein on a substrate of one type conductivity is provided, preferably by diffusion, a surface layer of the opposite type conductivity to form the E detector, on the surface of which is epitaxially grown a thin high resistance semiconductive layer into or on which is provided a second region of the original one type conductivity to form a dE/dx detector. The advantages include simplified manufacture plus reduced series resistances and depletion regions for both of the detectors of adequate thickness.

3,511,723

METHOD FOR PRODUCTION OF EPITAXIAL FILMS

John W. Burd, Chesterfield, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 16, 1966, Ser. No. 602,242
Int. Cl. H01l *7/36*
U.S. Cl. 148—175 7 Claims

The method of producing a semiconductor material by depositing an epitaxial coating on a semiconductor-type substrate. An epitaxial reaction gas is introduced to a first zone which is maintained at a temperature within the range of 400–1100° C. The reaction gas which is preferably formed from a III–V compound is introduced into a second zone where it is contacted with a suitably employed dopant. The temperature in the second zone is raised substantially above the temperature in the first zone to within a range of 500° C. to 1200° C. Thereafter, the reaction gas with the dopant is introduced into a third zone or isothermal zone where the temperature is lowered to a temperature within the range of 400° C. to 1100° C. The substrates are rotated in said isothermal zone with respect to the entering stream of gas and dopant so that the gas and dopant move uniformly over the substrates to cause an epitaxial film in the gas to be deposited on the substrates which are located in the isothermal zone.

3,511,724

METHOD OF MAKING SEMICONDUCTOR DEVICES

Masaya Ohta, Tokyo, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Apr. 21, 1967, Ser. No. 632,701
Claims priority, application Japan, Apr. 27, 1966, 41/26,301
Int. Cl. H01l *7/44*
U.S. Cl. 148—187 25 Claims

A method of making semiconductor devices such as transistors having such a structure that a region of high impurity concentration and of the same conductivity type as that of the base region is provided in the base region of the transistor in order to reduce the base spreading resistance. Two different kinds of impurities having the same conductivity type but having different diffusion velocities are employed, and the impurity having the lower diffusion velocity is first diffused and then the impurity having the higher diffusion velocity is diffused to form the base region and the region of high impurity concentration.

3,511,725

SOLID PROPELLANT CONTAINING CROSS-LINKED DIAMINE-TERMINATED POLYGLYCOL

Don L. Stevens, Sanford, and Harold E. Filter, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 16, 1965, Ser. No. 480,840
Int. Cl. C06d *5/00*
U.S. Cl. 149—19 5 Claims

A solid propellant which comprises a fuel, oxidizer and a novel binder, the binder being a reaction product of a diamine terminated polyglycol and a cross-linking agent wherein the polyglycol has been cross-linked through the amine groups.

3,511,726

SLURRIED AMMONIUM NITRATE EXPLOSIVE COMPOSITION CONTAINING A CHROME-LIGNIN

Jiro Okabe, Yamaguchiken, Yasuo Yamasaka, Nishinomiyashi, Yoshikazu Wakazono, Hyogoken, and Terushige Ogawa, Kanagawaken, Japan, assignors to Sanyo Pulp Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 2, 1969, Ser. No. 812,849
Claims priority, application Japan, Apr. 9, 1968, 43/23,174
Int. Cl. C06b *11/00*
U.S. Cl. 149—43 6 Claims

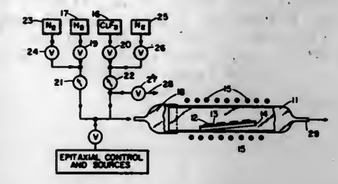
A slurry lignin explosive composition having a plastic property and a high density which comprises, as its principal ingredients, (1) chrome-lignin prepared from spent liquor of sulfite pulp manufacture and a water-soluble, hexavalent chromium compound and (2) ammonium nitrate.

3,511,727

VAPOR PHASE ETCHING AND POLISHING OF SEMICONDUCTORS

Robert G. Hays, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed May 8, 1967, Ser. No. 636,928
Int. Cl. H01l *7/50, 7/44*
U.S. Cl. 156—17 10 Claims



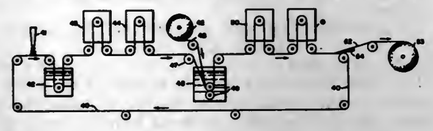
A semiconductor surface is etched or polished with a gaseous mixture comprising an interhalogen compound of fluorine, for example, ClF_3, at temperatures as low as 100° C. using hydrogen as a diluent and carrier gas. At a temperature of 1200° C. silicon is etched at a rate as high as seven microns per minute without losing a mirror-smooth surface. The etched or polished surface is particularly suited for subsequent epitaxial semiconductor growth, or for doping with impurities using known solid state diffusion techniques.

3,511,728

METHODS FOR MAKING FLAT ELECTRICAL CABLES

James H. Freeman, Murrysville, Pa., Edward J. Traynor, Stoughton, Mass., and Charles R. Ruffing, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Mar. 16, 1964, Ser. No. 352,163, now Patent No. 3,391,246. Divided and this application Mar. 23, 1967, Ser. No. 625,446
Int. Cl. H01b *13/10;* B44d *1/34;* B32b *31/00*
U.S. Cl. 156—52 8 Claims



A series of metal strip conductors and a backing strip are simultaneously passed into a solution of an aromatic polyamic acid. The conductors are positioned on the backing strip and are held in position on the backing by the surface tension of the resin solution. The composite is heated in a curing tower to produce flat electrical cables. A continuous carrier or endless belt may be employed as a backing strip by first producing a tack-free resinous coating film on the carrier. The coated carrier and conductors are then simultaneously passed into the aromatic polyamic acid solution, the conductors being positioned and held in position on the carrier. After curing, the cable is stripped from the carrier. By depositing a resinous coating film on both sides of the carrier, an integral self-supporting film of a cured polyimide may be generated at the same time.

3,511,729

METHOD OF MANUFACTURING SYNTHETIC OR RESINOUS POLYMER ROLLS

George M. Williams, South Bend, Ind., assignor to Uniroyal, Inc., a corporation of New Jersey

Filed Dec. 10, 1965, Ser. No. 512,917
Int. Cl. B31c *13/00*
U.S. Cl. 156—154 19 Claims



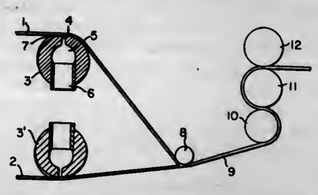
The manufacture of cast, void-free rolls of liquid synthetic rubbery or resinous theromsetting polymers is disclosed, together with apparatus designed for this purpose. A roll of the class described is made by applying to one surface of a cured, void-free film of such a thermoset polymer a thin layer of a liquid synthetic rubbery or resinous thermosetting polymer, winding the film into the form of a roll to dispose the layer in adhesion-effecting relation betwen the adjacent turns of the roll, and permitting the layer to cure to render the bond indestructible. Especially where identical polymeric compositions are used for the film and the adhesive layer, upon curing of the latter the roll is found to have become essentially homogeneous in cross-section, with individual turns of the precured film no longer being recognizable as such.

3,511,730

PROCESS FOR APPLYING LIQUID TO SHEETS OF FIBER

Jimmy Louis Carder, Camden, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 6, 1967, Ser. No. 628,879
Int. Cl. B05c *8/04*
U.S. Cl. 156—163 7 Claims



A process for applying liquid, such as an antistatic coating composition, to sheets of fibers, especially a tow of continuous filaments comprising the steps of applying liquid to one side of each of two sheets of fiber, converging the wetted sides of the sheets together and forcing the wetted sides into contact with each other to cause liquid to pass from the interior of the converged sheets to the exterior portions thereof. The preferred process uniformly applies the liquid at a predetermined rate to continuously moving sheets of fiber resulting in more uniform coating on a fiber-to-fiber basis.

3,511,731

COMPOSITE PANEL AND AN IMPROVED MANUFACTURING METHOD THEREFOR

Marcel Louis Raynal, Perpignan, France, assignor to Societe des Panneaux Landais "Sopaland," Landes, France, a corporation of France

Filed May 25, 1966, Ser. No. 552,971
Int. Cl. B29c *23/00;* B29j *5/00;* B32b *5/16*
U.S. Cl. 156—230 8 Claims

This improved method for manufacturing a composite panel comprises following steps: spreading over the surface of at least one metal sheet a mixture of powdered melamine and of a filler containing particles of alpha cellulose fibres or wood dust, heating said metal sheet and said mixture so that said mixture becomes gelled, placing a core or substrate such as a member of agglomerated plant particles between two metal sheets coated with said gelled mixture and placing the assembly in a heated press, applying pressure and heat, removing said assembly from the press without cooling the latter and removing the metal sheets from the coated panel.

3,511,732

MODIFIED POLYVINYL CHLORIDE COMPOSITIONS, METHODS FOR THEIR USE AND PREPARATION AND ARTICLES PRODUCED THEREFROM

Dutton Brookfield and Howard W. Christle, Kansas City, Mo., assignors to Unitog Company, Kansas City, Mo., a corporation of Missouri

No Drawing. Continuation-in-part of application Ser. No. 311,318, Sept. 25, 1963. This application Feb. 14, 1966, Ser. No. 527,074
Int. Cl. B44c *3/02;* B29b *1/14*
U.S. Cl. 156—242 1 Claim

A process for applying a plastic label to a supporting substrate and the plastic label capable of being applied, said process comprising applying a refusible adhesive to one side of a label prepared from a modified polyvinyl chloride plastisol composition; curing said label containing said adhesive coated on one side thereof; applying said label having said adhesive coating thereon to a supporting substrate with said adhesive in contact therewith; and applying sufficient heat and pressure to the label to cause the adhesive to refuse so as to permit the bonding of the label to the supporting substrate. A further process comprises applying a plastic label to a supporting substrate by partially curing at least a portion of a label prepared from modified polyvinyl chloride plastisol; applying said label to a supporting substrate with the partially cured portion in contact therewith; and subjecting said label and supporting substrate to sufficient heat and pressure to bond said label to said supporting substrate.

3,511,733

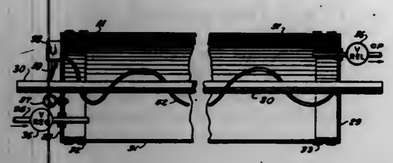
NITROGENOUS POLYMERS AND PROCESS OF LAMINATING THEREWITH

John K. Fincke, Spring Valley, and Ralph E. De Brunner, Kettering, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 19, 1966, Ser. No. 581,667
Int. Cl. B29c *3/00;* C08g *20/32*
U.S. Cl. 156—243 12 Claims

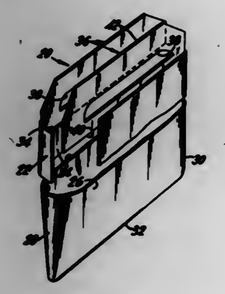
A heat-reactive liquid composition obtained by mixing together (a) a bis(hydroxyalkyl) ester of an aromatic tetracarboxylic acid, (b) an inert organic solvent for the ester, and (c) an aromatic diamine. The process of making a laminate structure with such a composition by impregnating fibrous sheets, stacking said impregnated sheets, and curing at up to 500° C. under pressure.

3,511,734
METHOD OF LINING CONCRETE PIPE
Arnold Darrow, Dallas, Tex., assignor to Cee-Bee Manufacturing Company, Inc., a corporation of New York
Original application Nov. 1, 1963, Ser. No. 321,393, now Patent No. 3,381,718, dated May 7, 1968. Divided and this application Apr. 29, 1968, Ser. No. 739,597
Int. Cl. F16l *9/14*
U.S. Cl. 156—287 5 Claims



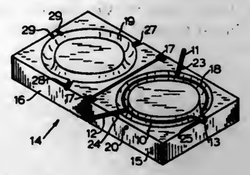
A method for lining concrete pipe with vinyl plastic sheet material using an epoxy resin bonding agent. A laminated liner is first formed comprising a plurality of plies of the vinyl plastic sheet and an outer ply of a fabric backing material having a greater bonding affinity for the epoxy resin bonding agent than the vinyl plastic material. The laminated liner is positioned over an expandable form, which is then inserted with the liner thereon into the bore of the concrete pipe. A layer of epoxy resin is established between the liner and the bore of the concrete pipe, and the form is expanded to press the liner against the pipe. The pressure and temperature within the form are regulated to cure the epoxy resin.

3,511,735
PLASTIC BAG HANDLE APPLYING APPARATUS INCLUDING HANDLE WEB SEVERING AND HEAT SEALING MEANS
Donald C. Lindley, Greenlawn, N.Y., assignor to Cellu-Craft Products Corporation, New Hyde Park, N.Y.
Original application July 5, 1966, Ser. No. 562,671, now Patent No. 3,455,760. Divided and this application Dec. 12, 1968, Ser. No. 810,872
Int. Cl. B32b *31/18, 31/20;* B31b *1/64*
U.S. Cl. 156—516 10 Claims



An apparatus for forming handles from a continuous roll of material, inserting the handles between a pair of plastic webs, sealing the handles to the plastic webs and forming handled bags. Heat sealing bars containing resistance elements are positioned above and below the bag and handle webs offset transversely relative to the direction of travel of handle webs such that handles are joined to bags in two strokes of the bars, each stroke sealing a portion of two adjacent handles on the bag webs.

3,511,736
REINFORCED POLYURETHANE WREATH FORM
Knud Nielsen, Jr., and John M. Nielsen, Evergreen, Ala., assignors to Knud Nielsen Company, Inc., Evergreen, Ala., a corporation of Alabama
Filed May 10, 1967, Ser. No. 637,396
Int. Cl. A47g *33/08;* B29h *7/20*
U.S. Cl. 161—15 1 Claim



A composite artificial wreath form is comprised of a shaped reinforcing ring and foam polyurethane which is molded on and encases the annular ring. The process for making the wreath form includes suspending the annular ring on pins which are horizontally disposed in a vertically positioned mold, injecting a desired quantity of monomeric urethane into the mold, polymerizing the urethane so as to encase the wire reinforcing ring and curing the resulting wreath form for a period of time after removing the same from the mold.

3,511,737
INDENTATION AND GROOVE RESISTANT COMPOSITE PANEL STRUCTURE
Katashi Oita and Roland E. Kreibich, Seattle, Frederick C. Pneuman, Bellevue, and Richard W. Caster, Seattle, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Nov. 8, 1967, Ser. No. 681,436
Int. Cl. B32b *3/10, 3/14, 3/16*
U.S. Cl. 161—38 8 Claims

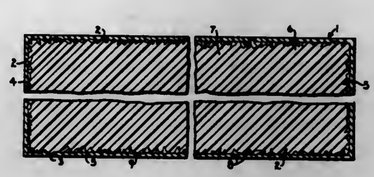


A high strength composite panel having improved impact, abrasion, indentation, and groove resistance, particularly useful in the manufacture of air cargo pallets, which has a core of softwood plywood of at least five plies, a first overlay adhesively bonded to the top and bottom surfaces of the core material, the overlay having a high tensile strength when stressed parallel and perpendicular to the plane of the panel, and a second overlay adhesively bonded to the first overlay having in addition to the properties of the first overlay, a high modulus of rupture.

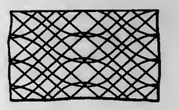
3,511,738
HOLLOW STRUCTURAL MEMBERS AND METHOD OF TREATING AN INTERIOR SURFACE THEREOF
John S. McGuire, P.O. Box 157, Ozark, Mo. 65721
Filed June 13, 1966, Ser. No. 557,246
Int. Cl. B32b *37/00, 19/02*
U.S. Cl. 161—43 4 Claims

A rotationally molded synthetic resin member formed of multiple layers with an outer layer defining a closed

shell and an inner layer or core in contact therewith. The inner layer or core is locked to the outer layer by a plurality of coarse particles extending across the innerface of the respective layers providing a mechanical bond therebetween. The multi-layer being produced by rotational molding with the particles being of less density than the outer resin layer whereby in the rotation of the mold with the resin and particles therein the particles are distributed over the inner portion of the outer layer and then a foam resin is introduced into the shell and cured during further rotation of the mold.



3,511,739
ARRAY OF REINFORCING STRANDS FOR REINFORCED SHEET MATERIAL
Friedrich Hebberling, P.O. Box 385, Monroeville, Pa. 15146
Filed July 31, 1967, Ser. No. 657,309
Int. Cl. B32b *5/12, 17/04*
U.S. Cl. 161—57 6 Claims



In forming reinforced sheet material, two sheets of material are bonded together with an array of reinforcing material disposed therebetween. The pattern of the array is formed from reinforcing strands of filamentary material that have a cyclical motion imparted thereto immediately prior to the depositing of the strands between the two sheets of material.

It has been found that multiple overlap patterns of the array of reinforcing strands of material improve tear and puncture resistance. The patterns are generated by a reciprocating mechanism having two endless reciprocating tapes which form a first multiple overlap and then superposes a second multiple overlap pattern, but with a phase delay in the superposing pattern of 90 degrees.

3,511,740
TUFTED FABRICS AND METHODS OF MAKING THEM
Arthur Joseph Sanders, Llan-yr-avon, Cwmbran, England, assignor to British Nylon Spinners Limited, Pontypool, England, a corporation of Great Britain
Filed Aug. 23, 1965, Ser. No. 481,963
Claims priority, application Great Britain, Sept. 8, 1964, 36,700/64
Int. Cl. D04h *11/08, 18/00*
U.S. Cl. 161—67 8 Claims

Multi-layer non-woven fabrics are made by sandwiching a mass of intermediate fibres between two layers of different fibres which contain a major proportion of crimpable fibres, needle-punching the assembly to carry fibres from one outer layer through the opposite outer layer in the form of tufts, and subsequently causing the

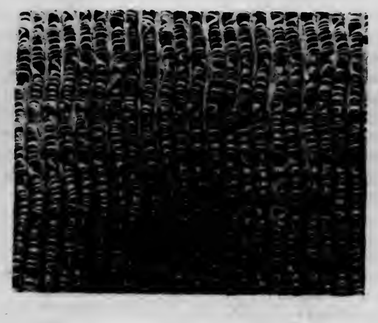


crimpable fibres to crimp. The crimped fibre tufts form rivet-like protuberances which press the surface of the structure.

3,511,741
FABRICATABLE METAL LAMINATE COMPOSITE
Gerald Brent Elder, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 480,781, Aug. 18, 1965. This application May 16, 1966, Ser. No. 550,133
Int. Cl. D03d *3/00*
U.S. Cl. 161—73 2 Claims

A mechanical vibration dampening laminate comprising two metal layers bonded with a non-foamed polyurethane having a dynamic glass transition temperature of not more than about the temperature at which the structure is to be used and having a metal screen embedded in the polyurethane which acts as a stress-raising member.

3,511,742
FORAMINOUS PLASTIC SHEET MADE BY SUCCESSIVE TRANSVERSE SHEARING OF EXTRUDING POLYMER STREAM WITH METHOD AND APPARATUS FOR MAKING SAME
Ole-Bendt Rasmussen, 14 Gyvelbakken, Birkerod, Denmark
Filed Aug. 25, 1964, Ser. No. 391,997
Claims priority, application Great Britain, Aug. 28, 1963, 33,978/63; Apr. 16, 1964, 15,752/64
Int. Cl. B32b *3/10;* B29f *3/01*
U.S. Cl. 161—109 21 Claims

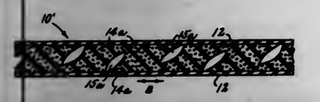


Thermoplastic sheet material for textile use is produced from at least two polymers of differing properties forming separate phases, at least one of the components being in the form of very thin lamelae situated in planes forming an angle to the sheet plane. A treatment is applied to make one of the phases more susceptible to treatment than is the other for the production of splits in one of the lamellar phases by means of a selective chemical attack such as by a swelling agent.

3,511,743
HIGH STRETCH THERMAL INSULATING LAMINATES

Robert H. Rach, Washington, Ind., assignor to Uniroyal, Inc., a corporation of New Jersey

Filed May 31, 1966, Ser. No. 553,867
Int. Cl. B32b *3/10, 3/26;* A41d *13/00*
U.S. Cl. 161—117 21 Claims

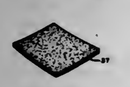


A high stretch, flexible, thermal insulating laminate, composed of a cellular rubber or plastic sponge or foam core sheet having fluid-impervious rubber or plastic film skins bonded to its broad faces, is disclosed. The high stretchability of the laminate is provided by means of multiple, generally parallel slits in the core sheets, the slits extending either wholly through the core sheet from one face thereof to the other, or in an alternating sequence in from one face or the other and partly through the core sheet, and being oriented at an angle between 30° and 60° to the perpendicular to the core sheet faces. The presence of the so-oriented slits has no adverse effect on the insulating function of the laminate.

3,511,744
SAG-RESISTANT FIBERBOARD PANEL AND METHOD OF MAKING THE SAME

Fred Garrett, Jr., Macon, Ga., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed July 27, 1965, Ser. No. 475,170
Int. Cl. B32b *3/00*
U.S. Cl. 161—125 3 Claims



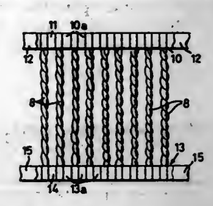
A method of producing a sag-resistant fiberboard by the steps of forming a fibrous slurry and then forming from the slurry a wet board having at least two primary surfaces. The board is partially dried, then abrasively treated at least on a portion of one of the primary surfaces. The other primary surface is coated with a sag-resistant material on at least a portion of its surface. Finally, a decorative coat of material is placed over the abrasively treated surface. The coaction of the abrasively treated surface on one side of the board and the sag-resistant material on the other side of the board cause the board to assume a cupped appearance in the direction of the abrasively treated surface. The board, when used as a ceiling panel suspended by its edges, would then sag causing the cupped appearance to disappear and the board to assume a flat appearance.

3,511,745
PILE YARN UNIT FOR USE IN THE MANUFACTURE OF PILE FABRICS

Walter Johann Holzknecht, Furstenfeldbruck, Germany, assignor to Pangalin Société Anonyme Holding, Luxembourg, Luxembourg

Original application Aug. 25, 1966, Ser. No. 574,980, now Patent No. 3,415,558, dated Dec. 10, 1968. Divided and this application June 6, 1968, Ser. No. 753,307
Claims priority, application Germany, Sept. 10, 1965, H 57,140
Int. Cl. B32b *3/22;* D03d *27/12;* D05c *17/00*
U.S. Cl. 161—142 6 Claims

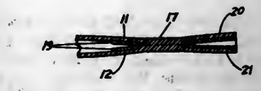
A woven fabric is connected to the pile yarns of a pile yarn unit wherein elongated pile yarns are arranged in a row, and the yarns are held together in a unit by a pair of web portions fixed to each other only in spaces between the pile yarns, and having only frictional engagement with the pile yarns.



3,511,746
EASY OPENING HEAT SEALED PACKAGE

John A. Davies, Fairfield, Ohio, assignor to U.S. Plywood-Champion Papers Inc., Minneapolis, Minn., a corporation of Ohio

Filed Sept. 12, 1966, Ser. No. 578,696
Int. Cl. B32b *7/14*
U.S. Cl. 161—147 9 Claims

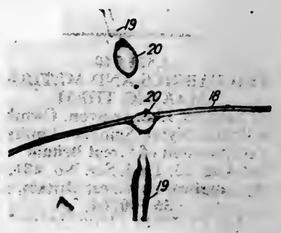


An easy opening heat sealed pouch or envelope having at least one edge having a tight heat seal formed by bonding together two abutting surfaces under influence of heat and pressure such that the bond may be broken and the package easily opened by the use of moderate force by grasping opposite sides of the pouch between thumb and fingers and pulling. Easy opening is achieved by interposing a coating between the heat sealable surfaces before bonding. The coating is formed from an organic ethylated cellulose in which is dispersed a metallic stearate, such as zinc stearate.

3,511,747
BONDED TEXTILE MATERIALS

Stanley Davies, Pontypool, England, assignor to British Nylon Spinners Limited, Pontypool, England, a corporation of Great Britain

Continuation-in-part of application Ser. No. 346,752, Feb. 24, 1964. This application Aug. 13, 1968, Ser. No. 752,389
Claims priority, application Great Britain, Mar. 1, 1963, 8,209/63
Int. Cl. D04h *1/04*
U.S. Cl. 161—150 16 Claims



A bonded textile material containing fibres consisting of at least two fibre forming synthetic polymer components arranged in distinct zones across the cross-section

of each fiber, at least one, but not all of which components are potentially adhesive and located on at least a portion of the peripheral surface thereof. The fibers are bonded by the adhesive material, but do not form crimps during the formation of the mat due to the application of pressure during bonding.

3,511,748
DECORATIVE LAMINATE HAVING SUPERIOR FIRE RETARDANT PROPERTIES

Albert Joseph Heeb and Edward Langworthy Chalmers II, Cincinnati, Ohio, assignors to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware

No Drawing. Filed June 27, 1967, Ser. No. 649,092
Int. Cl. B32b *13/12, 15/08, 27/42*
U.S. Cl. 161—165 8 Claims

A decorative laminate having superior fire retardant properties comprising the heat and pressure consolidated unitary structure having the following laminae in the order of ascending superimposed relationship: (A) a cement-asbestos board having a thickness variation not exceeding about 0.005" coated on at least one broad face thereof with a low molecular weight thermosetting phenol-formaldehyde resin, (B) an aluminum foil coated with an adhesive which adheres to said foil and is compatible with and adherable to the phenolic resin on said cement-asbestos board, (C) a subjacent paper sheet impregnated with a thermosetting melamine-formaldehyde resin, (D) a decorative sheet impregnated with a thermosetting melamine-formaldehyde resin and (E) a surface film of a polymer of an allyl ester of a phthalic acid, wherein all of the thermosetting resins in the laminae set forth hereinabove are converted to the thermoset state during consolidation to the unitary structure.

3,511,749
POLYAMIDE COMPOSITE FILAMENT HAVING A LATENT HIGHLY ELASTIC AND HIGHLY RECOVERABLE CRIMP

Fumimaro Ogata, Nishinomiya, and Katsuhiko Nagamine, Settsu, Osaka-fu, Japan, assignors to Kanegafuchi Boseki Kabushiki Kaisha and Snia Viscosa Societa Nazionale Industria Applicazioni Viscosa S.p.A., Tokyo, Japan, and Milan, Italy

No Drawing. Filed Oct. 24, 1967, Ser. No. 677,734
Claims priority, application Japan, Nov. 1, 1966, 41/72,053
Int. Cl. D02g *3/36*
U.S. Cl. 161—175 9 Claims

Production of composite filament having a latent highly elastic and highly recoverable crimp, in which two different thermoplastic synthetic polymers are separately melted and spun simultaneously through a common orifice to form a unitary filament, in which said two polymers are disposed in an eccentric relation as distinct filamentary components along the entire length of the filament, comprising one of said components being homopolyamide and the other of said components being copolyester obtained by copolymerizing the polyamide with a mixture of a lactone, and ω-aminoalcohol and a dibasic acid or a mixture of the lactone, a diamine and the dibasic acid.

3,511,750
LAMINATES INCLUDING PULP-THERMOPLASTIC BOARDS

Shibley A. Hider, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Oct. 20, 1965, Ser. No. 498,680
The portion of the term of the patent subsequent to June 13, 1984, has been disclaimed
Int. Cl. B32b *27/04, 29/06*
U.S. Cl. 161—216 6 Claims

Laminates are disclosed in which at least one layer is formed from a pulp-thermoplastic hybrid composition, which layer is fused by heat to an adjacent layer. The adjacent layer can be paper, metal, polymeric material or a pulp-thermoplastic resin hybrid composition in which the thermoplastic resins of the layers are noncompatible.



3,511,751
METHOD OF MODIFYING CELLULOSE XANTHATE PAPER PRIOR TO IN SITU REGENERATION BY EMBOSSING AND PRODUCT THEREBY

Yoshiaki Fukumura, Ibaraki, Japan, assignor to The Toyo Rubber Industry Co., Ltd., Osaka, Japan

No Drawing. Filed May 29, 1967, Ser. No. 642,157
Int. Cl. D21h *5/00*
U.S. Cl. 162—117 10 Claims

Process for modification of paper to impart to it properties of woven or knitted fabric. Process comprises converting cellulose paper to alkali cellulose, conversion of alkali cellulose to cellulose xanthate by reaction with carbon disulfide, thereby loosening the fibers, pressing an embossing die against the surface of the treated paper to orient the fibers in the manner of a textile fabric, and soaking the sheet in an acid coagulating bath. Paper properties may be further improved by treatment with a surface active agent, polyvinyl alcohol, or glycerol. Wrinkle resistance, folding endurance, elongation, wet strength, and other properties of the paper are improved by the process.

3,511,752
METHOD FOR PRODUCING L-GLUTAMIC ACID

Katsunobu Tanaka and Kazuo Kimura, Machida-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Continuation of application Ser. No. 656,011, July 26, 1967. This application July 17, 1968, Ser. No. 745,355
Int. Cl. C12d *13/06*
U.S. Cl. 195—28 16 Claims

L-glutamic acid is produced by fermentation of a nutrient medium containing hydrocarbon as principal or sole assimilable carbon source together with a nitrogen source and inorganic salts, and is enhanced by the inclusion of acetic acid, or of an antibiotic, or of a surface active agent, or of a higher fatty acid, as an additional component, Microorganisms which have been found suitable for the fermentation are of the genera Coryne-bacterium, Arthrobacter, Brevibacterium and Micrococcus.

3,511,753
PROCESS FOR PREPARING A LIPOLYTIC ENZYME

Paul Prave, Hofheim, Taunus, and Hans-Dieter Summ, Kriftel, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

Filed Aug. 17, 1966, Ser. No. 573,066
Claims priority, application Germany, Aug. 19, 1965, F 46,933
Int. Cl. C07g *7/02;* C12d *13/10*
U.S. Cl. 195—62 9 Claims

Method of producing a lipolytic enzyme by cultivating Pseudomonaceae in a nutrient medium containing a carboxylic or sulfonic acid derivative, a xanthogenate, or a higher carboxylic acid. A lipolytic enzyme produced in this manner.

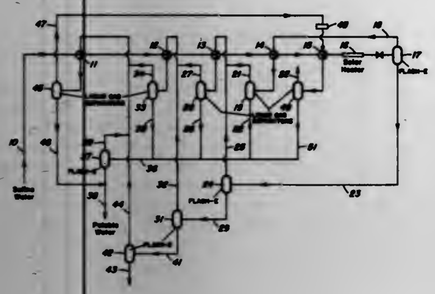
3,511,754
PROCESS FOR ISOLATING L-ASPARAGINASE
Bernard Berk, Westfield, and Robert S. Robison and John N. Korzun, North Brunswick, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 24, 1967, Ser. No. 662,868
Int. Cl. C07g 7/028
U.S. Cl. 195—66 4 Claims

This invention relates to an improved process for the isolation of the enzyme L-asparaginase from a cell-free extract derived from cells of *Escherichia coli* which comprises treatment of the cell-free extract with acetone.

3,511,755
SYNTHESIS OF L-ASPARAGINASE
Oleh T. Ratych, Edison, Robert S. Robison, North Brunswick, and Bernard Berk, Westfield, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 28, 1967, Ser. No. 626,383
Int. Cl. C07g 7/028
U.S. Cl. 195—66 10 Claims

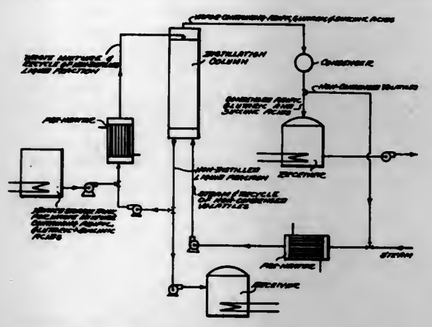
This invention relates to a new and improved process for preparing the enzyme, L-asparaginase. In accordance with the process of this invention, L-asparaginase is prepared by subjecting *Escherichia coli* to the action of lysozyme. The cells are preferably first dried by treatment with acetone.

3,511,756
FLASH EVAPORATION WITH SERIES ARRANGED WITH SOLAR HEATING ZONE
Salvatore A. Guerrieri, Rowayton, Conn. (% The Lummus Company, 385 Madison Ave., New York, N.Y. 10017)
Filed Mar. 13, 1967, Ser. No. 622,622
Int. Cl. B01d 3/06; C02b 1/06
U.S. Cl. 203—11 5 Claims



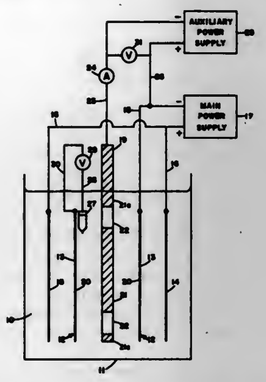
A process and apparatus for producing potable water from saline water wherein the saline water is heated in a solar heater without change of phase and then flashed in a plurality of below atmospheric pressure stages of decreasing temperature and pressure. The flashed vapors are condensed and recovered as potable water. The saline water recovered from the last stage may be heated in a solar heater without change of phase and flashed in another plurality of below atmospheric pressure stages of decreasing temperature and pressure, containing one less stage than the first plurality of stages. The system may be adapted to around the clock operation by passing a full day water requirements through the solar heater during the sunny hours and storing a portion thereof as feed for the flash stages during non-sunny hours.

3,511,757
ATMOSPHERIC STEAM DISTILLATION OF ADIPIC ACID WASTE MIXTURE
Winston Costain and Bernard William Hugh Terry, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Jan. 22, 1968, Ser. No. 699,347
Claims priority, application Great Britain, Feb. 22, 1967, 8,480/67
Int. Cl. B01d 3/34, 3/38
U.S. Cl. 203—96 5 Claims



Purification of "Nylon waste acids" i.e. a by-product obtained in adipic acid manufacture, by distilling in steam at substantially atmospheric pressure.

3,511,758
METHOD OF PREVENTING ETCH ON STEEL AND IRON IN PLATING BATHS
Ram Dev Bedi, Oak Park, Mich., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 291,925, July 1, 1963. This application Aug. 13, 1968, Ser. No. 754,105
Int. Cl. B01k 3/02; C23b 5/66
U.S. Cl. 204—15 17 Claims



A process for electroplating a plate onto a steel or iron cathode having areas of low cathode current density whereon plating does not occur and selected areas of high cathode current density which comprises placing an auxiliary electrode adjacent to the cathode areas of low cathode current density, said electrode being connected to a variable power supply source; maintaining the low current density areas of said cathode anodic with respect to said auxiliary electrode, and plating the plate onto said selected areas of said cathode, the cathode areas of low

current density remaining substantially free of etching during said plating; the auxiliary electrode may be coated with metal in low hydrogen overvoltage state.

3,511,759
METHOD AND ELECTROLYTES FOR ELECTRO-DEPOSITING BLACK CHROMIUM
John B. Nelson, Jr., Indianapolis, Ind., assignor to Diamond Shamrock Corporation, a corporation of Delaware
No Drawing. Filed Nov. 18, 1966, Ser. No. 595,364
The portion of the term of the patent subsequent to Dec. 31, 1985, has been disclaimed
Int. Cl. C23b 5/06, 5/46
U.S. Cl. 204—51 8 Claims

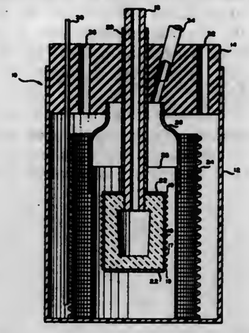
The present invention relates to a composition and method for obtaining black, chromium-containing deposits on electrically conductive substrates. These deposits may be obtained by subjecting the substrate to be plated to electrolysis in an aqueous solution containing chromic acid, a fluoride catalyst and an additive compound selected from the group consisting of trivalent chromium and mixtures of trivalent chromium with an inorganic nitrogen-containing compound, said aqueous solution being free of sulfate ions.

3,511,760
ELECTROCHEMICAL FLUORINATION OF ORGANIC COMPOUNDS
Homer M. Fox and Forrest N. Ruehlen, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 435,263, Feb. 25, 1965. This application Nov. 2, 1967, Ser. No. 683,089
Int. Cl. B01k 3/00
U.S. Cl. 204—59 20 Claims

Fluorinatable feedstocks are electrochemically fluorinated in an electrolysis cell provided with a porous anode and using an anhydrous liquid hydrogen fluoride electrolyte. The fluorination is carried out under conditions such that it occurs within the pores of the anode.

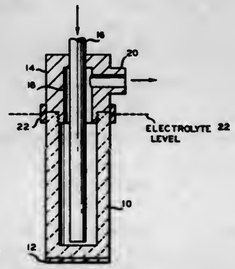
3,511,761
ELECTROCHEMICAL FLUORINATION OF ORGANIC COMPOUNDS
William V. Childs and Forrest N. Ruehlen, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 435,268, Feb. 25, 1965. This application Nov. 2, 1967, Ser. No. 683,092
Int. Cl. B01k 3/00
U.S. Cl. 204—59 19 Claims

Fluorinatable feedstocks are electrochemically fluorinated in an electrolysis cell provided with a combination anode comprising a porous carbon element and a metal element in contact with an outer exposed surface of said



carbon element. An essentially anhydrous liquid hydrogen fluoride electrolyte is used in said cell.

3,511,762
ELECTROCHEMICAL CONVERSION
William V. Childs, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 2, 1967, Ser. No. 680,123
Int. Cl. B01k 3/04, 3/08
U.S. Cl. 204—59 17 Claims

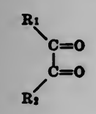


Electrode assemblies comprising a porous element, means for introducing a reactant into the pores of said porous element through a first surface thereof, and means for withdrawing product and any unreacted reactant from said pores through a spaced apart second surface of said porous element, are provided for use in electrochemical conversion processes. Methods of using said electrode assemblies are also provided.

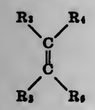
3,511,763
PROCESS FOR THE PRODUCTION OF HALOGEN-CONTAINING DIOXENE- AND α-KETO-OXETANE DERIVATIVES
Carl Heinrich Krauch, Samir Farid, and Dieter Hess, Mulheim (Ruhr), Germany, assignors to Kalle A.G., Wiesbaden-Biebrich, Germany, a corporation of Germany
No Drawing. Filed Nov. 16, 1966, Ser. No. 594,699
Claims priority, application Germany, July 30, 1966, St 25,703
Int. Cl. B01j 1/10
U.S. Cl. 204—158 10 Claims

Process of preparing halogen containing dioxene- and α-keto-oxetane derivatives having the formulae:

wherein R_1 and R_2 each represent one of hydrogen, alkyl, aryl and aralkyl and wherein R_1 and R_2 may be joined together with the carbon atoms to which they are attached to form an unsaturated monocyclic or polycyclic ring system, with the proviso that only one of R_1 and R_2 can simultaneously be hydrogen, and R_3, R_4, R_5 and R_6 each represent one of hydrogen, halogen, alkyl, aryl and aralkyl and wherein any two of R_3–R_6 may be joined together with the carbon atoms to which they are attached to form a monocyclic or polycyclic ring system, with the proviso that at least one of R_3–R_6 is halogen, which comprises reacting a dicarbonyl compound having the formula:



with an olefinically unsaturated compound having the formula:



wherein R_1, R_2, R_3, R_4, R_5 and R_6 are as above defined, while irradiating light into the first absorption bands of the carbonyl compound, the irradiation being effected with light which will not be absorbed by the reaction product.

3,511,764
CROSSLINKED POLYACRYLAMIDE FOAM

Nelson S. Marans, Silver Spring, and Stephen J. Olfky, Ellicott City, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Mar. 23, 1967, Ser. No. 625,294

Int. Cl. C08d 1/00; C08f 1/16; C08j 1/18

U.S. Cl. 204—159.21 3 Claims

A crosslinked polyacrylamide foamed by the decomposition product of polyoxymethylene. Acrylamide and trioxane are blended, irradiated, heated to complete polymerization and then heated to a higher temperature to decompose the polyoxymethylene.

3,511,765
CARRYING OUT ELECTROCHEMICAL REACTIONS

Fritz Beck and Hans Leitner, Ludwigshafen (Rhine), Harald Gutbke, Frankenthal, Pfalz, and Karl Winterberger, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

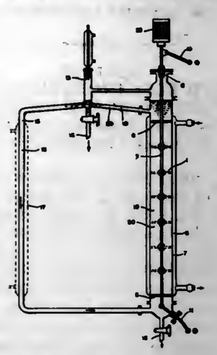
Filed July 8, 1966, Ser. No. 563,794

Claims priority, application Germany, July 9, 1965, B 82,757; Jan. 13, 1966, 1,571,720

Int. Cl. B01k 3/00

U.S. Cl. 204—222 13 Claims

An electrolytic cell for carrying out an electrochemical reaction in the liquid phase having at least one pair of parallel liquid-permeable electrodes arranged transversely within said cell for passage of a liquid electrolyte therethrough, the anode and cathode of each electrode pair being spaced apart by a distance of less than 1 mm. The electrode pairs can be vibrated or other means provided to produce a pulsating movement of the liquid electrolyte in its direction of flow through said paired electrodes.



This cell is particularly useful for the electrochemical hydrodimerization of acrylonitrile into adiponitrile.

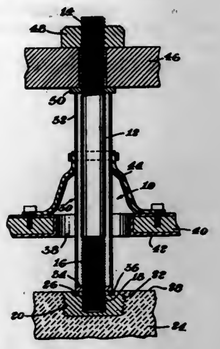
3,511,766
CURRENT LEAD-IN PIN

Ned B. Kisner, Walnut Creek, and Robert S. Steffanson, Concord, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 2, 1967, Ser. No. 672,235

Int. Cl. B01k 3/00

U.S. Cl. 204—279 7 Claims



The invention relates to a current lead-in member whose rod-like conductor is coupled to a bus bar at one end part and whose other end part is coupled to a titanium bushing having its outer periphery threaded and its outer surface coated with rhodium. A sleeve made of materials which are not corroded by the encountered environment surrounds the rod-like conductor and is sealed at its lower end whereby corrosive fluids adjacent to the bushing. The bushing is threaded into the anode to make electrical contact between the bus bar and the anode.

3,511,767
ELECTRODE FOR ELECTROLYTIC SHAPING

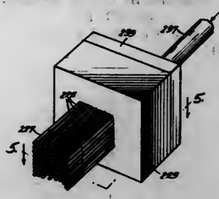
Lynn A. Williams, Winnetka, Ill., assignor to Anocut Engineering Company, Chicago, Ill., a corporation of Illinois

Application Feb. 14, 1966, Ser. No. 552,652, which is a continuation of application Ser. No. 165,569, Jan. 11, 1962, which in turn is a division of application Ser. No. 772,960, Nov. 10, 1958. Divided and this application Nov. 18, 1968, Ser. No. 776,355

Int. Cl. B01k 3/04

U.S. Cl. 204—284 6 Claims

This invention relates to an electrode for use in electrolytic shaping apparatus which electrode is formed of a plurality of closely spaced metallic tubular members adapted to be connected into an electrolyzing circuit. Each of the members has a working and electrically conductive face at one end thereof adapted to be brought into close spacing relationship with an electrically conductive and electrically erodible workpiece to be shaped. Each member has an opening opposite the working face through which an electrolyzing fluid is pumped and have metallic areas contiguous to the face exposed laterally to provide controlled lateral electrolytic erosion of the workpiece. An insulating sheath encases each tubular member in intimate contact therewith from the laterally exposed area to a distance substantially away from the working face.



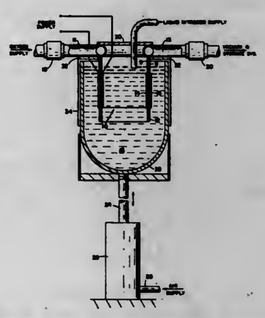
3,511,768
LABORATORY OZONE GENERATOR

Ervin R. Bartle, Jr., San Diego, Paul R. Erickson, El Cajon, Edgar A. Meckstroth, La Mesa, and Benjamin F. Myers, Jr., San Diego, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Aug. 8, 1967, Ser. No. 659,569

Int. Cl. C01b 13/12

U.S. Cl. 204—321 6 Claims



An apparatus for preparing ozone in an electric discharge. Two coaxial cylindrical walls are spaced to define a cylindrical reaction chamber. A source of alternating current is connected to electrodes secured onto the outside surfaces of the outer and inner walls to provide an electric discharge in the chamber. A high purity oxygen is passed through the chamber at reduced pressure via inlet and outlet means provided at the same end of the chamber while the other end is immersed in a cryogenic liquid.

3,511,769
ASPHALT SHEARING PROCESS

Luke W. Corbett, 382 Short Drive, Mountainside, N.J. 07092, and George A. Clarke, Jr., 910 Ripley Ave., Westfield, N.J. 07090

No Drawing. Continuation-in-part of application Ser. No. 740,492, June 27, 1968. This application May 15, 1969, Ser. No. 825,026

Int. Cl. C10c 3/00, 3/04

U.S. Cl. 208—39 9 Claims

Industrial grade asphalts are produced by subjecting petroleum residua or asphalt fluxes to very high rates of shear in the presence of air and/or nitrogen oxides or inert atmosphere.

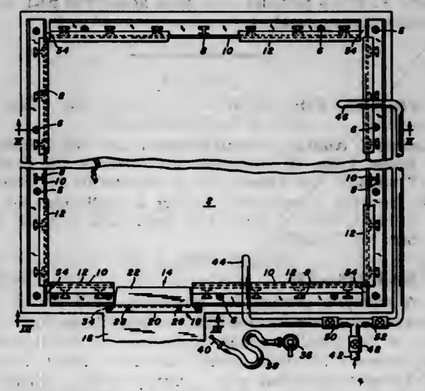
3,511,770
METHOD OF SOLIDIFYING MOLTEN PITCH

Wilbur L. McHenry, Crown Point, Sam S. Sloaman, Hebron, and Jimmie T. Smith, Hobart, Ind., assignors to United States Steel Corporation, a corporation of Delaware

Filed May 16, 1968, Ser. No. 729,793

Int. Cl. C10c 3/00

U.S. Cl. 208—39 5 Claims



Molten pitch is poured on a layer of small pieces of pitch on a cooling slab. The depth of the layer is such that the molten pitch will not remelt the layer to the slab. After cooling, mobile loading equipment easily lifts the solidified pitch for transfer to shipping means and then provides another layer of small pieces of pitch for the next shipment.

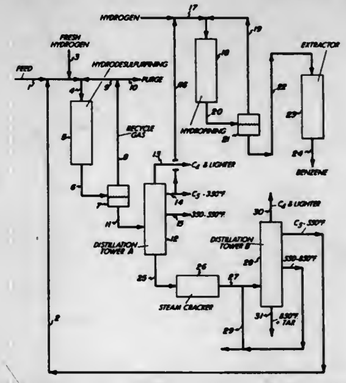
3,511,771
INTEGRATED HYDROFINING, HYDRODESULFURIZATION AND STEAM CRACKING PROCESS

Glen P. Hamner, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed July 24, 1967, Ser. No. 655,557

Int. Cl. C10g 23/00

U.S. Cl. 208—89 10 Claims



In a single reaction zone a liquid petroleum steam cracking feed is hydrodesulfurized prior to steam cracking and an unstable, unsaturated steam cracker product fraction is simultaneously hydrofined.

3,511,772
HYDROCRACKING

Sheldon L. Thompson, Glen Mills, and Albert T. Olenzak, Media, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 19, 1968, Ser. No. 777,154
Int. Cl. C10g *13/02*
U.S. Cl. 208—112 8 Claims

A lube oil hydrocracking process wherein the lube oil charge stock is mixed with a low viscosity material as diluent prior to charging to a hydrocracking reaction carried out at a temperature in the range of about 650° to 875° F. and a pressure of at least about 500 p.s.i. over a hydrocracking catalyst.

3,511,773
PROCESS FOR PRODUCING LPG AND A HIGH OCTANE REFORMATE

George E. Addison, Mount Prospect, and Roy T. Mitsche, Inland Lake, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

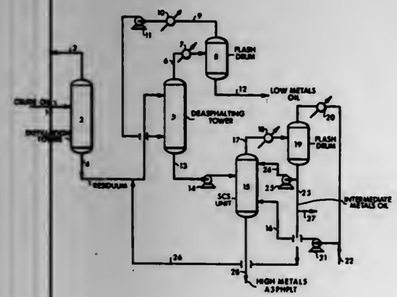
No Drawing. Continuation-in-part of application Ser. No. 517,853, Dec. 30, 1965. This application Apr. 29, 1968, Ser. No. 725,203
Int. Cl. C10g *35/08*
U.S. Cl. 208—139 12 Claims

A catalytic process for producing LPG and a high octane reformate from a hydrocarbon charge stock boiling in the gasoline range is disclosed. Catalyst utilized comprises a platinum group component and a halogen component combined with a carrier material containing alumina and about 1 to about 10 wt. percent of a uniform distribution of finely divided crystalline aluminosilicate particles. Process comprises contacting the charge stock and hydrogen with the catalyst at conditions including: a pressure of 400 to 700 p.s.i.g., a temperature of 800 to 1050° F., a LHSV of 0.5 to 5.0 hr.$^{-1}$, and a H_2/HC mole ratio of 4:1 to 15:1.

3,511,774
PROCESS FOR THE DEMETALLIZATION OF PETROLEUM RESIDUUMS

Robert B. Long, Atlantic Highlands, and Herman J. Solomon, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 25, 1968, Ser. No. 700,488
Int. Cl. C10g *17/04, 31/14, 17/00*
U.S. Cl. 208—251 5 Claims



A process for the demetallization of a petroleum residuum fraction wherein the asphalt is contacted with a polar solvent at a (CT+) of 5–50° F. above the critical temperature of the solvent and a (CP+) pressure of 300–1000 p.s.i.g. above the critical pressure of the solvent.

3,511,775
THIN LAYER CHROMATOGRAPHY METHOD AND APPARATUS

Raymond Frederick Collins, Harold Wood, Essex, England, assignor to May & Baker Limited, Essex, England, a British company

Filed Aug. 27, 1968, Ser. No. 755,648
Claims priority, application Great Britain, Sept. 4, 1967, 40,357/67
Int. Cl. B01d *15/08*
U.S. Cl. 210—31 14 Claims

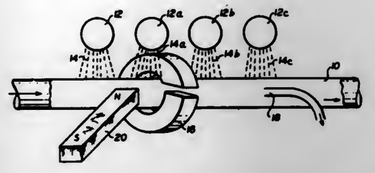


Thin layer chromatographic plates are provided near one or both ends with a transverse groove filled with absorbent. Near the lower or origin end the groove serves to collect non-mobile debris and prevent it interfering with the process. Near the other end the groove acts as a sink to prevent premature saturation with solvent.

3,511,776
METHOD AND APPARATUS FOR REMOVING IONS FROM WATER

Dominic C. Avampato, 223 3rd St., Passaic, N.J. 07055

Continuation-in-part of application Ser. No. 506,977, Nov. 9, 1965. This application Feb. 18, 1966, Ser. No. 528,567
Int. Cl. B03c *1/14, 5/02*
U.S. Cl. 210—42 15 Claims



Electro-magnetic energy, mostly of a wave length within the spectrum of ultra-violet light and X-rays, is radiated into water to make ions, which are susceptible to those wave lengths, become responsive to the influence of a magnetic field. While the water is subject to the influence of this radiant energy, a magnet is used to separate the ions transversely of the cross section of the body of water, and water of different ion concentration is withdrawn for localized regions of the cross section.

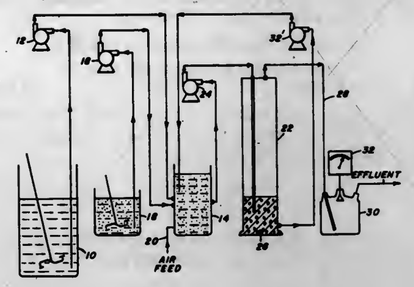
3,511,777
METHOD OF NEUTRALIZING ACID WASTE WATER

Anthony A. Spinola, Penn Hills Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 729,517, May 16, 1968. This application Aug. 11, 1969, Ser. No. 848,943
Int. Cl. C02c *5/16*
U.S. Cl. 210—49 12 Claims

Acid waste waters, such as mine drainage of specified composition and spent pickle liquor, are neutralized by the addition thereto of solids of specified composition

collected from the gases discharged from a kiln used in making cement clinker to produce a sludge product



including neutralized acid water and a sludge of specified composition.

3,511,778
PROCESS OF CLARIFYING SOLIDS WATER SUSPENSION

Oscar Libor, Budapest, and Gyorgy Kollar, Fot, Hungary, assignors to Tatabanyai Szenbanyaszati Troszt, Tatabanya, Hungary, a corporation of Hungary

No Drawing. Filed Feb. 6, 1968, Ser. No. 703,268
Claims priority, application Hungary, Feb. 16, 1967, TA-924
Int. Cl. B01d *21/01*; C02b *1/20*
U.S. Cl. 210—46 6 Claims

In the treatment of aqueous materials and particularly the clarification of solids/water suspensions flocs containing solids of suspension are formed by adding phyllosilicate dispersed and peptised in aqueous medium together with a chemical compound which is capable of bonding with the phyllosilicate.

3,511,779
BUFFERED DRILLING MUD ADDITIVE

William C. Browning, Alphonse C. Perricone, and Lida Lacy Edmundson, Houston, Tex., assignors to Milchen Incorporated, Houston, Tex., a corporation of Delaware

Continuation-in-part of application Ser. No. 344,770, Feb. 13, 1964. This application Mar. 14, 1968, Ser. No. 715,477
Int. Cl. C10m *3/44*
U.S. Cl. 252—8.5 6 Claims

Drilling mud additives formed from compounds comprising an organic polyelectrolyte, sodium silicate and alkali metal hydroxide. Additives of this invention may be formed by mixing the three components in solution and the reaction product may then be added to drilling mud either in solution or as a dry product.

3,511,780
OIL-SOLUBLE ASHLESS DISPERSANT-DETERGENT-INHIBITORS

Richard F. Neblett, Plainfield, and Norman Tunkel, Perth Amboy, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 284,842, June 3, 1963. This application Feb. 9, 1966, Ser. No. 526,049
Int. Cl. C10m *1/48*; C10l *1/26*; C07g *17/00*
U.S. Cl. 252—32.7 16 Claims

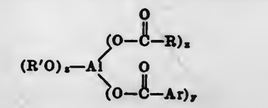
An additive that is useful as a sludge dispersant, antiwear agent, antioxidant, and inhibitor of harmful deposit formation in hydrocarbon compositions of the class of gasolines, fuel oils, heating oils and lubricants is prepared by condensing an alkenyl succinic anhydride with an aliphatic polyamine or with an aliphatic polyamine and a carboxylic acid, followed by further reaction of the condensation product with a phosphosulfurized hydrocarbon and with a dialkyl dithiophosphoric acid. The alkenyl succinic anhydride has an alkenyl group totaling from about 40 to about 250 carbon atoms, as for example the reaction product of 800 molecular weight polyisobutylene and maleic anhydride. Examples of the aliphatic polyamines include diethylene triamine and tetraethylene pentamine. The carboxylic acid contains from about 1 to 30 carbon atoms in an aliphatic hydrocarbon chain and is preferably acetic acid. The phosphosulfurized hydrocarbon is exemplified by P_2S_5-treated polyisobutylene. Particularly suitable dialkyl dithiophosphoric acids are derived from C_3 to C_{18} monohydric aliphatic alcohols, including mixed alcohols, such as a mixture of isobutyl alcohol and amyl alcohol. The additive can be used with conventional additives such as zinc dialkyldithiophosphate.

3,511,781
COMPLEX ALUMINUM GREASES OF ENHANCED STABILITY

Bruce W. Hotten, Orinda, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,068
Int. Cl. C10m *5/16*
U.S. Cl. 252—36 6 Claims

1. A lubricating oil composition comprising an oil of lubricating viscosity and in an amount sufficient to thicken said oil to a grease, a compound of the formula:



in which R is an aliphatic group having from about 8 to 30 carbon atoms, R' is selected from the group consisting of hydrogen and a lower aliphatic hydrocarbon radical, at least one-half of R' being hydrogen, and Ar is an aromatic hydrocarbon of from 6 to 11 carbon atoms, x is at least 0.25, y is at least 0.25, the sum of x and y is from 1.5 to 2.5, z is from 0.5 to 1.5, and the sum of x, y and z is 3, and

in an amount sufficient to provide stabilization an alkali metal aroate of from 7 to 12 carbons, wherein said metal is of atomic number 3–19.

3,511,782
SYNTHETIC ESTER LUBRICANTS CONTAINING TRIHYDROCARBYL TIN SULFIDES AND PHENOTHIAZINES

Robert E. Malec, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 29, 1967, Ser. No. 642,205
Int. Cl. C10m *1/54, 1/38*
U.S. Cl. 252—46.4 11 Claims

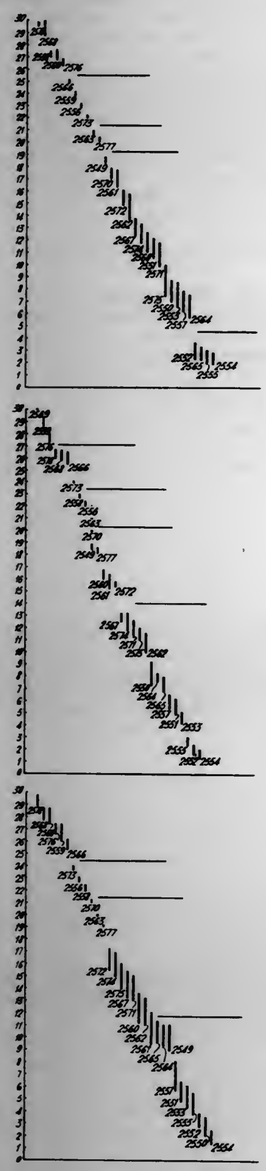
Petroleum-derived and synthetic hydrocarbon lubricants, ester lubricants, polyglycol lubricants, phosphate ester lubricants, silicones, silicate esters, fluoroesters, and polyphenyl ethers are stabilized against the effect of oxygen by the synergistic combination of phenothiazine and a trihydrocarbyl tin sulfide. For example, the stabilizing effect of phenothiazine on di(2-ethylhexyl)sebacate is synergized by tributyl tin sulfide.

3,511,783

SUPERFATTED SOAP BAR CONTAINING A SYNERGISTIC PRESERVATIVE MIXTURE OF EHDP AND EDTA

John Walter Waring, Wirral, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

Filed Mar. 7, 1967, Ser. No. 621,248
Int. Cl. C11d 9/48, 9/34, 9/30
U.S. Cl. 252—117 1 Claim



A detergent bar is preserved against deterioration of odour and colour by incorporation of a synergistic mixture of EHDP and EDTA.

3,511,784

FOAMED HYDROCHLORIC ACID AND METHOD

Olen L. Riggs, Jr., and David W. Barnett, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Jan. 25, 1967, Ser. No. 611,691
Int. Cl. C11d 7/48; C23g 1/06
U.S. Cl. 252—148 6 Claims

Hydrochloric acid is converted to a stable foam, useful, e.g., for cleaning equipment, by adding a nitrogenous corrosion inhibitor and a foaming agent.

3,511,785

METHOD OF PREPARING RARE-EARTH METAL-ACTIVATED RARE-EARTH METAL VANADATE PHOSPHOR

Richard C. Ropp, Warren, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 650,097, June 29, 1967. This application Mar. 17, 1969, Ser. No. 807,746
Int. Cl. C09k 1/44
U.S. Cl. 252—301.4 10 Claims

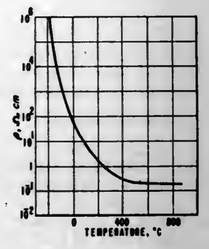
An improved method of preparing rare-earth metal activated rare-earth metal orthovanadate phosphor, particularly for use with discharge devices or for cathode ray tube applications. The raw mix of selected mixed rare-earth metal compounds and selected vanadate compounds is fired with a first flux which provides a specified atom excess of vanadium supplied as sodium or potassium vanadate and preferably as the metavanadate. The first flux is separated from the formed composition and a second flux of alkaline-earth metal halide is added to the composition, which is then refired. The second flux is thereafter removed from the final orthovanadate composition.

3,511,786

STRONTIUM TITANATE-FERRATE THERMISTOR COMPOSITIONS

Lothar H. Brixner, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 22, 1967, Ser. No. 662,515
Int. Cl. H01b 1/06
U.S. Cl. 252—521 4 Claims



Novel strontium titanate ferrate compositions of the formula $SrTi_{(1-x)}Fe_xO_{(3-0.5x)}\phi_{0.5x}$ in which x has a value of from 0.01 to 0.999 and ϕ represents an oxygen deficiency, have a negative temperature coefficient of electrical resistance and are useful as resistance heating bars, particularly at high temperatures.

3,511,787

FOAMED PLASTISOL COMPOSITION CONTAINING A REACTIVE SILICA MATERIAL

Orlando L. Bertorelli, Havre de Grace, and John F. Dacey, Aberdeen, Md., assignors to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 13, 1964, Ser. No. 359,442
The portion of the term of the patent subsequent to June 27, 1984, has been disclaimed
Int. Cl. C08j 1/18, 1/20, 1/22
U.S. Cl. 260—2.5 7 Claims

The disclosure is directed to the formation of foamed vinyl polymers for use as automobile crash pads, shoe inner soles, cloth backing, rug backing, and the like. A highly reactive particulate silica is combined with the blowing agent to produce stronger and lower density foams.

3,511,788

FOAMS, COMPOSITIONS, METHOD FOR MAKING FOAMS AND FOAM COVERED SUBSTRATE II

Joseph W. Kell, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Continuation of application Ser. No. 430,193, Feb. 3, 1965. This application Apr. 28, 1965, Ser. No. 451,617
Int. Cl. C08f 47/10, 35/02
U.S. Cl. 260—2.5 20 Claims

The preparation of foams from (a) organic liquids having a surface tension of at least 22.2 dynes per centimeter at 20° C. when in contact with air and (b) plastisols by the use of a copolymer of SiO_2 units and units selected from the group consisting of $(CH_3)_3SiO_{1/2}$ and $Q(CH_3)_2SiO_{1/2}$ units, wherein Q is a radical containing a solubilizing group and the ratio of SiO_2 units to the total $(CH_3)_3Si$ and $Q(CH_3)_2Si$ units is in the range of 1:0.6 to 1:1.2 is disclosed.

3,511,789

POLYMERIZABLE MATERIALS OF IMPROVED STABILITY AND FOAMS PRODUCED THEREFROM

Richard F. Shannon, Lancaster, and Philip W. Sullivan, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 251,346, Jan. 14, 1963. This application Apr. 21, 1966, Ser. No. 544,291
Int. Cl. C08g 51/58, 53/10
U.S. Cl. 260—2.5 42 Claims

A stabilized polymerizable material of the type wherein an active hydrogen on one molecule reacts with another material to add or condense into a higher molecular polymer. The polymerizable material is stabilized by a minor amount of a material the molecules of which contain nucleophilic groups which hydrogen bond with the active hydrogen of the polymerizable material to "blank off" the active hydrogen and hinder polymerization below elevated temperatures. The "blanked off" resin forming material has particular utility when used in foaming combinations of materials to prevent polymerization of the resinous forming materials before foaming takes place.

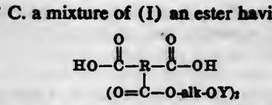
3,511,790

PREPARATION OF POLYIMIDE FOAMS

Ralph E. De Brunner, Kettering, Ohio, and John K. Fincke, Chapel Hill, N.C., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,180
The portion of the term of the patent subsequent to Jan. 21, 1986, has been disclaimed
Int. Cl. C08f 47/10; C08j 1/26, 1/18
U.S. Cl. 260—2.5 10 Claims

Process for preparing polyimide foam by heating at 150–500° C. a mixture of (I) an ester having the formula



wherein R is a tetravalent aromatic radical of 6–24 carbon atoms, alk is alkylene of 2–8 carbon atoms, and Y is hydrocarbyl of 1–8 carbon atoms, (II) an aromatic diamine and (III) an inert organic solvent.

3,511,791

DENTURE ADHERENT PREPARATION

Bruno Puetzer, Tuckahoe, Leonard Mackles, New York, and Alexander V. Finn, Staten Island, N.Y., assignors to Tintex Corporation, % Revlon, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 260,051, Feb. 20, 1963. This application Jan. 30, 1967, Ser. No. 612,307
Int. Cl. C08f 29/00
U.S. Cl. 260—17.4 7 Claims

A denture adherent having an acrylamide polymer as its principal adhesive component. The polymer may be combined with an anti-caking agent when compounded for use in powder form or with a hydrophobic petrolatum when a paste is desired. It is preferred to use some natural gum in both the paste and powder formulations.

3,511,792

UNSATURATED POLYESTER RESINS FORMED BETWEEN POLYMERIC FATTY ALCOHOLS AND POLYCARBOXYLIC ACIDS

Dietrich Helm and Eugen Griebsch, Unna, Germany, assignors to Schering AG, Berlin, Germany

No Drawing. Filed July 7, 1967, Ser. No. 651,674
Claims priority, application Germany, July 9, 1966, Sch 39,241
Int. Cl. C08f 21/02; C09d 3/68
U.S. Cl. 260—22 2 Claims

Unsaturated polyester resins formed between polymeric fatty alcohols and polycarboxylic acids necessarily including α,β-unsaturated acids, hardenable compositions comprising these resins and copolymerizable ethylenically unsaturated monomers such as styrene or vinyl toluene, and resinous materials formed by curing these hardenable compositions with a free-radial forming catalyst such as an organic peroxide.

3,511,793

MODIFIED VINYLIDENE CHLORIDE COPOLYMER COATING COMPOSITION

James Burnett Ezell, Richmond, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 13, 1968, Ser. No. 759,783
Int. Cl. C08f 37/12, 45/36
U.S. Cl. 260—23 5 Claims

The crimp jaw release characteristics of vinylidene chloride copolymer-coated organic packaging film is improved by including in the coating composition a controlled amount of behenic acid.

3,511,794

POLYVINYL HALIDE COMPOSITION CONTAINING AS A PLASTICIZER A DESULFURIZED FURFURAL EXTRACT

Jacques D. Robinson, Alvin, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 9, 1964, Ser. No. 373,843
Int. Cl. C08f 45/52; C08k 1/62
U.S. Cl. 260—33.6 16 Claims

A polyvinyl halide containing composition, method for preparing such composition and a method for plasticizing a polyvinyl halide. The composition comprises a vinyl

halide polymer and a petroleum based hydrocarbon fraction which is obtained by the solvent extraction with furfural, of a high-boiling petroleum-derived cracking residue, subjecting the aromatic extract obtained therefrom to catalytic treatment in the presence of a desulfurization catalyst and distilling the desulfurized product to obtain a fraction having a boiling range a substantial portion of which is above 120° C. at 0.05 mm. Hg. The method of preparing the above polymer composition comprises mixing the above described petroleum based hydrocarbon fraction with a vinyl halide polymer.

3,511,795

FATTY ACID ESTER ADDUCT TREATED WITH AN ACIDIC ION EXCHANGE RESIN

Mary G. Brodie, Chicago, Ill., assignor to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 24, 1966, Ser. No. 560,106
Int. Cl. C08f 47/22; C08g 53/20; C08j 1/12
U.S. Cl. 260—23.7 12 Claims

Maleinized and fumarized adducts of esters of polyols and unsaturated fatty acids having good color properties and good drying properties are prepared by incorporating with the reaction mixture a cation exchange resin in the hydrogen form, preferably so that said resin is present during maleinization or fumarization, with or without treatment of the adduct with a peroxide and/or polybutadiene, with the further proviso that said resin is removed from the final product.

3,511,796

EXTINGUISHING POLYMER COMPOSITIONS CONTAINING TETRABROMOBICYCLONONANE

Harold A. Wright, Murrysville, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Original application June 16, 1966, Ser. No. 557,915, now Patent No. 3,456,022. Divided and this application Oct. 10, 1968, Ser. No. 785,420
Int. Cl. C08f 45/58; C08g 51/58; C08v 1/18
U.S. Cl. 260—2.5 6 Claims

Self-extinguishing polymer compositions are prepared by incorporating into the polymer composition 3,4,7,8-tetrabromo-4.3.0-bicyclononane. The addition of the solid 3,4,7,8-tetrabromo-4.3.0-bicyclononane does not cause plasticization of the polymer of deterioration of the molding properties, and being a white solid, does not discolor the polymer.

3,511,797

EMULSION POLISH SYSTEMS

Herbert J. Mellan and Daniel J. Kay, Buffalo, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 651,963, July 10, 1967. This application Feb. 17, 1969, Ser. No. 799,912
Int. Cl. C08f 45/52; C08g 17/16, 17/18
U.S. Cl. 260—28.5 9 Claims

A resinous alkali soluble polymerized partial ester product which comprises (A) a polyol polyester comprised of saturated aliphatic glycol residues connected by ester linkages to dicarboxylic residues selected from the group consisting of terephthalic acid, isophthalic acid, phthalic acid, phthalic anhydride, endo-cis-bicyclo-(2.2.1) hept-5-ene-2,3-dicarboxylic acid, endo-cis-bicyclo-(2.2.1) hept-5-ene-2,3-dicarboxylic anhydride, tetrahydrophthalic acid, tetrahydrophthalic anhydride, hexahydrophthalic acid, hexahydrophthalic anhydride, and mixtures thereof, with the mole ratio of said glycol compound to said dicarboxylic compound being from slightly over one-to-one to two-to-one, said residues having been subsequently connected by ester linkages to (B) tricarboxylic monoaromatic residues a portion of whose carboxyl radicals non-esterified with the said polyol polyester are esterified with a saturated fatty alcohol having 8 to 20 carbon atoms in an amount of from about 0.05 to about 0.50 moles of fatty alcohol for each mole of tricarboxylic compound, and the remainder of the carboxyl radicals on the tricarboxylic compound are in the form selected from the group of free carboxyl and anhydride groups and said partial ester product being characterized by an acid number from about 105 to about 250, a molecular weight from about 450 to about 1350 and a melting point range from about 65 to about 130 degrees centigrade.

An aqueous emulsion coating composition comprising a waxy polymer, a hard polymer derived from ethylenicaly unsaturated monomer, emulsifier, water and the aforementioned resin is also disclosed. These are useful for floor polishes.

3,511,798

VINYL MONOMER-MALEIC ANHYDRIDE POLYMER-CONTAINING AQUEOUS GEL COMPOSITIONS AND METHOD OF PREPARING SAME

Henry V. Isaacson, Oak Forest, and David W. Young, Homewood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 29, 1966, Ser. No. 538,220
Int. Cl. C08f 45/22, 45/24
U.S. Cl. 260—29.6 10 Claims

Gelation of a normally liquid, aqueous solution of a water-soluble salt of a vinyl monomer-maleic anhydride polymer, e.g. a styrene-maleic anhydride polymer, is effected by adding to the solution aluminum, ferric or zirconium cations. The polymer has a Staudinger average molecular weight of at least about 250,000, e.g. about 500.000 to 1.000.000. The resultant gel is stable and firm.

3,511,799

STABLE AQUEOUS DISPERSIONS OF ETHYLENE POLYMERS

Bert H. Clampitt, Overland Park, Kans., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 585,283. Oct. 10, 1966. This application June 20, 1969, Ser. No. 835,231
Int. Cl. C08f 27/00
U.S. Cl. 260—29.6 6 Claims

Stable aqueous dispersions of water-insoluble, self-emulsifiable ethylene-alkyl acrylate polymers substantially free of metallic cations are obtained by contacting aqueous dispersions of water-insoluble, self-emulsifiable ethylene-alkyl acrylate polymers containing metallic cations with a strongly acidic cation exchange resin charged with ammonium ions.

3,511,800

SPINNABLE SOLUTIONS OF ACRYLONITRILE POLYMERS

Jenö Szita, Dormagen, Otto Unger, Goddelau, and Herbert Marzolph and Günther Nischk, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 1, 1966, Ser. No. 591,144
Claims priority, application Germany, Nov. 10, 1965, F 47,631
Int. Cl. C08f 3/76, 45/44, 45/46
U.S. Cl. 260—30.8 7 Claims

By polymerising acrylonitrile alone or combined with other unsaturated monomers in organic solvents, in the presence of a catalyst system containing a sulfinic acid amide combined with an acid compound or a mixture of said compound and an organic peroxide, polymer solutions are obtained which can be spun into filaments having outstanding textile properties and usefulness.

3,511,801

PROCESS OF PREPARING POLYESTER FIBERS

Richard Young Meelheim, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 355,934, Mar. 30, 1964, which is a continuation-in-part of application Ser. No. 273,832, Apr. 18, 1963. This application Mar. 30, 1967, Ser. No. 626,974
Int. Cl. C08f 45/34, 45/06; C08k 1/36
U.S. Cl. 260—30.8 3 Claims

A process is disclosed for preparing polyester textile fibers having improved surface luster and friction properties. The polyester is prepared by conventional ester interchange-polymerization of dimethyl terephthalate with ethylene glycol to form polyethylene terephthalate, which is melt spun in conventional manner. Prior to completion of the polymerization, from 0.25% to 10% by weight of kaolinite is added as a glycol slurry of kaolinite platelets with at least 0.2% by weight of deflocculant based on the weight of kaolinite. Highly purified kaolinite of a narrow range of particle sizes is used. A variety of deflocculants are disclosed. In order to prevent ether formation, a non-colored, soluble base is added to the polymerization mixture prior to addition of the kaolinite. Suitable bases include the hydroxides, acetates, formates and carbonates of the alkali and alkaline earth metals, with sodium acetate being preferred.

3,511,802

STABILIZED POLYPROPYLENE RESIN COMPOSITION

Gordon C. Newland, Kingsport, Tenn., and John W. Tamblyn, Jonas Ridge, N.C., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 702,192, Feb. 1, 1968. This application June 10, 1968, Ser. No. 735,558
Int. Cl. C08f 45/54, 45/58, 45/04
U.S. Cl. 260—41 12 Claims

A thermoplastic composition which includes polypropylene and a stabilizer combination comprising titanium dioxide and a compound selected from the group consisting of p-t-butylphenol; 2,6-didodecyl-p-cresol; 2,4-dimethyl-6-octadecyl phenol; 2,6-bis(1-methylheptyl)-p-cresol; 2-dodecyl-p-cresol; 2-(1-methylheptadecyl)-p-cresol; 2-(trimethyl hexyl)-p-cresol; 2,6-bis(1-methylundecyl)-p-cresol; 2,6-bis(trimethyl hexyl)-p-cresol; and 2-(1-methylheptyl)-p-cresol.

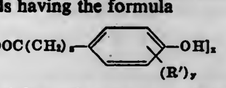
3,511,803

HINDERED PHENOLIC-CONTAINING ORGANOTIN STABILIZER FOR POLYMERS

Toshio Seki, Osaka-shi, Yasuo Hiyama, Amagasaki-shi, and Yoshitaka Sato, Moriguchi-shi, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Feb. 14, 1967, Ser. No. 615,895
Claims priority, application Japan, Feb. 15, 1966, 41/418,605
Int. Cl. C08f 45/62; C08g 51/62
U.S. Cl. 260—45.75 3 Claims

Novel organotin compounds are provided for stabilizing synthetic resins against degradation by thermal oxidation, said compounds having the formula



wherein R is selected from the group consisting of alkyl of from 1 to 18 carbon atoms, cycloalkyl, aryl, and benzyl, R′ is alkyl of from 1 to 12 carbon atoms, x and y each are integers of from 1 to 3 inclusive, and z is an integer of from 0 to 2 inclusive, at least one R′ group being adjacent to —OH group in the phenolic group, and stabilized synthetic resins having incorporated therein an inhibiting amount of said organotin compounds.

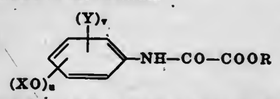
3,511,804

PROTECTION OF ORGANIC MATERIALS FROM ULTRAVIOLET RADIATION

Max Duennenberger, Frenkendorf, Christian Luethi, Munchenstein, and Hans Rudolf Biland, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Jan. 25, 1967, Ser. No. 611,556
Claims priority, application Switzerland, Feb. 7, 1966, 1,681/66
Int. Cl. C08f 45/60; C08g 51/60
U.S. Cl. 260—45.85 7 Claims

Protection of organic materials, especially polycondensates, polyadducts and vinylpolymers, from the action of ultraviolet rays by applying to said materials oxalic acid ester amides of the formula



wherein X represents a possible substituted alkyl, alkenyl, aralkyl or acyl group, Y a possible substituted alkyl, halogen, phenyl, nitrile, nitro, substituted amino, aralkyl or a sulpho group, where two residues Y may represent the complement to an naphthalene ring, R stands for alkyl, alkoxy, benzyl, possible substituted phenyl, cyclohexyl group, u and v stand for 0, 1 or 2, the sum $(u+v)$ being 1 to 3.

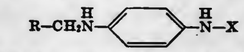
3,511,805

RUBBER PRESERVED WITH ALICYCLICMETHYL PHENYLENEDIAMINES

Milton Kosmin, Creve Coeur, Mo., and John R. Le Blanc, Wilbraham, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Apr. 18, 1963, Ser. No. 273,831, now Patent No. 3,283,006, dated Nov. 1, 1966. Divided and this application Oct. 21, 1965, Ser. No. 516,183
Int. Cl. C08f 45/60; C10l 1/22; A01n 9/20
U.S. Cl. 260—45.9 5 Claims

1. Sulfur vulcanizable conjugated diolefin rubber having incorporated therein in amount sufficient to inhibit degradation, a compound of the structure



where R is selected from a group consisting of cyclohexyl and methylcyclohexyl and X is selected from a group consisting of phenyl and R—CH_2 where R has the same meaning as above.

3,511,806

ALPHA-OLEFIN POLYMERS HAVING IMPROVED ULTRAVIOLET STABILITY

Jackson S. Boyer, Claymont, Del., and Richard D. Cassar, West Chester, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 18, 1967, Ser. No. 691,129
Int. Cl. C08f 45/58
U.S. Cl. 260—45.85 22 Claims

A solid substantially crystalline alpha-monoolefin polymer composition having improved resistance to ultraviolet degradation comprising a solid crystalline alpha-monoolefin polymer containing 0.05–10.0 weight percent of certain polymethylated muconic acids and/or their hydrocarbyl monoesters or diesters, said acids being selected from the group consisting of α,α'-dimethylmuconic acid, α,β'-dimethylmuconic acid, α,α'-β-trimethylmuconic acid, α,β,β'-trimethylmuconic acid, and $\alpha,\alpha',\beta,\beta'$-tetramethylmuconic acid, and to methods of preparing said compositions.

3,511,807

COUPLING POLYMERIZATION OF LOW MOLECULAR WEIGHT POLYAMIDE-ACIDS TO PRODUCE HIGH MOLECULAR WEIGHT POLYIMIDES

Elwyn Raymond Lovejoy, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 11, 1968, Ser. No. 735,962
Int. Cl. C08g 20/32
U.S. Cl. 260—47 10 Claims

Process of producing coalescible powders of high molecular weight aromatic polyimides or copolyimides by forming a solution of a tetracarboxylic dianhydride or diamine, or low molecular weight polyamide acid containing an excess of either diamine or tetracarboxylic dianhydride, followed by continuously imidizing said polyamide acid in the presence of either a diamine or tetracarboxylic dianhydride whichever was either not present or formed the minor constituent in the polyamide-acid so as to avoid having to handle the extremely viscous solutions which high molecular weight polyamide-acids form.

3,511,808

POLYESTERS OF A PHENOL AND TETRAMETHYL ADIPIC ACID

James D. Hodge, Greenville, and Richard D. Weimar, Jr., Grifton, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 26, 1968, Ser. No. 747,822
Int. Cl. C08q 33/10, 17/08
U.S. Cl. 260—47 4 Claims

Linear polyesters derived from 2,2,5,5-tetramethyladipic acid and a dihydroxy aromatic compound from the group consisting of hydroquinone, 4,4'-dihydroxybiphenyl, and 2,2-bis(4-hydroxyphenyl)propane.

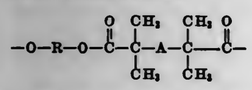
3,511,809

POLYESTERS FROM p-ARYLENE-BIS (DIMETHYL ACETIC ACID)

Milton J. Hogsed, Kinston, N.C., Richard K. Quisenberry, Seaford, Del., and Richard D. Weimar, Jr., Grifton, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 26, 1968, Ser. No. 747,821
Int. Cl. C08g 33/10; 17/08; C07c 63/00
U.S. Cl. 260—47 9 Claims

Fiber-forming linear polyesters characterized by recurring units of the structural formula



wherein A is a divalent aromatic radical from the class of p-phenylene and p,p'-biphenylene, and R is a divalent organic radical of from 6 to 20 carbon atoms having at least 1 6-membered carbocyclic nucleus.

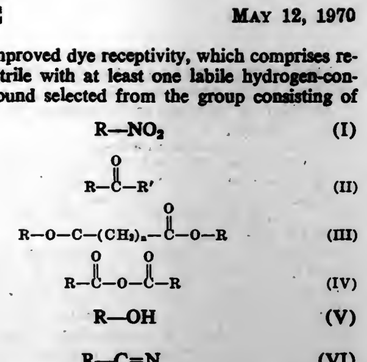
3,511,810

DYED MODIFIED ACRYLONITRILE AND METHACRYLONITRILE POLYMERS

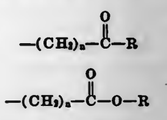
Clarence Lee Furrow, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Original application Aug. 7, 1961, Ser. No. 129,556, now Patent No. 3,254,068, dated May 31, 1966. Divided and this application Dec. 7, 1964, Ser. No. 424,158
Int. Cl. C08f 3/74
U.S. Cl. 260—63 10 Claims

1. A method for the production of a modified polymer from at least one monomer selected from the group consisting of acrylonitrile and methacrylonitrile, said polymer having improved dye receptivity, which comprises reacting said nitrile with at least one labile hydrogen-containing compound selected from the group consisting of



wherein R is selected from the group consisting of primary and secondary alkyl radicals, containing from 1 to 10 carbon atoms, *n* is a whole integer of from 0 to 2, inclusive, and R' is selected from the group consisting of —R,



and —O—R, wherein R and *n* are as previously defined in the presence of a free radical generating agent.

3,511,811

PROCESS FOR THE PREPARATION OF POLYESTERS OF TEREPHTHALIC ACID AND GLYCOLS

Andre Jan Conix, Antwerp, and Lambert Gaston Jeurissen, Mortsel, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed May 27, 1968, Ser. No. 732,017
Claims priority, application Great Britain, June 2, 1967, 25,645/67
Int. Cl. C08g 17/015
U.S. Cl. 260—75 7 Claims

Process for the preparation of polyesters of terephthalic acid and a glycol utilizing in a quantity sufficient to have present in the polycondensation reaction mixture at least 0.005 percent by weight of dissolved germanium dioxide with respect to the weight of glycol terephthalate a preformed catalytic solution of germanium dioxide. The preformed catalytic solution is prepared by dissolving germanium dioxide in water and using this solution in the polycondensation reaction, as such, or mixed with glycol and the water may also be eliminated from the mixture of water and glycol during a separate distillation step.

3,511,812

PREPARATION OF POLYESTERS USING CO-CATALYST OF LITHIUM AMIDE AND MANGANIC HYDROXIDE IN TRANSESTERIFICATION REACTION

Mary J. Stewart, Media, Pa., and Philip Michelman, Wilmington, Del., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 23, 1968, Ser. No. 770,062
Int. Cl. C08g 17/013; C07c 67/02; B01l 11/82
U.S. Cl. 260—75 6 Claims

Process of preparing polyesters comprising carrying out a transesterification reaction between a dialkyl terephthalate and a diol in the presence of lithium amide and manganic hydroxide to form a polyester prepolymer and then polycondensing the resulting polyester prepolymer in the presence of a conventional polycondensation catalyst.

3,511,813

PREPARATION OF UNSATURATED URETHANE PREPLOYMERS FROM POLYEPICHLOROHYDRINS

Perry A. Argabright, Joe T. Kelly, and Vernon J. Sinkey, Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 22, 1966, Ser. No. 581,148
Int. Cl. C08g 22/00, 22/34
U.S. Cl. 260—77.5 11 Claims

Isocyanurate-containing unsaturated polyurethanes can be produced by reacting a metal cyanate with a hydroxyl-containing halogenated polyether in an aprotic solvent.

3,511,814

CURING METHOD

Junji Ogura, Minoo, Noritoshi Mise, Ikeda, Makoto Yokoo, Toyonaka, and Yoshihiro Hatanaka, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Original application May 1, 1967, Ser. No. 634,883, now Patent No. 3,478,089, dated Nov. 11, 1969. Divided and this application Oct. 2, 1968, Ser. No. 764,647
Claims priority, application Japan, May 6, 1966, 41/28,816
Int. Cl. C08g 53/08, 22/44, 51/84
U.S. Cl. 260—77.5 7 Claims

A polyisocyanate component is cured at room temperature by using, as a curing agent, a carboxylic acid salt of hexamethylenediamine or an aromatic diamine which salt is in a liquid state at temperatures below 35° C. The salts are also provided.

3,511,815

DEEP DYEING POLYCARBONAMIDE FILAMENT

Ahmet Nuri Sayin, 138 Holly Oak Drive, Seaford, Del. 19973

No Drawing. Continuation-in-part of application Ser. No. 630,949, Apr. 14, 1967. This application May 8, 1968, Ser. No. 727,652
Int. Cl. C08g 20/00
U.S. Cl. 260—78 5 Claims

A synthetic linear polycarbonamide when spun into a filament exhibits increased dyeability and uniformity of cross section. The polycarbonamide is characterized by a high amine end content which amine ends are supplied by an alkylene diamine, an alkylenediammoniumphenylphosphinate and a tertiary amine. The alkylene radical is identical with that of the diamine precursor of the polyamide.

3,511,816

WATER SOLUBLE POLYBUTADIENE COATING

Gazi Basher Mourad Dickakian, Oxford, England, assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 26, 1967, Ser. No. 611,842
Int. Cl. C08d 5/04; C08f 3/70, 27/08
U.S. Cl. 260—78.4 8 Claims

Alpha-beta unsaturated dicarboxylic acids such as maleic anhydrides are reacted with high molecular weight 1,4-polymers or copolymers of conjugated diolefins such as polybutadiene in an amount sufficient to form an adduct whose ammonium salt is substantially soluble in water. Aqueous solutions of salts of these adducts can be used for a wide variety of coating applications.

3,511,817

COPOLYMERS OF VINYL LACTAMS AND METHODS OF MAKING THE SAME

Marvin M. Fein, Westfield, N.J., Victor K. Jasinski, Dover, Del., and Eugene S. Barabas, Watchung, N.J., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 23, 1968, Ser. No. 761,788
Int. Cl. C08f 19/10, 41/06
U.S. Cl. 260—78.5 15 Claims

Film forming copolymers of vinyl lactams, e.g., vinyl pyrrolidone and mono or half esters of unsaturated dicarboxylic acids are produced by the copolymerization of a preformed half ester of an unsaturated dicarboxylic acid, e.g., a half ester of maleic acid with vinyl pyrrolidone in the presence of a polymerization catalyst. The copolymers are exceptionally useful in hair spray compositions.

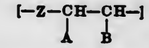
3,511,818

CARBON CHAIN BACKBONE POLYMERS HAVING AMINO AND CARBOXYL GROUPS ATTACHED THERETO

Thomas E. Whiteley and Ernest J. Perry, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application Aug. 24, 1964, Ser. No. 391,787, now Patent No. 3,392,025, dated July 9, 1968. Divided and this application Feb. 9, 1968, Ser. No. 722,647
Int. Cl. C08f 27/08
U.S. Cl. 260—78.5 9 Claims

New water soluble polymers, useful as silver halide emulsion peptizers comprise recurring units having the structure



wherein Z is a divalent organic radical, A and B are selected from amino and carboxyl and the ratio of amino to carboxyl is in the range from 1:5 to 1:1.25 and not more than one of A and B is amino in any one such unit.

3,511,819

THERMALLY DURABLE AROMATIC COPOLYAMIDES

James L. Bleasdale, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 1, 1967, Ser. No. 619,617
Int. Cl. C08g 20/20
U.S. Cl. 260—78 1 Claim

A copolymeric composition particularly useful for fiber preparation typified by the copolyamide formed from m-phenylenediamine with a mixture of isophthalic and terephthalic acids, the acids being in an Ip/Tp molar ratio of from 45/55 to 5/95. A higher ratio results in a substantial loss of high temperature and hydrolytic stability properties of fibers formed from the composition, while a lower ratio produces a composition of low solubility in conventional solvents useful for fiber preparation.

3,511,820
SOLID POLYMERS OF 2-PHENYLALLYL ALCOHOL AND ITS ESTERS WITH MALEIC ANHYDRIDE AND TERPOLYMERS THEREOF WITH VINYL MONOMERS

Joseph A. Verdol, Dolton, and Mark O. Thienot, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 21, 1967, Ser. No. 661,805
Int. Cl. C08f *39/00, 17/00*
U.S. Cl. 260—78.5 16 Claims

Solid polymers of 2-phenylallyl alcohol and its esters, such as 2-phenylallyl acetate, with maleic anhydride, maleic acid and their esters are formed using free radical initiators and various polymerization techniques. Polymerizable vinyl monomers such as styrene can also be incorporated in the polymer.

3,511,821
TERPOLYMERS OF ISOBUTYLENE-METHYLCYCLOPENTADIENE AND A CROSSLINKING AGENT

Paul Thomas Parker, Fred J. Buchmann, and Lawrence Wesley McLean, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 23, 1963, Ser. No. 318,369
Int. Cl. C08d *3/04*
U.S. Cl. 260—80.7 1 Claim

1. A highly U.V. resistant rubbery terpolymer composed of isobutylene, from 2 to 5 weight percent of methylcyclopentadiene based on isobutylene and from 0.1 to 1 weight percent of divinyl benzene based on isobutylene, said polymer characterized by a viscosity average molecular weight of between 300,000 and 500,000 and from 3.0 to 6.0 mole percent of unsaturation.

3,511,822
SOLUTION GRADE PVC-COPOLYMERS PREPARED BY SUSPENSION POLYMERIZATION

Paul Kraft, Yonkers, and Siegfried Altscher, Monsey, N.Y., and William F. Keller, South Yarmouth, Mass., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,584
Int. Cl. C08f *15/24, 15/30*
U.S. Cl. 260—87.1 11 Claims

A method is provided for the suspension polymerization of "solution grade" vinyl chloride/vinyl acetate copolymer. The method comprises polymerizing vinyl chloride and from about 1 to 25% by weight vinyl acetate in the presence of a catalytic amount of a "hot catalyst," from about 0.03 to about 0.3% of a methyl cellulose suspending agent and a halogenated aliphatic hydrocarbon containing from 1 to about 20 carbon atoms. The reaction is conducted at a temperature of from 0° C. to 90° C. The hot catalyst has a ten hour half-life temperature of less than 60° C.

3,511,823
METHODS OF POLYMERIZING N-VINYL LACTAMS

Marvin R. Leibowitz, Edison, and Frederick Grosser, Midland Park, N.J., assignors to GAF Corporation, a corporation of Delaware

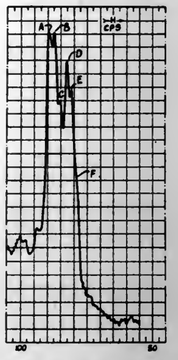
No Drawing. Continuation-in-part of application Ser. No. 307,357, Sept. 9, 1963. This application Aug. 16, 1967, Ser. No. 660,920
Int. Cl. C08f *7/12*
U.S. Cl. 260—88.3 11 Claims

A method for the production of insoluble polymers of N-vinyl lactams which comprises heating an N-vinyl lactam at a temperature of from about 40° C. to about 200° C. in the presence of a catalytic amount of a catalyst selected from the group consisting of hydrides and borohydrides of alkali metals or mixtures of these catalysts with a member of the group consisting of the alkali metals, alkaline earth metals and the oxides, hydroxides and alkoxides corresponding thereto.

3,511,824
NOVEL POLYPROPYLENE HAVING ISOTACTIC-RANDIOTACTIC STRUCTURE

Gregory Julius Listner, Kendall Park, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Continuation-in-part of application Ser. No. 570,997, Aug. 8, 1966. This application Mar. 31, 1967, Ser. No. 629,056

Int. Cl. C08d *3/04*
U.S. Cl. 260—93.7 21 Claims



An isotactic-randiotactic stereoblock polypropylene characterized by crystallinity and at least 1% diethyl ether solubility.

3,511,825
OXYALKYLATED WOOD TARS

Marco Wismer, Gibsonia, Herman P. Doerge, Verona, and Paul R. Mosso, Natrona Heights, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Original application May 29, 1967, Ser. No. 642,221, now Patent No. 3,468,822. Divided and this application Jan. 2, 1969, Ser. No. 798,566
Int. Cl. C08h *13/00*; C08g *22/08*
U.S. Cl. 260—97 7 Claims

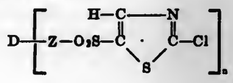
This invention relates to novel polyurethane resins and novel hydroxyl-containing resins prepared from wood tars. In particular, this invention pertains to the preparation of polyurethane foams from a wood tar having a hydroxyl number of about 40 to about 300 and from the oxyalkylation products of said wood tars. More particularly, this invention relates to the preparation of novel rigid polyurethane foams having excellent water vapor transmission resistance.

3,511,826
DYESTUFFS CONTAINING 2-CHLOROTHIAZOLE- AND BENZTHIAZOLE-SULFONYL GROUPS

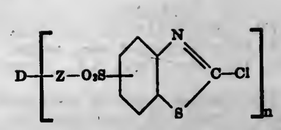
Roland Jean Dominique Tosan and Aimé Joseph Arsac, Condrieu, Fidèle Domenech, Saint-Clair-du-Rhone, Pierre Jules Emile Bourguignon, Lamoriaye, and Jean André Paul Kienzle, Creil, France, assignors, by mesne assignments, to Ugine Kuhlmann, Paris, France

No Drawing. Filed Jan. 10, 1962, Ser. No. 165,323
Claims priority, application France, Dec. 9, 1961, 881,507
Int. Cl. C09b *62/38, 62/40, 62/42*
U.S. Cl. 260—146 4 Claims

1. A reactive dyestuff characterized by having one of the following formulae:



and



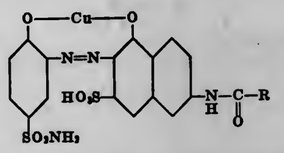
in which D represents the radical of a dyestuff DZH selected from the group consisting of the azo, anthraquinone, metalliferous azo and phthalocyanine series, Z represents a linkage selected from the group consisting of —O—, —S— and—NH—, and *n* represents an integer from 1 to 2 included.

3,511,827
METALLIZED MONOAZO DYE FOR NYLON

Roderick H. Horning, Reading, Pa., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts

No Drawing. Filed Apr. 4, 1968, Ser. No. 718,940
Int. Cl. C09b *45/18*; D06p *1/10*
U.S. Cl. 260—151 7 Claims

Compounds of the formula:



wherein R is either phenyl, tolyl, chlorophenyl, dichlorophenyl, nitrophenyl or methoxyphenyl which compounds are suitable for dyeing nylon in red shades.

3,511,828
MONOAZO DYES OF THE PYRAZOLONE SERIES

Peter Dimroth and Kurt Mayer, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed June 6, 1967, Ser. No. 643,820
Claims priority, application Germany, June 15, 1966, B 87,564
Int. Cl. C09b *29/22*; D06p *1/04*
U.S. Cl. 260—162 5 Claims

Azo dyes from 3-aminobenzanilide or 4-aminobenzanilide and 1 - phenyl - 3 - carbalkoxypyrazolones which are useful for dyeing polyester textile material.

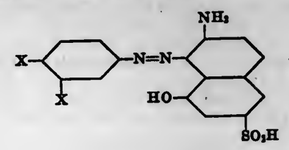
3,511,829
PHENYLAZOAMINONAPHTHOL DYES

William H. Armento, Albany, N.Y., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Filed July 27, 1967, Ser. No. 656,319
Int. Cl. C07c *107/08*; C09b *29/30*
U.S. Cl. 260—199 7 Claims

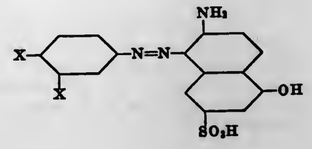
Dyes selected from the formulae:

(I)



and

(II)



wherein one X is hydrogen, the other X being a radical of the formula —COOR, R being an alkyl radical of from about four to about eight carbon atoms.

The dyes are produced by coupling aminobenzoic acid esters with 6- or 7-amino-4-hydroxy-2-naphthalenesulfonic acid under acid conditions of coupling.

3,511,830
STARCH PRODUCT

Edwin L. Speakman, Clinton, Iowa, assignor to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 367,246, May 13, 1964. This application Aug. 27, 1968, Ser. No. 755,733
Int. Cl. C13l *1/08*
U.S. Cl. 260—233.5 18 Claims

This invention relates to diazonium salts of esters of starch and anthranilic acid and diazonium salts of esters of starch and derivatives of anthranilic acid. These diazonium salts of esters of starch may be reacted to obtain cross-linked starch products. They may also be coupled with coupling compounds to produce colored starch derivatives.

3,511,831
THIAZINOBENZOTHIAZINE DERIVATIVES

Joseph E. Dunbar and Betty H. Tarnowski, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 19, 1968, Ser. No. 745,972
Int. Cl. C07d *93/12*; A01n *9/12, 9/14*
U.S. Cl. 260—240 14 Claims

2,3,5,6 - tetrahydro - (1,4) -thiazino - (4,3,2 - de) (1,4) - benzothiazine - 9 - carboxaldehyde and the 2,3,5,6-tetrahydro - 8 - loweralkyl - (1,4) - thiazino - (4,3,2-de) (1,4) - benzothiazine - 9 - carboxaldehydes and their oxides and derivatives, said derivatives being those wherein the oxygen atom of the carboxaldehyde moiety is replaced with a nitrogen atom such as to form the corresponding oximes, semicarbazones, thiosemicarbazones or hydrazones. These compounds are useful as pesticides.

3,511,832
3-THIOTROPANYL ESTERS OF CERTAIN SUBSTITUTED - 2 - AMINOPHENYLACRYLATE COMPOUNDS

Henry C. Caldwell, Ambler, and William G. Groves, Norristown, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Nov. 1, 1967, Ser. No. 679,656, now Patent No. 3,458,507, dated July 29, 1969. Divided and this application Jan. 31, 1969, Ser. No. 795,739
Int. Cl. C07d *43/06*; C09b *23/16*
U.S. Cl. 260—240 5 Claims

Substituted 3-tropanyl-2-aminophenylacrylate esters having gastrointestinal spasmolytic activity, the substituent on the 3 carbon atom of the 2-phenylacrylic acid derivatives being hydrogen, phenyl, furyl, thienyl and pyridyl. Method of preparation comprises reacting the properly substituted nitrophenylacetic acid with paraformaldehyde or an aromatic aldehyde, treating the formed acid with tropine or thiotropine and converting the resulting ester to the final amino derivative by hydrogenating with Raney nickel.

3,511,833

PROCESS FOR MAKING A NEW CRYSTALLINE FORM OF A BIS-TRIAZINYLAMINO STILBENE OPTICAL BRIGHTENER

Christopher J. Tacharner, Warwick, R.I., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

Filed May 12, 1967, Ser. No. 638,066
Int. Cl. C07d 55/22
U.S. Cl. 260—240 12 Claims

The thermostable α-crystal form of the optical brightener, the disodium salt of 4,4'-bis-[2''-phenylamino-4''-(N-methyl - β - hydroxy - ethylamino)-s-triazinyl(6'')-amino]-stilbene-2,2'-disulfonic acid, is produced by converting thermally instable forms of the above-named optical brightener to thermostable sodium salts by heating at reflux temperature the thermally instable forms in a reaction medium comprising an inert, water-soluble organic solvent and an aqueous solution of an electrolyte in certain critical amounts.

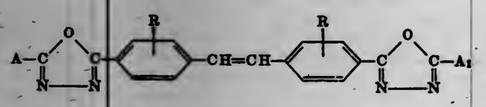
3,511,834

SUBSTITUTED 4,4-BIS(2-[1,3,4-OXADIAZOLYL]) STILBENES

Adolf Emil Siegrist, Basel, Erwin Maeder, Aesch, Basel-Land, Peter Liechti, Binningen, and Leonardo Guglielmetti, Birsfelden, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 463,323, June 11, 1965. This application Sept. 5, 1967, Ser. No. 665,298
Claims priority, application Switzerland, June 15, 1964, 7,796/64
Int. Cl. C07d 85/54
U.S. Cl. 260—240 11 Claims

New 4,4'-disubstituted stilbenes are provided which may be represented by the general formula



where A and A_1 are identical or different and each represents an aryl, an aralkenyl radical forming a system of conjugated double bonds with the aryl radical and the diazole nucleus or a heterocyclic radical of aromatic nature; R represents hydrogen, halogen, alkyl, halogenalkyl, cyano, cyanalkyl, the carboxyl group, the carboxylic acid ester group and the carboxylic acid amide group.

The above-described compounds are especially useful as optical brighteners for organic material.

3,511,835

CAFFEINE-, METHYL- AND PHENYLISOPROPYL-SUBSTITUTED ETHYLENEDIAMINE

Juan Miquel Quintilla, Calle Viladomat 71, Barcelona, Spain

No Drawing. Filed Apr. 15, 1968, Ser. No. 721,215
Claims priority, application Spain, Nov. 13, 1967, 347,509
Int. Cl. C07d 57/54, 57/58
U.S. Cl. 260—256 2 Claims

This invention relates to new compounds, namely 8-[2 - [N - (α - methylphenylethyl) - methylamino]-ethylamino]-caffeine and non-toxic acid addition salts, which compounds have pronounced analeptic, psychotonic, antidepressive and antispasmodic properties, and which compounds can be administered orally, rectally or parenterally.

3,511,836

2,4,6,7-TETRA SUBSTITUTED QUINAZOLINES

Hans-Jurgen E. Hess, Groton, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 555,704, June 7, 1966. This application Dec. 13, 1967, Ser. No. 690,101
Int. Cl. C07d 51/48
U.S. Cl. 260—256.4 7 Claims

Novel 2,4-diaminoquinazolines wherein at least one of the 6- or 7-positions is substituted with alkoxy having from 1 to 3 carbon atoms and acid addition salts thereof, the preparation thereof and the utility thereof as hypotensive agents.

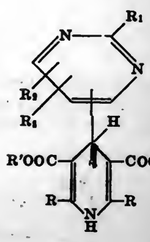
3,511,837

4-PYRIMIDYL-1,4-DIHYDROPYRIDINE DERIVATIVES AND THEIR PRODUCTION

Friedrich Bossert, Wuppertal-Elberfeld, and Wulf Vater, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 14, 1968, Ser. No. 712,911
Claims priority, application Germany, Mar. 20, 1967, F 51,880
Int. Cl. C07d 51/36
U.S. Cl. 260—256.4 10 Claims

4-pyrimidyl-1,4-dihydropyridine derivatives of the formula:



wherein R is hydrogen or alkyl of 1 to 3 carbon atoms, R' is alkyl of 1 to 4 carbon atoms, alkyl of 1 to 6 carbon atoms interrupted by one or more oxygen atoms or substituted by hydroxyl, or alkylene of 1 to 6 carbon atoms interrupted by one or more oxygen atoms or substituted by hydroxyl, R_1 is hydrogen, lower alkyl or lower alkylamino, and R_2 and R_3 are hydrogen or lower alkoxy, are produced by reacting pyrimidine-aldehydes or substituted pyrimidine-aldehydes with acyl fatty acid esters of the formula R—CO—CH_2—COOR', wherein R and R' are as above defined with ammonia. These compounds have been found to be particularly effective in the treatment of disturbances of the coronary blood supply and in particular in the treatment of angina pectoris.

3,511,838

1,5-DI-(1-HALO-1-NITROALKYLTHIO)-2,6-DIOXY PYRIMIDINES

Gustave K. Kohn and Joseph G. E. Fenyes, Berkeley, Calif., assignors to Chevron Research Company, a corporation of Delaware

No Drawing. Original application Sept. 7, 1965, Ser. No. 485,619. Divided and this application Dec. 6, 1968, Ser. No. 817,588
Int. Cl. C07d 51/30
U.S. Cl. 260—260 4 Claims

N-(1-halo-1-nitroalkylthio) dicarboximides wherein the alkyl group contains 2 to 6 carbon atoms and the halogen is of atomic number 17 to 35. Typical dicarboximides are N-(1-chloro-1-nitroethylthio) phthalimide, N-(1-halo-1-nitropropylthio)-5,5-dimethyl hydantoin, N,N-di-(1-chloro-1-nitropropylthio) uracil and 1,1-bis-(1-chloro-1-nitropropylthio) parabanic acid. These carboximides are fungicidal.

3,511,839

SUBSTITUTED BENZOIC ACID ESTERS OF CERTAIN DIBENZ[b,f]AZEPINE DERIVATIVES

Kurt Adank, Muttenz, Basel-Land, and Armin Züst, Birsfelden, Basel-Land, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed June 2, 1966, Ser. No. 554,690
Claims priority, application Switzerland June 11, 1965, 8,201/65
Int. Cl. C07d 51/70
U.S. Cl. 260—268 5 Claims

5-alkenyl dibenz[b,f] azepines substituted by an esterified heterocyclic alkanol group are coronary dilators. An illustrative embodiment is 2-{4-[3-(3-chloro-5H-dibenz[b,f]azepine-5-yl)-propyl]piperazine-(1)} ethyl 3,4,5-trimethoxybenzoate.

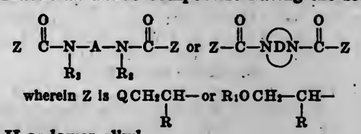
3,511,840

POLYFUNCTIONAL PIPERAZINE AMIDES

Giuliana C. Tesoro, Dobbs Ferry, N.Y., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

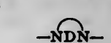
No Drawing. Continuation-in-part of application Ser. No. 301,875, Aug. 13, 1963. This application Feb. 28, 1967, Ser. No. 619,156
Int. Cl. C07d 51/70
U.S. Cl. 260—268 6 Claims

Polyfunctional amide compounds having the formula:

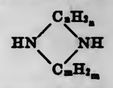


wherein Z is QCH_2CH— or R_1OCH_2—CH—

R is H or lower alkyl,
R_1 is lower alkyl,
R_2 is lower alkyl,
A is aliphatic or cyclo-aliphatic, and
Q is the radical corresponding to an acid which has a dissociation constant in water between 5×10^{-3} and 5×10^{-6}, or the radical corresponding to a tertiary ammonium cation, and



is the residue of amines of the structure



wherein *n* and *m* are integers from 1 to 4.

The compounds may be employed as crosslinking agents for polymers.

3,511,841

1-[(4-, 5-, 6-, AND 7-AZAINDOLYL)-LOWER-ALKYL]-4-SUBSTITUTED-PIPERAZINES

Sydney Archer, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 481,075, Aug. 19, 1965, now Patent No. 3,362,956, dated Jan. 9, 1968, which is a continuation-in-part of application Ser. No. 254,475, Jan. 28, 1963. This application May 29, 1967, Ser. No. 642,166
Int. Cl. C07d 57/14
U.S. Cl. 260—268 20 Claims

New 1-[(4-, 5-, 6-, or 7-azaindolyl)-lower-alkyl]-4-substituted-piperazines indicated as being useful as tranquilizers, sedatives, skeletal muscle relaxants, adrenolytics, hypothermic agents, anti-convulsants, hypotensives, and cardiovascular agents.

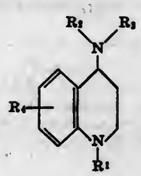
3,511,842

4-AMINO TETRAHYDROQUINOLINES

Alfred Saltmann, Bottmingen, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,624
Claims priority, application Switzerland, Dec. 30, 1965, 100/66
Int. Cl. C07d 33/10
U.S. Cl. 260—288 11 Claims

(a) Tetrahydroquinolines of the formula



wherein:

R_1 represents lower alkyl or lower alkenyl,
R_2 represents lower alkyl, lower alkenyl or a lower saturated cycloaliphatic hydrocarbon radical,
R_3 represents hydrogen or lower alkyl, and
R_4 represents hydrogen, halogen of an atomic number not greater than 35, lower alkyl, lower alkoxy, trifluoromethyl or nitro,

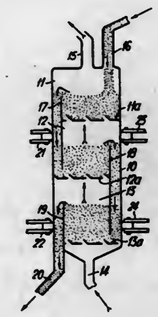
and their pharmaceutically acceptable salts with inorganic and organic acids, which compounds are anti-depressive and drive-enhancing without unfavourable effects on hypertension; and are further antitussive and anorexic; (b) Intermediates for their production, especially compounds of the above formula in which at least one of R_1 and R_2 is replaced by hydrogen, which are themselves anti-depressives; compositions containing the above defined compounds as active agents; and methods of treating depressed states of the mind and deficiency of drive by the aforesaid compounds and compositions.

3,511,843

PLURAL STAGE FLUIDIZATION AND VIBRATION OF COHESIVE PLANT MATERIAL

James Gabriel Lewis, Wrington, Somerset, England, assignor to The Imperial Tobacco Company (of Great Britain and Ireland) Limited, Bedminster, Bristol, England, a company of England

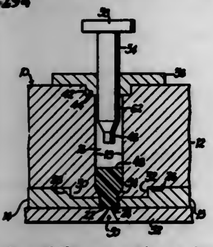
Filed Oct. 13, 1966, Ser. No. 586,538
Claims priority, application Great Britain, Nov. 6, 1965, 47,136/65
Int. Cl. C07d 43/02; B01d 3/34
U.S. Cl. 260—291 4 Claims



A method of fluidising a cohesive material, e.g. ground damp tobacco, wherein the action of the fluidising gas is assisted by horizontal vibration of the material.

3,511,844
ARALKYL PIPERIDINEMETHANOLS AND INTERMEDIATES THEREFOR
Janis Pinnikeks, Philadelphia, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania
No Drawing. Filed Mar. 29, 1968, Ser. No. 717,366
Int. Cl. C07d *29/22, 29/28*
U.S. Cl. 260—294.3 8 Claims
The compounds are of the class of 2-aralkyl-2-piperidinemethanols which are useful as anti-arrhythmic agents; and to certain novel intermediates used in the preparation thereof.

3,511,845
METHOD OF MOLDING PLASTIC ARTICLES
Anthony J. Scalora, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 22, 1966, Ser. No. 559,576
Int. Cl. B29d *1/00, 23/20*
U.S. Cl. 264—294 4 Claims



A method of molding containers by filling a finish molding portion of a mold cavity with hot plasticized material, chilling the material to solidify a skin at the exterior thereof conforming to the finish molding portion, and inserting a core into the material to displace some of it into a narrow space between the core and mold but leaving the skin intact.

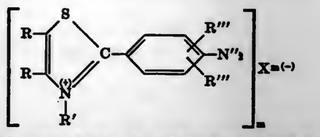
3,511,846
PROCESS FOR THE PREPARATION OF OPTICALLY ACTIVE BENZAZOCINES
Walter F. Minnich, Jr., Dobbs Ferry, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of New York
No Drawing. Continuation-in-part of abandoned application Ser. No. 551,218, May 19, 1966. This application Dec. 16, 1968, Ser. No. 784,208
Int. Cl. C07d *39/00*
U.S. Cl. 260—294.7 6 Claims
Resolution of the four isomeric forms of 3-methyl-6,11 - diethyl - 1,2,3,4,5,6 - hexahydro - 2,6 - methano-3-benzazocine-8-ol is avoided through separation of racemic 3,4-diethyl-2-(p-methoxybenzyl) - 1 - methyl-1,2,5,6-tetrahydropyridine into its isomers and cyclizing only one isomer, with optional recycling of the other, so as to yield a readily separable product consisting of only two isomers, both of which are diastereoisomers.

3,511,847
2,6-DI-LOWER ALKYL - 1,4-DIHYDRO - 4-(2-TRIFLUOROMETHYLPHENYL) - 3,5 - PYRIDINEDICARBOXYLIC ACID ESTERS
Bernard Loev, Bromall, Pa., and Ralph E. Tedeschi, Cherry Hill, N.J., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Original application Feb. 7, 1967, Ser. No. 614,393, now Patent No. 3,441,648, dated Apr. 29, 1969. Divided and this application Feb. 19, 1969, Ser. No. 800,709
Int. Cl. C07d *31/36*
U.S. Cl. 260—295.5 2 Claims
Hypotensive compositions containing 4-aryl, 4-aralkyl, 4-aralkenyl or 4-heteroaryl-1,4-dihydropyridines and methods of lowering blood pressure. 1,4-dihydro-4-(2-trifluoromethylphenyl)pyridines which have hypotensive activity are prepared by reacting a 2-trifluoromethylbenzaldehyde with two equivalents of a keto compound and ammonia, with two equivalents of an unsaturated amino compound or with one equivalent of keto compound and one equivalent of an unsaturated amino compound.

3,511,848
CERTAIN 4-(ISOXAZOL-3 OR 5-YL)-PYRIDINIUM SALTS
Victor John Bauer, Montvale, and Sidney Robert Safir, River Edge, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 535,714, Mar. 21, 1966. This application Aug. 22, 1967, Ser. No. 662,281
Int. Cl. C07d *31/32*
U.S. Cl. 260—296 8 Claims
This application describes the preparation of isoxazolylpyridine compounds and also the corresponding isoxazolylpyridinium salts. These novel compounds are useful for their hypoglycemic activity.

3,511,849
CERTAIN BETA-KETOETHYL PYRIDINIUM COMPOUNDS
Burton D. Wilson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Application Aug. 9, 1967, Ser. No. 659,316, now Patent No. 3,403,039, which is a division of application Ser. No. 378,949, June 29, 1964, now Patent No. 3,345,177, dated Oct. 3, 1967. Divided and this application Jan. 22, 1968, Ser. No. 699,359
Int. Cl. C07d *31/42*
U.S. Cl. 260—296 4 Claims
Gelatin coating compositions containing a hardening amount of a beta-ketoethyl onium salt, such as 3,8-decanedione-1, 10-bis(pyridinium perchlorate), 3,8-decanedione-1,10-bis(triphenylphosphonium perchlorate) and 3-pentanone-1,5-bis(pyridinium perchlorate), for example. The beta-ketoethyl onium salts are new compounds.

3,511,850
THIAZOLIUM METAL SALT COMPLEXES
Walter Reifschneider, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 27, 1966, Ser. No. 589,859
Int. Cl. C07d *91/32, 91/42*
U.S. Cl. 260—299 12 Claims
Complex of (A) a thiazolium compound of the formula

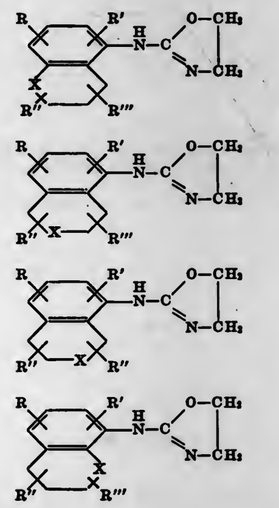


wherein X represents a pharmaceutically-acceptable anion; each R independently represents hydrogen or loweralkyl, or both R moieties, taken together, represent straight chain alkylene being of from 3 to 6, both inclusive, carbon atoms; R′ represents primary loweralkyl; each R″ independently represents hydrogen or primary loweralkyl; each R‴ independently represents hydrogen, bromo, chloro, methoxy or methyl; and *m* represents an integer equal to the valence of the anion X; and (B) a metal salt compound of the formula

$$M_aY_b$$

wherein M represents copper(+), copper(++), iron(++), iron(+++), antimony(+++), bismuth(+++), tin(++), manganese(++), zinc(++) or cadmium; Y represents a pharmaceutically-acceptable anion; and each of *a* and *b* represents an integer such that (*a* times the valence of M) is equal to (*b* times the valence of Y). These complexes are useful as agents for regulating the growth of plants.

3,511,851
HETEROCYCLIC AMINO-OXAZOLINES
George Levitt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 12, 1967, Ser. No. 646,153
Int. Cl. C07d *85/30*
U.S. Cl. 260—307 11 Claims
Amino-oxazolines useful as central nervous system depressants having the formula:

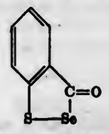


wherein
X is oxygen, sulfur or methylamino;
R is hydrogen or alkyl;
R′ is hydrogen, alkyl, alkoxy, alkylthio, dimethylamino, fluorine, chlorine or bromine;
R″ is hydrogen or alkyl;
R‴ is hydrogen or alkyl.

Typical is 2-(8-thiochromanylamino)-2-oxazoline useful as a central nervous system depressant.

3,511,852
N-(SUBSTITUTED PHENYL) - 1,2,3,4,-9,9-HEXACHLORO - 1,4,4a,5,6,7,8,8a - OCTAHYDRO-1,4-METHANONAPHTHALENE - 6,7 - DICARBOXIMIDES
Carleton W. Roberts, Midland, and Gale D. Travis, Shepherd, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 434,709, Feb. 23, 1965. This application Aug. 12, 1968, Ser. No. 751,711
Int. Cl. C07d *27/30*
U.S. Cl. 260—326 7 Claims
1,2,3,4,9,9 - hexachloro - 1,4,4a,5,6,7,8,8a - octahydro-1,4 - methanonaphthalene-6,7-dicarboximides bearing a halophenyl, nitrophenyl or halonitrophenyl substituent on the imide nitrogen are useful as pesticides for the control of microorganisms, insects, mites and helminths.

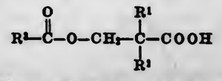
3,511,853
4,5-BENZO-3H-1,2-THIASELENOL-5-ONE AND PRODUCTION THEREOF
Erwin Klingsberg, Geneva, Switzerland, assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Nov. 28, 1967, Ser. No. 686,332
Int. Cl. A01n *9/12*; C05f *11/00*; C07d *90/00*
U.S. Cl. 260—327 2 Claims
A new sulfur-selenium compound having the formula:



is prepared by reacting o,o′,dithiodibenzoic acid with P_2Se_5. It is a potent fungicide at 1 p.p.m. and shows herbicidal and insecticidal activity at higher concentrations.

3,511,854
SYNTHESIS OF 4-OXO-4,5,6,7-TETRAHYDROBENZOTHIOPHENE
Roger P. Napier and Chin-Chiun Chu, Piscataway, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed June 27, 1967, Ser. No. 649,154
Int. Cl. C07d *63/18*
U.S. Cl. 260—332.3 6 Claims
4-oxo-4,5,6,7-tetrahydrobenzothiophene is prepared by reacting 3-mercaptocyclohexanone with glyoxal in the presence of a protic acid catalyst. The 3-mercaptocyclohexanone can have substituents on the 4, 5 or 6 positions, thus giving the corresponding substituted derivative of the 4-oxo-4,5,6,7-tetrahydrobenzothiophene. The products obtained by this process can be dehydrogenated to 4-hydroxybenzothiophene or substituted derivatives thereof, e.g. with elemental sulfur (U.S. Pat. No. 3,317,552). The 4-hydroxybenzothiophenes can then be converted to form 4-benzothienyl carbamates which are effective pesticides as shown in U.S. Pats. Nos. 3,288,673 and 3,288,808.

3,511,855
PRODUCTION OF β-LACTONES
Franz Merger, Ludwigshafen (Rhine), Hugo Krooper, Heidelberg, and Rolf Platz, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Mar. 14, 1967, Ser. No. 622,887
Claims priority, application Germany, Mar. 16, 1966, 1,568,090
Int. Cl. C07d *3/00*
U.S. Cl. 260—343.9 7 Claims
Production of β-lactones by heating carboxylic acid esters of β-hydroxycarboxylic acids of the general formula



where R^1 and R^2 are aliphatic, cycloaliphatic, araliphatic or aromatic hydrocarbon radicals and, jointly, may be members of a five- or six-membered cycloaliphatic ring, and R^3 is a hydrogen atom or an aliphatic, cycloaliphatic, araliphatic or aromatic hydrocarbon radical to temperatures of 150 to 350° C. in the presence of catalysts, e.g. oxides of elements of Groups III–A, IV–A and IV–B of the Periodic Chart of the Elements, phosphates of metals of Group III–A of the Periodic Chart of the Elements or silicates of metals of Groups I–A, II–A and III–A of the Periodic Chart of the Elements. The reaction may be carried out in the gas or liquid phase. The resultant β-lactones are suitable for the manufacture of polymers.

3,511,856
3-(ALKOXYPHENYLCARBAMOYL)-4-HYDROXYCOUMARINS

John S. McIntyre, Sarnia, Ontario, and Allan R. Knight, Petrolia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 24, 1968, Ser. No. 739,192
Int. Cl. C07d 7/28; A01n 9/28
U.S. Cl. 260—343.2 5 Claims

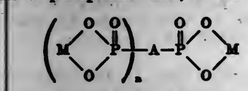
This disclosure relates to 3-(alkoxyphenylcarbamoyl)-4-hydroxycoumarins, their method of preparation as well as their use as bactericides and pesticides.

3,511,857
ESTERS OF PHOSPHORUS AND METHOD OF PREPARATION THEREOF

Charles F. Baranauckas and Irving Gordon, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 12, 1963, Ser. No. 323,114
Int. Cl. C07d 105/04; C07f 9/38
U.S. Cl. 260—347.8 11 Claims

1. An ester of phosphonic acid, of the formula



having from 4 to 54 carbon atoms and from 2 to 11 hydroxyls, wherein M is a residue of a polyol wherein two hydroxyls are removed from carbon atoms with hydroxyls attached thereto and with a carbon atom between the two carbon atoms from which the hydroxyl groups have been removed, said polyol being of 3 to 15 carbon atoms and having from 4 to 8 hydroxyl groups, A is selected from the group consisting of alkyl of 1 to 10 carbon atoms, cycloalkyl of 5 to 6 carbon atoms, hydrocarbyl aryl of 6 to 18 carbon atoms, monohalophenyl, dihalophenyl, lower alkyl phenyl, lower alkyl naphthyl, phenyl-lower alkyl, hydroxy-lower alky, containing from 1 to 4 hydroxyls, hydroxy-lower alkoxy-lower alkyl, containing from 1 to 5 hydroxyls, lower alkylene, monochloro-lower alkylene, mononitro-lower alkylene, phenyl-lower alkylene, cyclohexyl-lower alkylene, dichloro-lower alkylene, and hydroxy-lower alkylene, containing up to 3 hydroxyls, alkoxyalkyl wherein the alkoxy and alkyl radicals are each of up to 10 carbon atoms, lower alkoxy cycloalkyl, wherein the cycloalkyl is of 5 to 6 carbon atoms, lower alkene, and cycloalkene, wherein the cyclic radical is of 5 to 6 carbon atoms, and n is from 0 to 5.

3,511,858
FERROCENYLMETHYLAZIDE

Donald E. Bublitz, Concord, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 5, 1968, Ser. No. 710,625
Int. Cl. C07f 15/02; A01n 9/20
U.S. Cl. 260—349 1 Claim

Disclosed is the new compound ferrocenylmethylazide which is useful as an insecticide.

3,511,859
2,3-DIAZIDO/DIAMINO-5α-ANDROSTAN-17-ONES AND DERIVATIVES THEREOF

Paul D. Klimstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Apr. 23, 1968, Ser. No. 723,575
Int. Cl. C07c 117/00
U.S. Cl. 260—349 10 Claims

2,3-diazido/diamino-5α-androstan-17-ones and derivatives thereof useful as anti-protozoal agents. The diazido derivatives exhibit, in addition, anabolic, androgenic, antipepsin and anti-ulcerogenic activity, while the diamino compounds possess hypocholesterolemic, anti-inflammatory, anti-bacterial, anti-algal, anti-fungal and dicotyledonous seed germination-inhibitory properties also.

3,511,860
SYNTHESIS OF 19-NOR AND RING A AROMATIC STEROIDS AND INTERMEDIATES THEREFOR

Francisco Alvarez, Sunnyvale, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Continuation-in-part of application Ser. No. 581,707, Sept. 26, 1966. This application June 12, 1967, Ser. No. 645,526
Int. Cl. C07c 169/20, 169/32
U.S. Cl. 260—397.3 37 Claims

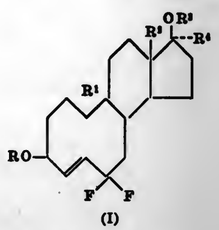
Synthesis of 19-nor steroids and aromatic A-ring steroids and novel intermediates therefor.

3,511,861
SELECTED DERIVATIVES OF 6,6-DIFLUORO-17α-ETHYNYL-17β-HYDROXYESTER-4-ENE-3-ONE

George Albert Boswell, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 11, 1968, Ser. No. 720,493
Int. Cl. C07c 169/20
U.S. Cl. 260—397.5 17 Claims

Described and claimed are new steroid compounds of the formula



(I)

wherein

R^1 is hydrogen or methyl;

R^2 is methyl or ethyl;

R and R^3, which may be the same or different, are hydrogen, an alkyl or oxacycloalkyl group of up to five carbon atoms or an acyl group of an aliphatic or cycloaliphatic acid having up to six chain carbon atoms and a total of no more than eleven carbon atoms; and

R^4 is $-C\equiv CH$, $-C\equiv CCl$, $-C\equiv CCH_3$, $-C\equiv CCF_3$, $-CH=CH_2$, $-CH=CHCH_3$, $-CH_2CH_3$ or

$-CH_2CH_2CH_3$

The preferred compounds of this invention are those in which R and R^3 are hydrogen or acetyl, R^1 is H and R^4 is $-C\equiv CH$ or $-C\equiv CCH_3$.

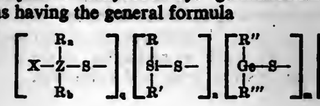
The compounds of this invention are useful as oral progestational agents.

3,511,862
POLYMERIC GERMANOSILTHIANES

Kurt Moedritzer, Webster Groves, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Mar. 14, 1968, Ser. No. 713,178
Int. Cl. C07f 7/00; C07d 103/00
U.S. Cl. 260—429 22 Claims

Polymeric dihydrocarbyl germanosilthiane compositions having the general formula



in which R, R', R'', R''', R_a and R_b are selected from the group consisting of hydrocarbyl radicals having from 1 to 20 carbon atoms, and phenyl and substituted phenyl radicals having from 6 to 20 carbon atoms; X is selected from the group consisting of fluorine, chlorine, bromine, alkoxyl, thioalkyl, dialkylamino, and cyano, in which the alkyl radicals have from 1 to 20 carbon atoms, Z is either silicon or germanium, and n plus m are numbers totaling from 1 to 100, q and z are equal and are whole numbers from zero to one, with the proviso that if Z=Si, then R_a=R, and R_b=R'; and if Z=Ge, then R_a=R'', and R_b=R'''. The atomic ratio Ge/Si may range from 100 to 0.01.

The products are useful as functional fluids, such as heat transfer media, lubricants and hydraulic fluids.

3,511,863
PROCESS FOR THE PRODUCTION OF BIS-(π-ALLYL)-NICKEL COMPOUNDS

Gunther Wilke and Borislav Bogdanovic, Mulheim (Ruhr), Udo Birkenstock, Schnoppenhof, and Horst Pauling, Mulheim (Ruhr), Germany, assignors to Studiengesellschaft, Kohle m.b.H., Mulheim (Ruhr), Germany

No Drawing. Filed Aug. 11, 1967, Ser. No. 659,892
Claims priority, application Germany, Aug. 16, 1966, St 25,759; Aug. 2, 1967, St 27,207
Int. Cl. C07f 15/04
U.S. Cl. 260—439 13 Claims

Preparation of bis-(π-allyl)-nickel compounds by the reaction of π-allyl-nickel-X compounds or complex compounds thereof with Lewis acids with ammonia, amine, imine, hydroxyl amine, water and/or an alcohol disproportioning agent. The X in the above recited compounds stands for chlorine, bromine, iodine, an enolate ion of a 1,3-diketone, an organic carboxylate ion or an alcoholate.

3,511,864
PROCESS FOR ASTRINGENT COMPOUNDS

Isidore Ugelow, West Babylon, and Joseph N. Slater, Jr., Bronx, N.Y., assignors, by mesne assignments, to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 21, 1967, Ser. No. 669,406
Int. Cl. C07f 5/06
U.S. Cl. 260—448 7 Claims

Astringent aluminum compounds are obtained by contacting in water an aluminum chlorohydroxide with a hydroxyl containing organic compound such as an aliphatic alcohol having at least hydroxyl groups or an aliphatic glycol monoether, and then removing the water by the addition of an organic, water-miscible solvent.

3,511,865
PROCESS FOR PREPARING TRIALKYLSILYL-METHYLALKALI-METAL COMPOUNDS

Donald J. Peterson, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 28, 1967, Ser. No. 686,291
Int. Cl. C07f 7/18
U.S. Cl. 260—448.2 3 Claims

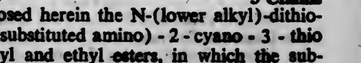
(1) Trialkylsilylmethylmetal compounds prepared by reacting the trialkylmethylsilane with a strongly reactive metalating agent, e.g., a complex between alkyllithium compounds and alkylenediamines; alkylsodium; or alkylpotassium; and (2) the reactions of trialkylsilylmethylmetal compounds with organic halides, aldehydes, ketones, carbon dioxide, halogenated and pseudo-halo phosphines, phosphites, epoxides, sulfur, and halogenated and pseudo-halo substituted silanes.

3,511,866
ISOCYANATOALKYL HALO SILANES AND METHODS FOR MAKING SAME

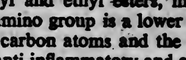
Enrico J. Pepe, Amawalk, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 307,003, Sept. 6, 1963. This application Feb. 7, 1968, Ser. No. 706,701
Int. Cl. C07f 7/10
U.S. Cl. 260—448.2 5 Claims

This invention describes a novel isocyanato silanes of the formula



wherein X is halogen such as chlorine, fluorine and bromine by the reaction of allyl isocyanate with



and n is 0, 1 or 2. The novel compounds are used to form polyurethane resin coating compositions.

3,511,867
N-SUBSTITUTED DITHIOCARBAMATES OF SUBSTITUTED 3-AMINO-2-CYANO-3-THIOACRYLIC ACID ESTERS

Real Laliberte, Laval, Quebec, and Hilda M. Warwick, Montreal, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 15, 1967, Ser. No. 638,599
Int. Cl. C07c 121/38, 155/08; A61k 127/00
U.S. Cl. 260—455 3 Claims

There are disclosed herein the N-(lower alkyl)-dithiocarbamates of 3-(substituted amino)-2-cyano-3-thio acrylic acid methyl and ethyl esters, in which the substituent on the 3-amino group is a lower alkyl group containing from 1–6 carbon atoms and the allyl group. The compounds have anti-inflammatory and anti-fungal activities, and methods for their preparation and use are also given.

3,511,868
NOVEL FLUORINE CONTAINING COMPOUNDS AND PROCESS

Samuel Gelfand, Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Feb. 26, 1964, Ser. No. 347,344
Int. Cl. C07c 45/00, 41/00, 69/64
U.S. Cl. 260—463 10 Claims

This invention is directed to fluorine compounds and their preparation by the chlorination of 1-chloro-2-methoxyhexafluorocyclopentene in the presence of a photochemical initiator. The novel fluorine compounds are useful as pesticides or fireproofing agents.

3,511,869
PRODUCTION OF MALONONITRILE

Jacob Rosin, Maplewood, and Frank Ang, Kearny, N.J., assignors to Chris-Craft Industries, Inc., a corporation of Delaware

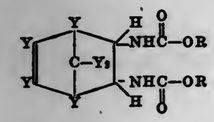
No Drawing. Filed Sept. 26, 1967, Ser. No. 670,762
Int. Cl. C07c 121/12
U.S. Cl. 260—465.2 3 Claims

Certain alkanephosphonyldihalide compounds have been found to be unusually effective reagents for the conversion of amides to the corresponding nitriles by the abstraction of a molecule of water from the amide group. Structurally, these alkanephosphonyldihalides are characterized by the formula $R[P(O)X_2]$, where R represents an alkane or substituted-alkane, and X represents a halogen group. Using these alkanephosphonyldihalide compounds as a dehydrating agent to abstract water from

an amide group, cyanoacetamide is converted to malononitrile in very high yields and without the usual difficulties associated with this reaction. An improved process for the production of malononitrile from cyanoacetamide has been developed on the basis of this technique.

3,511,870
POLYHALOGENATED BICYCLIC URETHANES
Paul E. Hoch, Moraga, Calif., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 368,702, May 19, 1964. This application May 19, 1967, Ser. No. 639,658
Int. Cl. C07c *101/26*
U.S. Cl. 260—468 7 Claims

Compounds of the formula



wherein Y is fluorine, chlorine, bromine or mixtures there and R is alkyl, aryl, substituted alkyl or substituted aryl are useful in agricultural applications and in the preparation of polymeric materials.

3,511,871
GLYCYRRHETINIC ACID DERIVATIVES
John Cameron Turner, West Wickham, England, assignor to Biorex Laboratories Limited, London, England
No Drawing. Filed Sept. 20, 1967, Ser. No. 669,273
Claims priority, application Great Britain, Sept. 20, 1966, 42,008/66
Int. Cl. C07c *171/04, 79/44*
U.S. Cl. 260—468 6 Claims

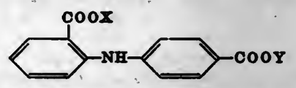
New derivatives of glycyrrhetinic acid obtained by the action of nitric acid on glycyrrhetinic acid, optionally followed by reaction with bases. The new compounds are intermediates in the preparation of pharmaceuticals.

3,511,872
GLYCERYL-N-(SUBSTITUTED PHENYL) ANTHRANILATES
Margaret H. Sherlock, Bloomfield, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 10, 1967, Ser. No. 629,382
Int. Cl. C07c *101/54, 121/78*
U.S. Cl. 260—471 5 Claims

The invention relates to glyceryl esters of N-X,Y,Z-phenyl (anthranilic acids), to their use as analgesic anti-inflammatory agents, and to the intermediates useful in the preparation thereof. Illustrative of the preparation of those compounds is the formation of glyceryl-N-(3-trifluoromethylphenyl) anthranilate, as follows: Reflux a mixture containing N-(3-trifluoromethylphenyl) anthranilic acid, chloroacetonitrile in the presence of triethylamine to produce cyanomethyl-N-(3-trifluoromethylphenyl) anthranilate which, by heating with 2,2-dimethyl-1,3-dioxolane-4-methanol in the presence of anhydrous potassium carbonate, produces β-γ-isopropylidenedioxypropyl - N - (3-trifluoromethylphenyl) anthranilate. Hydrolysis of the β-γ-isopropylidenedioxypropyl-N-(3 - trifluoromethylphenyl) anthranilate with 75% acetic acid for 35 minutes yields glyceryl N-(3-trifluoromethylphenyl) anthranilate. Alternate methods for the preparation of the glyceryl esters of N-(X,Y,A-phenyl) anthranilic acids are also described.

3,511,873
N-(4-CARBOXYPHENYL)ANTHRANILIC ACID
Giampaolo Picciola, Milan, Italy, assignor to Italfarmaco S.p.A., Milan, Italy, a corporation of Italy
No Drawing. Filed Oct. 18, 1966, Ser. No. 587,437
Claims priority, application Italy, Sept. 3, 1966, 20,206/66
Int. Cl. C07c *101/48*
U.S. Cl. 260—471 5 Claims

Compounds having anti-pyretic, anti-inflammatory and analgesic activity having the structural formula:



wherein X is hydrogen or an alkaline or earth-alkaline metal cation or a cation of a non-toxic organic base and Y is hydrogen or lower alkyl.

3,511,874
ESTERS OF BARK PHENOLIC ACIDS
George Graham Allan, Seattle, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
No Drawing. Continuation-in-part of application Ser. No. 399,881, Sept. 28, 1964. This application Apr. 23, 1968, Ser. No. 723,611
Int. Cl. C07c *69/88*
U.S. Cl. 260—473.5 5 Claims

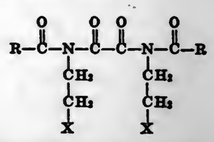
The reaction product of aqueous alkali extracted Douglas fir bark phenolic acid and polyalcohols or unsaturated monohydric alcohols in the presence of an acid catalyst.

3,511,875
HERBICIDAL ALKYLCARBAMOYLOXY SEMICARBAZIDES
Richard K. Brantley, Westminster, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 12, 1968, Ser. No. 721,057
Int. Cl. C07c *127/18, 127/20;* A01n *9/24*
U.S. Cl. 260—479 2 Claims

Alkylcarbamolyloxy semicarbizides such as 4-[3-hexylcarbamoyloxy)phenyl]-1,1 - dimethyl semicarbazide and 4 - [3 - (ethylcarbamoyloxy)phenyl]1,1-dimethyl-2-ethyl semicarbazide are useful as selective herbicides.

3,511,876
N,N'-DIACYL-N,N'-BIS(HALOETHYL)OXAMIDES
Donald A. Tomalia, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 16, 1967, Ser. No. 638,741
Int. Cl. C07c *69/00*
U.S. Cl. 260—482 5 Claims

N,N'-bis(2-haloethyl) - N,N' - (disubstituted)-oxamides corresponding to the formula



wherein R represents phenyl, phenoxy or lower alkoxy containing from 1 to 4 carbon atoms and X represents chlorine or bromine. The compounds possess pesticidal activity. Methods for their preparation which comprise reacting a 2-substituted-2-oxazoline and oxalyl chloride or oxalyl bromide or alternatively reactin 2,2'-dioxazoline with benzoyl chloride, phenyl haloformate or alkyl haloformate.

3,511,877
PHENOXYACETIC ACID DIETHYLAMIDES
Winfried Arnold, Oberwil, and Charles J. Morel, Ariesheim, Basel-Land, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 624,625, Mar. 20, 1967, which is a continuation of application Ser. No. 431,214, Feb. 8, 1965. This application Apr. 3, 1969, Ser. No. 813,303
Int. Cl. C07c *95/00*
U.S. Cl. 260—490 5 Claims

Substituted phenoxyacetic acid diethylamides are useful as short-acting, quickly metabolized anesthetic agents. An illustrative embodiment is 2-methoxy-4-(3'-acetoxypropyl)phenoxyacetic acid diethylamide.

3,511,878
DIFLUOROAMINOMETHYL TRINITROETHYL UREA DERIVATIVE
Andrew Harper Dinwoodie, Dalry, and Godfrey Fort, Ardrossan, Scotland, assignors, by mesne assignments, to the United States of America, as represented by the Secretary of the Navy
No Drawing. Filed Mar. 10, 1967, Ser. No. 622,078
Claims priority, application Great Britain, Apr. 7, 1966, 15,736/66
Int. Cl. C07c *127/00*
U.S. Cl. 260—553 5 Claims

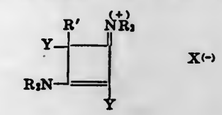
This invention relates to a new urea derivative, N,N'-bis(difluoraminomethyl)-N,N' - bis(2,2,2 - trinitroethyl) urea,

$$(O_2N)_3CCH_2N(CH_2NF_2).CO.N(CH_2NF_2)CH_2C(NO_2)_3$$

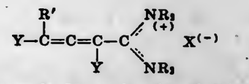
useful as an energetic constituent in high-energy propellent compositions and to processes for its preparation.

3,511,879
CYCLOBUTENE IMINES AND ALLENE AMIDINES AND PREPARATION THEREOF
Robert Fuks, Brussels, and Heinz G. Viehe, Linkebeek, Belgium, assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 19, 1966, Ser. No. 587,694
Int. Cl. C07c *121/30, 119/00, 123/00*
U.S. Cl. 260—566 8 Claims

Cyclobutenes and/or allenes of the respective formulae:



and



wherein, for example, Y can be phenyl, R' can be hydrogen, R can be ethyl, and X can be bromine, are prepared by contacting aminoacetylenes with hydrogen halides, hydrocarbon halides or boron fluoride compounds. The compounds provided by the invention are useful as ultraviolet light absorbers and as hydrogen halide acceptors.

3,511,880
HYDROCARBONYLATION PROCESS
Frank B. Booth, Placentia, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Sept. 16, 1966, Ser. No. 579,825
Int. Cl. C07c *45/00*
U.S. Cl. 260—604 9 Claims

Hydroformylation of olefins is achieved in partially aqueous high boiling inert organic reaction media which contain a Group VIII noble metal-biphyllic ligand complex as the catalyst and which contain an alkaline material such as ammonium or alkali metal hydroxide. The latter materials activate the catalyst sufficiently for achieving hydroformylation which is performed at a typical condition of approximately 600 p.s.i.g. and about 200° F. as applied to the hydroformylation of propylene to produce normal and iso butyraldehyde.

3,511,881
LOWERALKYLSULFONYL SUBSTITUTED γ-HALO-PROPYLIDENE - 5H - DIBENZO[a,d] CYCLOHEPTENE
Robert D. Hoffsommer, Jr., Metuchen, Norman L. Wendler, Summit, and David Taub, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Application May 6, 1966, Ser. No. 547,755, now Patent No. 3,454,656, dated July 8, 1969, which is a continuation-in-part of application Ser. No. 188,873, Apr. 19, 1962. Divided and this application Jan. 31, 1969, Ser. No. 795,695
Int. Cl. C07c *147/06*
U.S. Cl. 260—607 3 Claims

Antidepressant drugs such as amitriptyline, nortriptyline, and related compounds, are prepared by reaction of 10,11-dihydro-5H-dibenzocycloheptene - 5 - one or dibenzocycloheptene-5-one with a Grignard reagent derived from cyclopropyl halide; rearranging the resulting 5-cyclopropyl-5-hydroxy compound to produce the corresponding γ-hydroxypropylidene dibenzocycloheptene, followed by treatment of the γ-hydroxypropylidene derivative with a halogenating agent to give the corresponding γ-halopropylidene-5H-dibenzo[a,d]cycloheptene, and aminating said γ-halopropylidene compound by reaction with a lower aliphatic amine, e.g., 5-(γ-dimethylaminopropylidene)-5H-dibenzo[a,d]-10,11-dihydrocycloheptene.

3,511,882
PRODUCTS OF REACTION OF POLYOXYALKYLENE ALCOHOLS AND DI-GLYCIDYL ETHERS OF BIS-PHENOL COMPOUNDS
Virgil L. Seale, Billy Ray Moreland, and James Derwin, Houston, Tex., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Original application Mar. 6, 1964, Ser. No. 350,112, now Patent No. 3,383,326, dated May 14, 1968. Divided and this application Feb. 26, 1968, Ser. No. 707,992
Int. Cl. C07c *43/22*
U.S. Cl. 260—613 5 Claims

Compositions of matter, and processes of breaking petroleum emulsions of the water-in-oil type therewith, which said compositions comprise a water insoluble, at least partially oil soluble product of the reaction of an epoxide of a polyphenol and an adduct obtained by reacting ethylene oxide with a higher alkylene oxide adduct of a compound from the group consisting of hydroxyhydrocarbyl compounds and hydroxyhydrocarbylether compounds, said hydroxyhydrocarbyl compounds and hydroxyhydrocarbylether compounds, said hydroxyhydrocarbyl compounds and hydroxyhydrocarbylether compounds containing up to 12 carbon atoms and 1 to 3 hydroxyhydrocarbylether compounds containing up to 12 carbon atoms and 1 to 3 hydroxyl groups, and the oxyalkylene groups of said higher alkylene oxide adduct being from the group consisting of oxypropylene, oxybutylene and mixtures of oxypropylene and oxybutylene, said diglycidyl ether being a member of the group consisting of diphenyldiglycidyl ether and a diglycidyl ether of diphenylmethane, with the remaining substituents on the methane carbon being selected from the group consisting

of hydrogen and methyl, said compound constituting 1–15% by weight of said higher alkylene oxide adduct, the reacted ethylene oxide being in the range of 0.2 to 2 moles per hydroxyl equivalent of said higher alkylene oxide adduct, and the proportion of said diglycidyl ether in said copolymer being 12–18 parts of said diglycidyl ether per 100 parts of the oxyethylated higher alkylene oxide adduct.

3,511,883

PROCESS FOR THE PREPARATION OF PERFLUOROINDANE AND PERFLUOROSTYRENE

Angelo Bergomi, John Colin Tatlow, and Jim Burdon, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Nov. 2, 1967, Ser. No. 680,017
Claims priority, application Italy, Nov. 16, 1966, 29,996/66
Int. Cl. C07c *17/24, 25/28, 25/22*
U.S. Cl. 260—650 7 Claims

A process for making perfluoroindane (C_9F_{10}) and perfluorostyrene (C_8F_8) wherein dimeric hexafluorocyclopentadiene is subjected to pyrolysis in vapor phase over a solid-packed reaction zone containing alkali or alkaline-earth fluorides as the packing material, in a molar ratio to an inert gas (e.g. nitrogen) between 0.2 and 0.8 (preferably 0.3 to 0.7) for a residence time of 0.01 to 0.1 second to 0.1 second (preferably about 0.05 second) at a temperature of 400° to 700° C. (preferably 500° to 670° C.).

3,511,884

METHOD OF MAKING CYCLOPENTYLLITHIUM

William Novis Smith, Jr., Exton, Pa., assignor to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 28, 1967, Ser. No. 686,334
Int. Cl. C07f *1/02*
U.S. Cl. 260—665 6 Claims

One mol of a cyclopentyl halide is reacted with two mols of lithium metal in a defined cyclic hydrocarbon solvent to provide a concentrated solution of cyclopentyllithium.

3,511,885

OLEFIN CONVERSION AND CATALYST THEREFOR

William B. Hughes, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 11, 1967, Ser. No. 689,291
Int. Cl. C07c *1/00, 3/00*
U.S. Cl. 260—666 8 Claims

Olefins are converted into other olefinic products by contact with a catalyst system comprising a complex compound of rhodium and a halide or organohalide of aluminum, boron, or zinc.

3,511,886

TRIPOLYMER OF STYRENE OR INDENE, BUTADIENE AND A NORMAL ALPHA-OLEFIN HAVING 10 TO 24 CARBON ATOMS

Thomas J. Clough, Glenwood, and David W. Young, Homewood, Ill., assignors to Sinclair Research, Inc.

No Drawing. Original application Apr. 11, 1963, Ser. No. 272,217, now Pat. No. 3,393,057, dated July 16, 1968. Divided and this application Dec. 15, 1967, Ser. No. 721,890
Int. Cl. C07c *15/00*
U.S. Cl. 260—669 3 Claims

A normally liquid tri-polymer of 2.5–35% by weight styrene or indene, 2.5–35% by weight butadiene and 30–95% by weight of a normal alpha-monoolefin having 10–24 carbon atoms. which is useful as a pour point depressor.

3,511,887

OXIDATIVE DEHYDROGENATION OF ETHYLBENZENE USING CADMIUM OXIDE OR ZINC OXIDE CATALYST

Ronald E. Bockrath, Joseph A. Beckman, and Edward L. Kay, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 30, 1968, Ser. No. 756,377
Int. Cl. C07c *13/10, 5/18*
U.S. Cl. 260—669 11 Claims

The process described herein comprises the oxidative dehydrogenation of alkyl benzenes, such as ethyl benzene, to produce alkenyl benzenes, such as styrene. This process is based on the use of zinc oxide or cadmium oxide to catalyze the dehydrogenation.

3,511,888

PARAFFIN CONVERSION CATALYST AND PROCESS

John W. Jenkins, Seabrook, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Feb. 8, 1968, Ser. No. 703,970
Int. Cl. C07c *15/00;* C10g *35/06*
U.S. Cl. 260—673.5 11 Claims

A noble metal and tin or bismuth disposed on silica gel is an active and selective catalyst in a process for paraffin dehydrogenation and dehydrocyclization.

3,511,889

METHOD OF PURIFYING NAPHTHALENE

Nikolai Nikolaevich Vorozhtsov, Akademicheskaya ul. 30, Valentin Afanasievich Koptjug, Morskoi prospekt, 42, kv. 19, Albert Georgievich Khmelnitsky, Zhemchuzhnaya ul. 2, kv. 16, and Alexei Petrovich Krysin, Zhemchuzhnaya ul. 26, kv. 20, all of Novosibirsk, U.S.S.R.

No Drawing. Filed Oct. 10, 1967, Ser. No. 674,133
Int. Cl. C07c *7/12, 15/24*
U.S. Cl. 260—674 4 Claims

A method of purifying naphthalene comprising passing vapors of technical naphthalene over an alumino-silicate catalyst in a flow of air or an inert gas at temperatures ranging from 300° to 450° C. and subsequently distilling the catalysate thus obtained. The process can be also accomplished on catalyst surfaces having partial deposits of carbonaceous matter.

3,511,890

OLEFIN CONVERSION AND CATALYST THEREFOR

Robert E. Reusser, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Mar. 3, 1966, Ser. No. 531,333
Int. Cl. C07c *3/62, 13/00;* B01j *11/82*
U.S. Cl. 260—683 10 Claims

Olefins are converted into olefins of different molecular weight by contact with a catalyst prepared from a normal salt of phosphomolybdic acid and a solid support.

3,511,891

OLIGOMERISATION PROCESS

Keith Andrew Taylor and John Alex Leonard, Runcorn, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

No Drawing. Filed May 19, 1967, Ser. No. 639,659
Claims priority, application Great Britain, Dec. 21, 1966, 57,122/66, Patent 1,131,146
Int. Cl. C07c *3/10, 11/02*
U.S. Cl. 260—683.15 4 Claims

A process for the oligomerisation of monoalkenes in which the monomer is contacted in the liquid phase with a homogeneous catalyst formed from a Group VIII metal

compound, a ligand containing a donor atom of Group VB and a Lewis acid compound. The components of the catalyst may be added to the reaction mixture singly or as one or more pre-formed complexes. For example, propene and butene are co-dimerised using a bistrialkylphosphine nickel halide complex/ethyl aluminium dichloride mixture as catalyst. The catalyst may be stabilized by contacting with an olefin. Catalysts of reduced isobutylene polymerization activity are obtained by using an Al/Ni atomic ratio of 3/1 to 5/1 and conditioning with an isobutene-free monoalkene.

3,511,892

3((AMINO-ALKYL AND AMINO-ARYL)CARBAMOYL)-4-HYDROXY-COUMARINS

John S. McIntyre, Jr., Sarnia, Ontario, and Allan R. Knight, Petrolia, Ontario, Canada, assignors to Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 24, 1968, Ser. No. 739,199
Int. Cl. C07d *7/28;* A01n *9/28*
U.S. Cl. 260—343.2 6 Claims

The present disclosure is directed to 3((amino-alkyl and amino-aryl)carbamoyl)-4-hydroxycoumarins and to the corresponding unsubstituted hydrazide compound, their preparation as well as their utility as bactericides and fungicides.

3,511,893

POLYAMIDES BLOCK COPOLYMERS WITH CAPROLACTAM AND CAPRYLACTAM

Paul R. Schaeffer, West Chester, and Norman E. Steely, Reading, Pa., assignors to The Polymer Corporation, a corporation of Pennsylvania

No Drawing. Filed July 31, 1967, Ser. No. 657,032
Int. Cl. C08g *41/04, 22/00*
U.S. Cl. 260—858 2 Claims

Soft, elastomeric or rubber-like polyamides are prepared by copolymerizing a polyurethane that has free isocyanate groups with at least two different lactams in the presence of an anionic polymerization catalyst.

3,511,894

GRAFT POLYMERS AND PREPARATION THEREOF

Gerhard Markert, Ober Ramstadt-Eiche, Germany, assignor to Rohm & Haas G.m.b.H., Darmstadt, Germany

No Drawing. Filed Aug. 30, 1967, Ser. No. 664,273
Claims priority, application Germany, Sept. 10, 1966, R 44,096
Int. Cl. C08f *27/08*
U.S. Cl. 260—875 3 Claims

A process for the preparation of graft copolymers of an ethylenically unsaturated monomer and a copolymer having free-radical generating azo groups which have been introduced by reaction of an azo compound with an azlactone group of the copolymer.

3,511,895

POLYMERIZATION PROCESS AND PRODUCT THEREOF

Nicholas Kydonieus, Somerville, Sydney P. Spence, Westfield, and Robert F. Blanks and David E. James, Martinsville, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 1, 1966, Ser. No. 539,290
Int. Cl. C08f *19/08, 29/12*
U.S. Cl. 260—876 19 Claims

Rubber modified polystyrene and acrylonitrile-butadiene and styrene polymers are prepared by a continuous, three-stage mass polymerization, each stage being maintained under critical conditions with respect to the solid content and reduced viscosity of the material therein so as to obtain a final polymer with a predetermined molecular weight distribution.

3,511,896

GRAFT COPOLYMER COMPOSITIONS OF VINYL CHLORIDE POLYMERS AND STYRENE HAVING IMPROVED IMPACT STRENGTH AND METHOD

David E. Harmer, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 28, 1966, Ser. No. 582,505
Int. Cl. C08f *19/02, 19/08*
U.S. Cl. 260—876 4 Claims

Compositions of matter consisting of vinyl chloride polymers, styrene and ABS polymers and a method of making the same which comprises blending said ingredients into a uniform mass of materials having a desired shape and subjecting said shaped material to ionizing radiation.

3,511,897

GRAFT COPOLYMERS OF AN AZIRIDINE MONOMER ON AN ALPHA-OLEFIN COPOLYMER SUBSTRATE

Donald J. Endsley, Clute, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,746
Int. Cl. C08f *37/04, 37/08*
U.S. Cl. 260—878 8 Claims

An adhesive composition comprising an olefin copolymer substrate having grafted and polymerized thereon an aziridine monomer. The compositions are useful to make laminates or shaped articles.

3,511,898

PREPARATION OF GRAFT COPOLYMERS USING ION-EXCHANGE BONDING

Henri G. G. Dekking, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

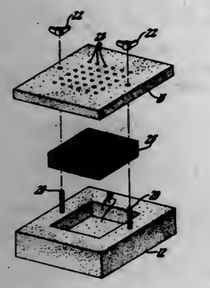
No Drawing. Filed Mar. 9, 1964, Ser. No. 350,579
Int. Cl. C08f *15/38*
U.S. Cl. 260—885 10 Claims

The invention comprises graft copolymers comprising a polycation or polyanion backbone which is ionically bonded to a graft polymer which has a single, terminally-positioned, base exchange group having a charge opposite the ionically charged groups of the backbone and which is ionically bonded to the ion exchange groups of the polyion backbone. The invention also relates to a method for the preparation of these copolymers by base exchanging an azo free radical precursor having ion exchange groups onto the ion exchange sites of the polyion and thereafter decomposing the azo compound by homolytic fission to form free radicals which are ionically bonded to the backbone polyion and which initiate and propagate a polymer from the polyion backbone.

3,511,899
METHOD OF MAKING A POPCORN ENERGY ABSORBER

William E. Miller, Southfield, Seymour Katz, Royal Oak, and Willard W. Bach, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 20, 1967, Ser. No. 654,829
Int. Cl. A23p 1/00; B29j 1/00
U.S. Cl. 264—26 3 Claims

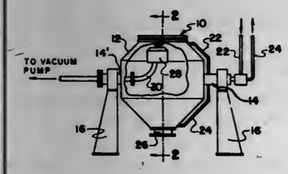


A method of forming an energy absorbing article of interconnected expanded popcorn kernels by adding popcorn kernels to the cavity of a two-part mold, closing the mold and heating the enclosed kernels by electromagnetic radiation so that the water in the kernels is vaporized and a major portion of the kernels are expanded into irregular masses having a number of protuberances by the rapid release of water vapor. The expanded kernels completely fill the cavity and are compressed and bonded together by the interlocking of their irregular outer surfaces.

3,511,900
GRANULATING PROCESS

Jacob Leon Varsano, Morristown, Leon Lachman, Millburn, and Joseph Peter Pelogitis, Liberty Corner, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 582,054, Sept. 26, 1966. This application Aug. 22, 1967, Ser. No. 662,524
Int. Cl. B01j 2/12
U.S. Cl. 264—101 9 Claims

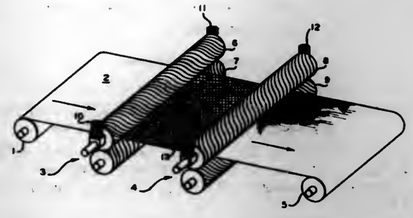


An improved granulating process is provided in which the powdered material to be granulated is sprayed with about 5–50% of its weight of a granulating fluid in a plurality of separate sprays while simultaneously being rotated and vacuum-dried. The rate of addition of the granulating fluid and the rate of removal of the fluid by vacuum drying is programmed so as to induce local granulation, but is insufficient to cause agglomeration of the powdered materials.

3,511,901
FIBRILLATION OF PLASTIC FILM

Claude V. Brown, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 17, 1967, Ser. No. 639,145
Int. Cl. B26f 3/02; B29d 7/24
U.S. Cl. 264—154 8 Claims

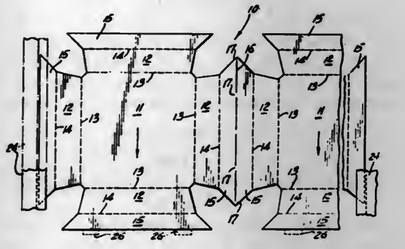


Oriented, fibrillatable plastic film is fibrillated by subjecting the film to at least one localized stress acting in a direction oblique to its axis of orientation.

3,511,902
METHOD OF MOLDING COMPOSITE CONTAINERS

Francis J. Santangelo, Middlesex, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Dec. 6, 1966, Ser. No. 599,472
Int. Cl. B29b 3/00; B29g 3/00
U.S. Cl. 264—163 2 Claims



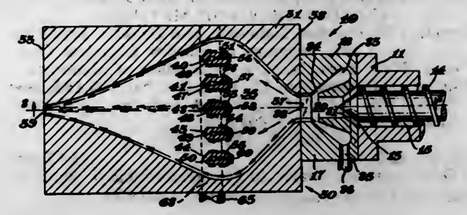
A plurality of composite container elements of plastic and flexible sheet material of the general type disclosed in U.S. Pat. 3,119,540 are molded in a single molding cycle by providing a corresponding plurality of sections in the mold and a unitary blank of flexible sheet material containing unsevered portions holding together the respective portions of the blank for the plurality of container elements, and utilizing cooperation between the unsevered portions of the blank and the closing action of the mold to associate the respective portions of the blank properly with respect to their corresponding mold sections.

3,511,903
METHOD FOR EXTRUDING THERMALLY DEGRADABLE POLYMERS

Henry L. Glass, Midland, and Walter J. Schrenk, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 5, 1967, Ser. No. 636,481
Int. Cl. B29f 3/10; B32b 31/30
U.S. Cl. 264—171 6 Claims

A multi-component extrusion die is shown which is particularly suited for handling corrosive polymers wherein



a corrosive or degradable polymer is encapsulated by a countercurrent flow of an encapsulating polymer.

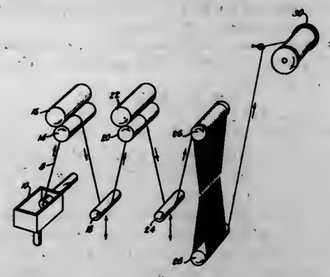
ERRATUM

For Class 264—202 see:
Patent No. 3,511,397

3,511,904
METHOD FOR THE MANUFACTURE OF COLLAGEN TAPE

Ernest J. Griset, Jr., Bound Brook, N.J., assignor to Ethicon, Inc., a corporation of New Jersey

Filed Nov. 16, 1967, Ser. No. 683,505
Int. Cl. D01f 9/04
U.S. Cl. 264—202 4 Claims



In the manufacture of a collagen tape which may be twisted to form a round strand that is useful as an absorbable surgical suture, an acid dispersion of collagen fibrils is extruded into a dehydrating bath to form a multifilament. The multifilament, while still wet from the dehydrating bath, is compressed and stretched to form a ribbon-like tape in two or more steps by passage between two or more sets of squeeze rolls, the space between succeeding sets of rolls decreasing so that the compression of the multifilament is accomplished in two or more increments. A certain amount of stretch is imparted to the tape as it passes between the sets of squeeze rolls to assist in the orientation of the collagen fibrils. By varying the total compression and stretching of the wet multifilament, the width and thickness of the tape can be controlled.

3,511,905
PROCESS FOR THE PREPARATION OF SYNTHETIC POLYMER FILAMENTS

Horst G. Martin, Lucerne, Switzerland, assignor to Societe de la Viscose Suisse, Emmenbrucke, Switzerland, a corporation of Switzerland

Filed Aug. 22, 1967, Ser. No. 662,527
Int. Cl. D01d 5/12
U.S. Cl. 264—210 11 Claims

A process is described wherein melt-spun oriented synthetic polymer filaments and yarns are prepared from cooled filaments by passing said filaments over a guiding device and around at least one non-drive roll and subjecting the filaments to a predetermined drag imparted by an aggregate of drag pins disposed in predetermined relationship to the filaments. Close temperature control

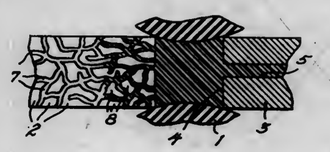


of the filaments as they encounter the guiding device and drag pins as well as of the guiding device and drag pins themselves, produces oriented filaments while imparting a tension of less than 1.0 gram per denier to the filaments.

3,511,906
PROCESS FOR PRODUCING A PRESSURE-RESISTANT, EDGE-SEALING MOUNTING FOR POROUS DISCS

Joachim Bergemann, Frankfurt am Main, and Walter Knoess, Kelkheim, Taunus, Germany, assignors to Varta Aktiengesellschaft Hagen, Westphalia, Germany, a corporation of Germany

Filed Sept. 10, 1965, Ser. No. 486,287
Claims priority, application Germany, Sept. 19, 1964, V 26,808
Int. Cl. B32b 31/06
U.S. Cl. 264—262 6 Claims



A mounting for a porous body in a holder, useful, for example, as an electrode in a fuel cell formed by filling the pores of the body with a liquid before or after centering it in the holder, and introducing a synthetic resin in fluid state in the space between the outer edge of the porous body and the inner edge of the holder until the liquid in the outer edge portion only of the porous body is displaced by the resin, after which the resin is hardened to form a bond between the porous body and the holder only at the outer edge portion of the porous body, leaving the remaining pores of the body unoccupied by the resin.

ERRATUM

For Class 264—294 see:
Patent No. 3,511,845

3,511,907
ANIMAL FEED COMPONENTS COMPRISING A BIOLOGICALLY ACTIVE SUBSTANCE AND AN AMINOPOLYAMIDE RESIN
Gino J. Marco, Webster Groves, Erhard J. Prill, St. Louis, and Ernest G. Jaworski, Olivette, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,232
Int. Cl. A61k *17/00, 21/00, 27/12*
U.S. Cl. 424—78 6 Claims
A composition comprising a biologically active substance and an aminopolyamide resin, resistant to the action of rumen microflora.

3,511,908
METHOD OF MANUFACTURING ANAPLASMOSIS VACCINE
William Ellis Brock, Stillwater, and Charles Clifton Pearson and Ira Olin Kliewer, Pawhuska, Okla., assignors to Oklahoma State University of Agriculture & Applied Science, Stillwater, Okla., a corporation of Oklahoma
No Drawing. Filed June 23, 1965, Ser. No. 466,450
Int. Cl. A61r *23/00*
U.S. Cl. 424—88 8 Claims
This invention relates to a method of manufacturing and administering an anaplasmosis vaccine. More particularly, the invention includes the steps of exsanguinating an anaplasmosis infected bovine, centrifuging out the red blood cells obtained, ultrasonicating the cells to rupture the cells to release anaplasma bodies therefrom without destroying such bodies, separating out the anaplasma bodies, freeze drying the anaplasma bodies, and mixing adjuvant with the freeze dry bodies. Inoculation of a bovine is achieved by subcutaneously injecting vaccine containing 10 milligrams of the freeze dryed anaplasma bodies. The inoculation is preferably repeated by a second such injection six weeks to three months after the first injection.

3,511,909
ANTIBIOTIC HALOMICIN
George M. Luedemann, Glen Ridge, and Marvin J. Weinstein, East Brunswick, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
Continuation-in-part of applications Ser. No. 211,886, July 23, 1962, and Ser. No. 354,168, Mar. 23, 1964. This application Oct. 21, 1968, Ser. No. 769,122
Int. Cl. A61k *21/00*
U.S. Cl. 424—115 9 Claims
Halomicin is an antibiotic complex produced by the fermentation of either *Micromonospora halophytica* var. *halophytica* or *Micromonospora halophytica* var. *nigra* under controlled aerobic conditions. Halomicin is known to consist of at least four components; said components being herein designated halomicin A, halomicin B, halomicin C and halomicin D. Each of the foregoing components exhibits a broad range of antibiotic activity and is especially active against gram positive bacteria including clinical isolates.

3,511,910
ANIMAL FOOD PRODUCTS FOR REDUCING PLASMA CHOLESTEROL LEVELS
Frank E. Hallock, 16 Forest Hill Drive, Madison, Conn. 06443
No Drawing. Continuation-in-part of application Ser. No. 449,581, Apr. 20, 1965. This application Apr. 8, 1966, Ser. No. 541,079
Int. Cl. A61k *27/00*; A23l *1/30*; C08b *19/00*
U.S. Cl. 424—180 13 Claims
This invention relates to an animal food product containing a polysaccharide consisting essentially of a polymeric chain of D-glucopyranose units, which is effective in reducing plasma cholesterol levels.

3,511,911
INSECTICIDAL AND ACARICIDAL COMPOSITION AND METHOD
Llewellyn W. Fancher, Lafayette, and David J. Brodbent, San Jose, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Original application Oct. 21, 1965, Ser. No. 500,193, now Patent No. 3,420,918. Divided and this application Aug. 30, 1968, Ser. No. 801,878
Int. Cl. A01n *9/36*
U.S. Cl. 424—211 12 Claims
This invention relates to phosphorodithioyl compositions and their use as insecticides and acaricides.

3,511,912
FUNGICIDAL COMPOSITION AND METHOD CONTAINING DIIODOPHENYL PHOSPHORANES
Daniel W. Grisley, Jr., Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Sept. 22, 1966, Ser. No. 581,160
Int Cl. A01n *9/36*
U.S. Cl. 424—221 4 Claims
Fungi are effectively controlled by applying diiodotriphenylphosphorane to the fungal habitat.

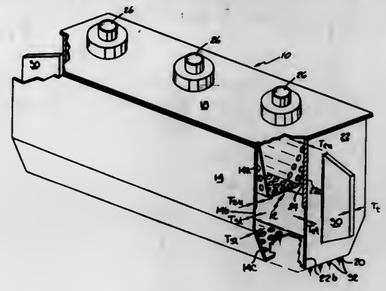
3,511,913
CONTROL OF REPRODUCTIVE CYCLE WITH 6-CHLORO-17 ALPHA-HYDROXY-4,6-PREGNADIENE-3,20-DIONE-17-ACETATE
John C. Babcock and J Allan Campbell, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 814,153, May 19, 1959. This application Mar. 25, 1963, Ser. No. 267,774
Int. Cl. A61r *17/06*
U.S. Cl. 424—243 10 Claims
Compositions and methods of use thereof embody 6α-chloro-17α-hydroxy-4-pregnene-3,20-dione 17-acetate or 6-chloro-17α-hydroxy-4,6-pregnadiene-3,20-dione 17-acetate. Oral and parenteral compositions are provided. Methods of oral and parenteral administration are beneficial in mammals, e.g., humans and animals, and in birds to inhibit ovulation, to forestall abortion, to control estrual and anestrual periods, and to control moulting and egg laying.

3,511,914
THROAT LOZENGE VEHICLE
Hal N. Wolkoff, Bloomfield, and George Pinchuk, Jersey City, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
No Drawing. Filed Jan. 31, 1967, Ser. No. 612,827
Int. Cl. A61j *3/06*
U.S. Cl. 424—263 4 Claims
A pleasingly flavored medicated lozenge capable of dissolving slowly and uniformly in the mouth comprising a major amount of polyethylene glycol and having uniformly distributed therein medicament, artificial sweetener, and excipients.

3,511,915
METHOD OF PRODUCING AN ANTITUSSIVE EFFECT
Rolf Denss and Hugo Ryf, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Filed Jan. 19, 1968, Ser. No. 699,047
Claims priority, application Switzerland, Jan. 24, 1967, 1,032/67
Int. Cl. A61k *27/00*
U.S. Cl. 424—267 9 Claims
Novel method for producing an antitussive effect in warm-blooded animals such as mammals by means of substituted piperidine derivatives. An illustrative embodiment is the method of producing the above-described effect by administering to warm-blooded animals 4-(7,12-dioxa - 3 - azaspiro[5.6]dodec-3 - yl) - 4' - chlorobutyrophenone.

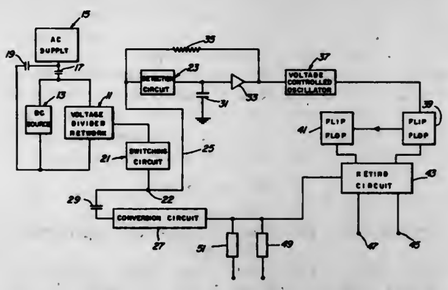
ELECTRICAL

3,511,916
ELECTRIC RESISTANCE BUSHING FOR FORMING GLASS FIBERS
David Sinclair, Martinsville, N.J., and Walter William Harris, Toledo, Ohio, assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Mar. 29, 1967, Ser. No. 626,844
Int. Cl. C03b *37/02, 5/16*
U.S. Cl. 13—6 8 Claims



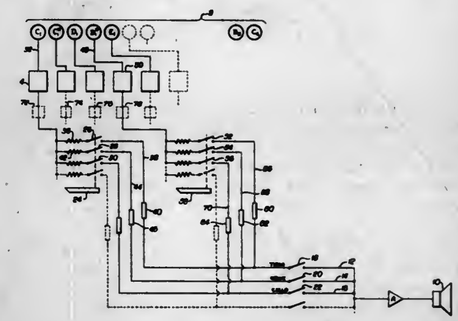
An electrical resistance type of metal bushing for rendering materials molten, the wall thicknesses in certain areas being selectively different from the wall thicknesses in other areas to preferentially control the heat generation to various zones of the chamber defined by the bushing.

3,511,917
VOLTAGE SELECTION ARRANGEMENT WHEREIN SAME CONTACTS SWITCH SELECTABLE D.C. PITCH POTENTIAL AND CONSTANT A.C. FOR CONTROL FUNCTION
Alfred L. Mallett, Pittsfield, N.H., assignor to The Seeburg Corporation of Delaware, Chicago, Ill., a corporation of Delaware
Filed Apr. 10, 1967, Ser. No. 629,560
Int. Cl. G10h *5/06, 1/02*; H03k *5/20*
U.S. Cl. 84—1.01 13 Claims



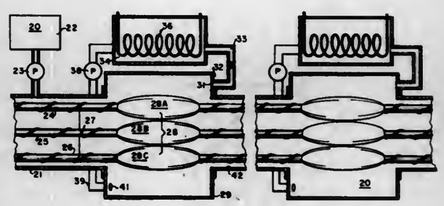
An apparatus having single-pole, double-throw switches which provide selection at will of one of a plurality of discrete DC voltages with an AC signal superimposed thereon. The DC voltage with superimposed AC signal is conveyed to a biased diode network that filters out the AC signal and passes the discrete DC voltage to a storage circuit to perform a control function. Simultaneously, the DC voltage with superimposed AC signal is conveyed to another circuit which filters out the DC voltage and converts the AC signal to a given magnitude DC reference voltage to perform other control functions.

3,511,918
ELECTRONIC ORGAN SYSTEM UTILIZING BAND ELIMINATION FILTERS FOR MINIMIZING BEAT EFFECTS
Donald J. Leslie, Altadena, Calif. (% Leslie Research Co., 267 S. Fair Oaks Ave., Pasadena Calif. 91101)
Filed Jan. 10, 1966, Ser. No. 532,485
Int. Cl. G10h *1/00, 1/06*
U.S. Cl. 84—1.21 9 Claims



In order to avoid a major source of beat effects in an electric organ or other musical instrument having complex generators, the third harmonic is suppressed. Accordingly, the third harmonic of any note cannot beat with the second harmonic of the note in fifth musical interval relationship since the third harmonic doesn't exist. Also, the fourth harmonic of any note cannot beat with the third harmonic of a note in fourth musical interval relationship because the third harmonic doesn't exist.

3,511,919
FLUID-INSULATED POWER CABLES AND JOINTS AND METHOD OF COOLING
Alan K. Miller, Cedarhurst, N.Y., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
Filed July 15, 1968, Ser. No. 744,710
Int. Cl. H01b *7/34*
U.S. Cl. 174—15 11 Claims

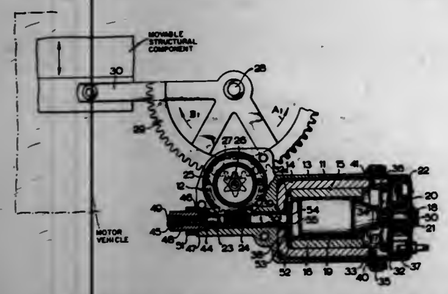


Joints in a pipe-type cable are cooled by passing a portion of the dielectric fluid from a point directly downstream of the joint, through a cooling unit, back into the cable at a point directly upstream of the joint.

3,511,920
WORM GEARING WITH OVERLOAD APPLIED BRAKE

Wilhelm Hartfelder, Steinenbronn Kreis, Boblingen, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany

Filed June 5, 1968, Ser. No. 734,635
Claims priority, application Germany, June 9, 1967, B 92,926
Int. Cl. F16d 67/00
U.S. Cl. 192—7 9 Claims

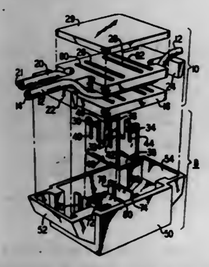


An arrangement for shifting slidable windows in automotive vehicles and similar elements between an open and a closed position. A reversible motor has a drive shaft which can alternately be rotated in opposite directions. A worm drive arrangement includes a rotatable worm wheel associated with the window to be moved and capable of shifting the same in the desired direction. A worm gear is rigid with the drive shaft and meshes with the worm wheel to transmit motion thereto. The worm gear has slight freedom of axial movement which it performs if it encounters resistance to rotation by the worm wheel, such resistance resulting in turn from resistance to the movement of the window. Limiting means limits the torque transmitted from the motor to the window when resistance to movement of the latter is encountered and includes a spring engaging the worm gear in such a manner as to oppose axial sliding thereof, and a brake structure associated with the worm gear and becoming actuated for braking rotation of the latter when resistance to rotation of the worm wheel becomes sufficient to result in axial shifting of the worm gear against the opposition of the spring.

3,511,921
INDIUM COATED SLOTTED ELECTRICAL CONNECTORS

John P. Pasternak, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Nov. 1, 1968, Ser. No. 772,706
Int. Cl. H01r 9/08
U.S. Cl. 174—88 10 Claims

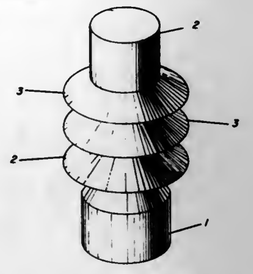


In a wire connector, slotted posts strip the insulation and grasp the conductors of insulated wires that are forced into respective slots in the posts. The posts are interconnected and coated with indium at the slots. A frame holding the wires guides them into the slots. A case holds the posts and grips the frame to form a protective shield.

3,511,922
ELECTRICAL INSULATOR OF HYDROPHTHALIC ANHYDRIDE CURED CYCLOALIPHATIC EPOXY RESINS FOR OVERHEAD LINES

Willy Fisch, Binningen, Otto Ernst, Pfeffingen, and Ernst Nideroest, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

Continuation-in-part of application Ser. No. 268,351, Mar. 27, 1963. This application Oct. 27, 1967, Ser. No. 691,079
Claims priority, application Switzerland, Mar. 28, 1962, 3,723/62
Int. Cl. H01b 17/00
U.S. Cl. 174—137 5 Claims



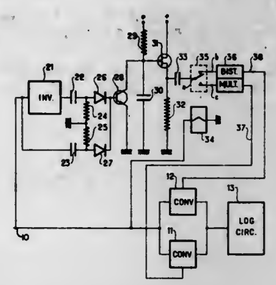
An electrical insulator for overhead lines constituted as an elongate insulating body essentially consisting of an insulating material and being provided at one extremity with a support member for at least one line conductor and being also provided at the remaining extremity with means for securing the said insulator to a structural support member, the outer surface of the said insulating body being formed with skirts for increasing the external creepage distance on the insulator surface, and at least those parts of the said elongate insulating body which are exposed to ambient atmospheric contaminating conditions consisting of a thermoset resin composition obtained by heat-curing a curable composition essentially consisting of (1) a cycloaliphatic 1:2-epoxy compound having a 1:2-epoxy equivalency greater than 1; (2) a curing agent selected from the class consisting of cycloaliphatic polycarboxylic acid anhydrides and aliphatic polycarboxylic acid anhydrides, said curing agent (2) being present in a proportion of 0.2 to 4 parts by weight per 1 part by weight of the cycloaliphatic 1:2-epoxy compound (1); and (3) zero to 90% by weight calculated on the total amount of the composition of particulate insulating filler, said thermoset resin composition showing no tendency to form carbonaceous deposits upon exposure to conditions which promote creepage electrical discharges.

3,511,923
REMOTELY CONTROLLABLE TELEGRAPHIC SYSTEM

Albert Ameau, Paris, and Pierre Bizet, Fontenay-aux-Roses, France, assignors to C.I.T.-Compagnie Industrielle des Telecommunications, Paris, France, a corporation of France

Filed Feb. 8, 1968, Ser. No. 704,164
Claims priority, application France, Feb. 14, 1967, 94,927
Int. Cl. H01l 7/02
U.S. Cl. 178—4.1 7 Claims

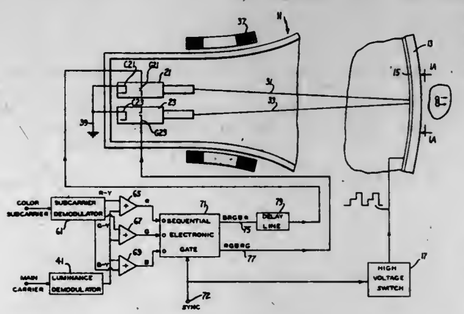
Device for the remote switching between a pair of signal converters at a distant station of a data transmission link from which the telegraphic speed may take respectively different values, wherein the switching is effected by the reception of a monotonic sequence (either "1," or "0") with a duration which is longer than the longest monotonic sequence likely to be encountered in the course of a data transmission.



3,511,924
LINE SEQUENTIAL COLOR DISPLAY SYSTEM

George E. Goode, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Mar. 31, 1967, Ser. No. 627,379
Int. Cl. H04n 9/16
U.S. Cl. 178—5.4 9 Claims

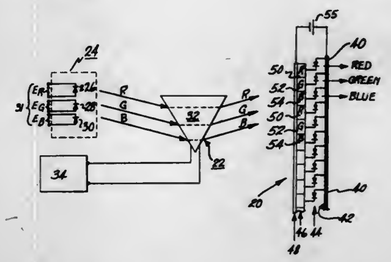


In an illustrated embodiment of the invention providing a three color display, electron beams from a pair of electron guns are swept together across a phosphor screen. The beams impinge upon and excite the phosphor screen at respective zones which overlap one another to an extent such that the number of electrons from each beam impinging within the overlapping portion of the respective zone is substantially equal to one-half the number from that beam impinging within the remainder of the respective zone. As the beams are swept across the screen, the non-overlapping portions of the zones form respective sets of raster lines and the overlapping portions effectively provide a third set of raster lines interposed between the sets formed by the non-overlapping portions. The color of the light emitted by the screen is changed on successive lines and the electron beams emitted by the two electron guns are modulated by related signals so that three lines of the same color are produced on each sweep. The number of lines of each color is thus substantially equal to the number of sweeps made even though three different colors are presented on a line sequential basis.

3,511,925
ELECTROLUMINESCENT COLOR IMAGE APPARATUS

John H. Lee and Alexander M. Unwin, Bellevue, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Jan. 13, 1966, Ser. No. 520,412
Int. Cl. H04n 9/12
U.S. Cl. 178—5.4 3 Claims



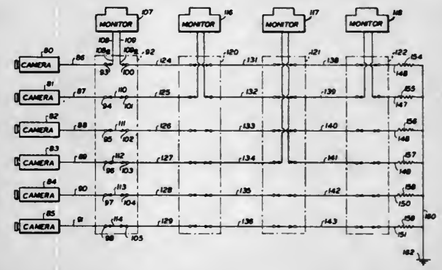
A color television imaging system wherein three primary color light guns selectively scan a target of photoconductive elements each of which are serially coupled to a primary color light emitting diode and an electrical power source. Selective energization of the photoconductive elements by the light guns places them in a conducting state, switching electrical power from the power source to activate the diodes and generate a composite color image.

Alternatively, primary color light emitting diode junctions formed by intersecting x and y strips of semiconductor material are selectively activated to produce a composite color image by cooperatively scanning two sets of photoconductive elements connected to the x and y strips respectively, and to an electrical power source, with two light beams one of which contains video modulation.

3,511,926
CLOSED-CIRCUIT TV SWITCHING SYSTEM

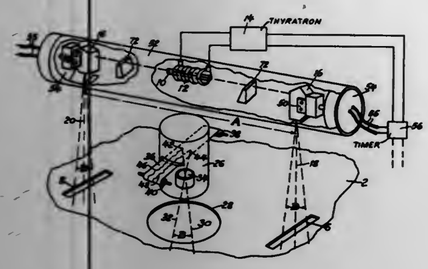
Benjamin C. Lami, 186 Beverly Hill Road, Clifton, N.J. 07012

Filed Mar. 7, 1967, Ser. No. 621,167
Int. Cl. H04n 7/02
U.S. Cl. 178—6 9 Claims



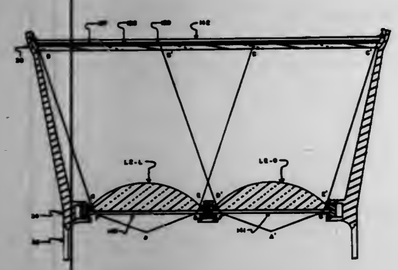
A closed-circuit TV system having a switching circuit in place of an amplifier supplied feeder circuit, said circuit feeding a plurality of monitors placed selectively in connection with one of a plurality of cameras with only a momentary disruption, while switching, of the continuity of the signal flow to other monitors. Each feed line provides a signal flow from a camera to an impedance and ground and is disposed so that switches may cut into the line to feed the signal to a monitor and finally to the impedance and ground.

3,511,927
AERIAL PHOTOGRAMMETRY SYSTEM EMPLOYING DUAL LIGHT BEAMS
Charles F. Lehr, 204 Hamilton Ave., Princeton, N.J. 08540
Filed Sept. 13, 1965, Ser. No. 486,843
Int. Cl. H04n 7/00, 9/60
U.S. Cl. 178—6.5 14 Claims



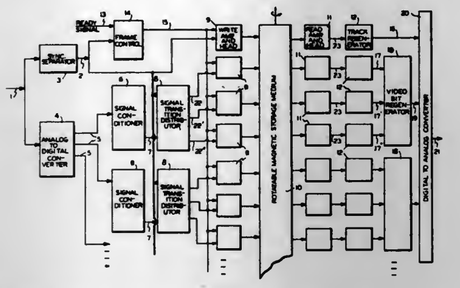
Equipment for recording variations in terrain over which an aircraft flies wherein two spaced beams of light are projected downwardly from the aircraft onto the terrain and changes in the relative angular relation of reflections of the light from the terrain are utilized to indicate the elevation of the aircraft with respect to the terrain.

3,511,928
WIDE-ANGLE VIEWING DEVICE FOR CHROMATIC-FREE AND DISTORTION-FREE RECREATION
Harvey L. Ratliff, Jr., Oxon Hill, Md., assignor to Jetru Inc., Amarillo, Tex.
Original application Apr. 24, 1963, Ser. No. 275,411. Divided and this application Oct. 22, 1965, Ser. No. 509,614
Int. Cl. H04n 9/60
U.S. Cl. 178—6.5 4 Claims



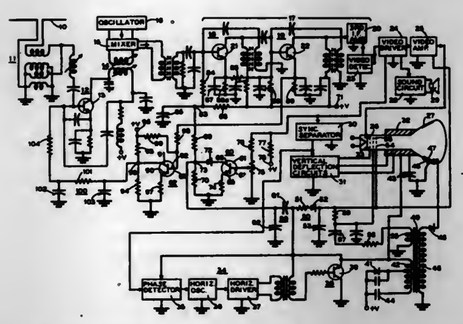
Apparatus is devised for electronically introducing a distortion, such as barrel distortion, in the image at the object planes of wide-angle oculars for reversing to eliminate the opposite distortion, such as pincushion distortion, of these wide-angle oculars which are, for example, simple oculars having a simple aspherical lens element therein, and apparatus is devised for introducing a chromatic reversing situation in the image at the object planes of wide-angular oculars such as the said simple wide-angle oculars having a single lens element therein for reversing to eliminate the chromatic aberration introduced by these wide-angle oculars.

3,511,929
METHOD OF AND APPARATUS FOR PICTURE STORAGE AND DISPLAY EMPLOYING TIME MULTIPLEXING AND RECORDING IN MULTIPLE CHANNELS
Francis F. Lee, 35 Highland Ave., Lexington, Mass. 02173, and Donald E. Troxel, 21 Hall Ave., Watertown, Mass. 02172
Filed Feb. 11, 1966, Ser. No. 526,852
Int. Cl. H04n 5/78; H04j; G11b 5/02
U.S. Cl. 178—6.6 4 Claims



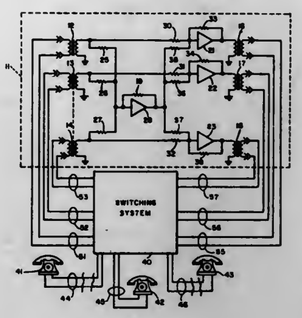
The present invention relates to the video recording and playback of single video frames. The video signal is converted from analog to digital format. Subsequently the digital signal is time multiplexed and recorded on plural tracks. The time multiplexing is accomplished by an electronic commutator which gates the digital signal to the appropriate recording channel. The inverse process is utilized for reproduction.

3,511,930
AUTOMATIC GAIN CONTROL SYSTEM FOR TELEVISION RECEIVERS
Don G. Rupley, St. Joseph, Mich., assignor to Heath Company, St. Joseph, Mich., a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,835
Int. Cl. H04n 5/52
U.S. Cl. 178—7.3 11 Claims



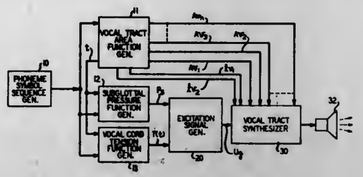
An automatic gain control (A.G.C.) system for use in television receivers. A gated A.G.C. circuit responds to the horizontal sync component in the received television signal to provide reverse A.G.C. control of the first and second stages in the intermediate-frequency amplifier. Gating pulses are obtained from the horizontal deflection circuit output transformer by means of a capacitor voltage divider. A signal inverting A.G.C. amplifier is coupled to the second intermediate-frequency stage for supplying to the radio-frequency amplifier a delayed A.G.C. signal which provides forward A.G.C. control of the radio-frequency amplifier.

3,511,931
CONFERENCING NETWORKS EMPLOYING VIRTUAL GROUND SUMMATION TO OBTAIN ISOLATION
Ned S. Van Buren, Belmont, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Feb. 2, 1966, Ser. No. 524,579
Int. Cl. H04m 1/58, 9/00
U.S. Cl. 179—1 5 Claims



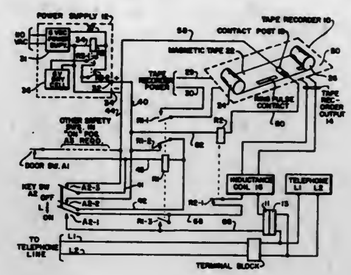
A conferencing network employing for each party a separate channel having isolated input and output terminals. The input terminals of each channel are interconnected via a master operational amplifier which inverts the phase of an input signal to all the channels of the network. Also, each input terminal is connected directly to a virtual ground summation point at the input of a second operational amplifier in its respective channel. By proper phasing of the signals within the network, the channel having an input signal will have no signal at its output terminal thus eliminating echo signals in the network.

3,511,932
SELF-OSCILLATING VOCAL TRACT EXCITATION SOURCE
James L. Flanagan, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Aug. 29, 1967, Ser. No. 664,130
Int. Cl. G10l 1/00
U.S. Cl. 179—1 10 Claims



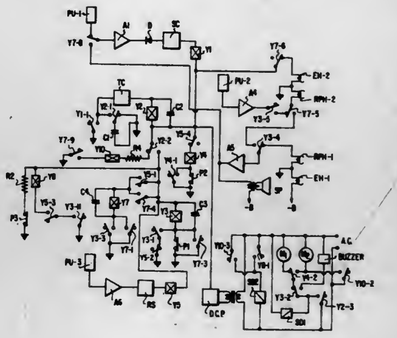
Speech synthesizers often produce unnatural sounding speech. This is due in large measure to the problem of developing a suitable vocal tract excitation signal. This problem is overcome by representing the human vocal cords as a second order oscillatory system that is driven by a nonlinear forcing function of subglottal pressure. Accordingly, apparatus is utilized that generates an excitation signal in response to the physiological parameters of subglottal pressure, vocal cord tension, and vocal tract configuration.

3,511,933
AUTOMATIC TELEPHONE ALARM SYSTEM
Dewey W. Holmes, Lakeland, Fla., assignor of one-half to Joseph P. Bates, Plant City, Fla.
Filed Apr. 10, 1967, Ser. No. 629,734
Int. Cl. H04m 11/04
U.S. Cl. 179—5 8 Claims



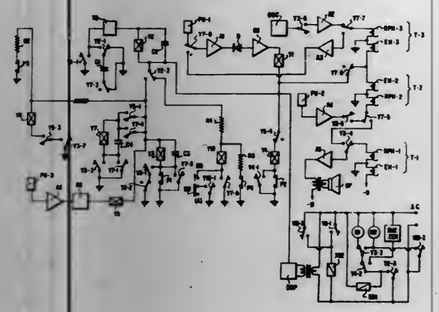
An automatic warning device for notifying one or more persons, by telephone, of the existence of a predetermined condition including, generally, a tape recorder and associated electrical circuitry for automatically energizing it. When the warning device is activated, the telephone line is automatically seized and the output of the tape recorder is coupled to the telephone line, by means of a standard inductance coil. The tape recorder is adapted to operate a dialing mechanism by means of conductive strips on the tape to dial one or more called stations and to transmit the recorded message to that station. After the recorded message, the warning device automatically disconnects from the telephone line and then thereafter automatically again seizes the telephone line to call the same or another telephone number.

3,511,934
AUTOMATIC ANSWERING AND RECORDING APPARATUS HAVING REMOTE CONTROL DEVICE FOR ABSENCE TELEPHONE
Hiroshi Mizuno, Chiba, Japan, assignor to Pioneer Electronic Corporation, Tokyo, Japan
Filed May 31, 1967, Ser. No. 642,557
Claims priority, application Japan, May 31, 1966, 41/34,524
Int. Cl. H04m 11/00; G11b 5/00
U.S. Cl. 179—6 2 Claims



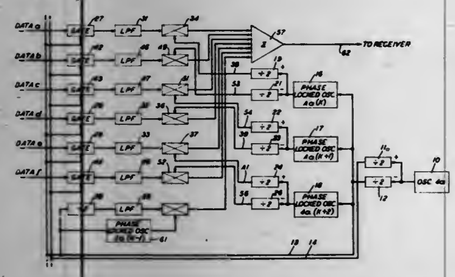
An automatic telephone answering apparatus having remote control means operable by owner to enable playback of prior recorded incoming messages.

3,511,935
AUTOMATIC TELEPHONE ANSWERING DEVICE WITH A REMOTE CONTROL SYSTEM
Hiroshi Mizuno, Chiba, Japan, assignor to Pioneer Electronic Corporation, Tokyo, Japan
Filed May 31, 1967, Ser. No. 642,361
Claims priority, application Japan, May 31, 1966, 41/34,523
Int. Cl. H04m *11/00*; G11b *5/00*
Int. Cl. 179—6 1 Claim



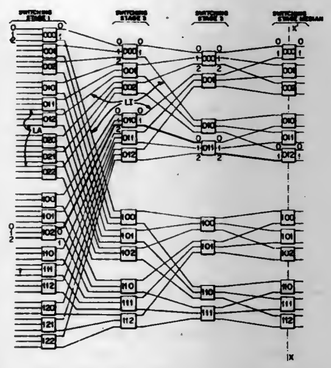
An automatic telephone answering device provided with a remote control system which is operated by a control signal sent through a telephone line.

3,511,936
MULTIPLY ORTHOGONAL SYSTEM FOR TRANSMITTING DATA SIGNALS THROUGH FREQUENCY OVERLAPPING CHANNELS
Burton R. Saltzberg, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed May 26, 1967, Ser. No. 641,661
Int. Cl. H04j *1/00*
U.S. Cl. 179—15 7 Claims



A data transmission system in which a plurality of pairs of time staggered data signals modulate in-phase and quadrature components of a plurality of carrier waves so that the resultant modulated signals overlap in the frequency domain. The timing of the data signals and the phasing of the carrier waves are derived from a basic oscillator in combination with a plurality of phase-locked oscillators synchronized to various harmonics of the basic oscillator. These overlapping signals are added together and transmitted with an amplitude-modulated pilot tone. At the receiver, each component of each carrier wave is demodulated, low-pass filtered and sampled to recover the original data signals.

3,511,937
FREE PATH FINDING DEVICE IN A SWITCHING NETWORK
Michel Bastian, St. Jeannet, Alpes-Maritimes, and François Boky, Vence, Alpes-Maritimes, France, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 11, 1966, Ser. No. 564,121
Claims priority, application France, Aug. 30, 1965, 7,647
Int. Cl. H04q *3/54*
U.S. Cl. 179—18 21 Claims

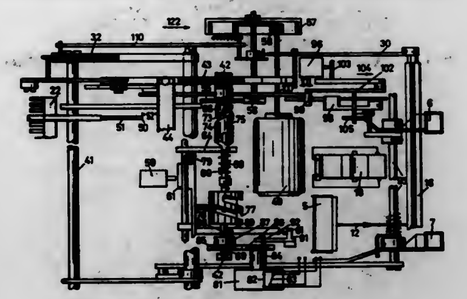


A switching network which automatically finds a path from a given subscriber line to a given intermediate (median) junction. The switching junctions are divided into groups and subgroups, so that each junction can be referenced by three coordinates. In addition, each subscribed line or line between junctions is referenced by a fourth coordinate corresponding to its rank. The invention is based upon the finding that path interference laws can be defined in terms of the coordinates assigned. When a new call is detected by a sequential scanner that subscriber's address, in terms of its coordinates, is introduced into a register. The address coordinates corresponding to the medium matrix having the coordinates of lowest value is introduced into another register. Then the address coordinates corresponding to existing busy communication paths are introduced sequentially into another set of registers. For each of these communication paths logic circuits determine whether the previously defined interference laws are satisfied, and if so, another communication path is then examined. The searching is completed when a non-busy communication path is found or all communication paths are busy.

3,511,938
IMPULSE TRANSMITTER FOR TELEPHONE AND TELEWRITER INSTALLATIONS
August Gaisser, Ehingerstrasse, Aach, Hegau, Germany, and Willi Weber, Borriesriedstr. Volkertshausen, Germany
Filed Sept. 28, 1966, Ser. No. 582,564
Claims priority, application Germany, Feb. 12, 1966, T 30,445
Int. Cl. H04m *1/28*
U.S. Cl. 179—90 28 Claims

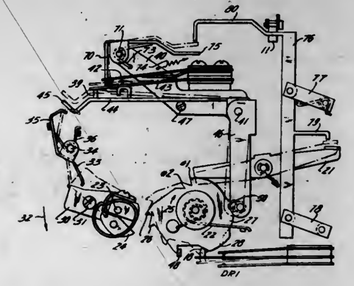
A device for transmitting pulses in telephone and telewriting installations. A number store is provided having mechanical scanning members which are moved by a mechanical drive to actuate a clutch. The clutch connects the drive with the winder of an impulse transmitter of a number dial until the distance determined by the number

store is traversed, and then releases it for impulse transmission. The number store includes a plurality of projections whose horizontal spacing from the starting position



of a scanning member determines the series of pulses, and scanning is carried out in at least two planes at right angles to one another.

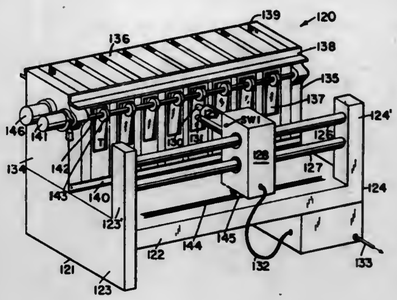
3,511,939
LOCAL-CALL PAY TELEPHONE ARRANGED FOR KEY-ENABLED TOLL CALLS
Chuta Aikawa, Tokyo, Japan, assignor to Tamura Electric Works Ltd., Tokyo, Japan, a corporation of Japan
Filed Mar. 20, 1967, Ser. No. 624,349
Int. Cl. H04m *17/02*
U.S. Cl. 179—90 3 Claims



A pay phone for local calls only; has a counter mechanism associated with the dial to sense prohibited digits (e.g., "1" or "0") in specific positions within a telephone number and to disable the phone when a toll call is attempted; a key-operated switch overrides the disabling circuit to permit key-holders to make unlimited calls.

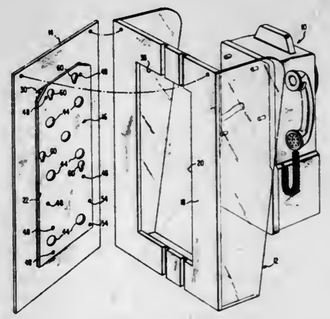
3,511,940
MAGNETIC RECORDING AND REPRODUCING SYSTEM
Jerome H. Lemelson, 85 Rector St., Metuchen, N.J. 08840
Continuation-in-part of applications Ser. No. 685,692, Sept. 23, 1957, and Ser. No. 142,748, Aug. 28, 1961, the latter being a division of application Ser. No. 515,417, June 14, 1955. This application Sept. 24, 1963, Ser. No. 311,252
Int. Cl. G11l *21/12, 23/06, 23/18*
U.S. Cl. 179—100.2 12 Claims

Multiple-channel magnetic recording and reproduction apparatus is provided for the transcribing of signals relative to selected channels thereof. In one form, plural magnetic tapes are wound in endless loops and are provided in respective magazines, which magazines are placed side by side to form a deck. A common drive means is operated to drive all the tapes for effecting selective recording or playback functions. Other forms of the invention



relate to means for controlling the tape drive and effecting the selective recording and reproduction of signals relative to selected recording tapes.

3,511,941
PUBLIC TELEPHONE MOUNTING
Warren W. Quigley, Forest Park, Ga., assignor to Gladwin Industries, Inc., a corporation of Georgia
Filed Jan. 3, 1967, Ser. No. 606,726
Int. Cl. H04m *1/04*
U.S. Cl. 179—146 11 Claims

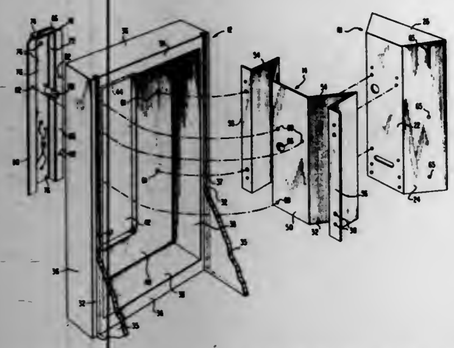


A public telephone mounting assembly including a mounting plate fixed to a wall, a telephone secured to the mounting plate, and an enclosure secured on the wall independently of the telephone and mounting plate. The enclosure has a back wall including an elongated aperture which receives the mounting plate with the top edge of the aperture engaged against a flange formed on the upper back side of the mounting plate.

3,511,942
TELEPHONE MOUNTING ASSEMBLY
Warren W. Quigley, Forest Park, Ga., assignor to Gladwin Industries, Inc., a corporation of Georgia
Filed Jan. 3, 1967, Ser. No. 606,727
Int. Cl. H04m *1/11*
U.S. Cl. 179—146 22 Claims

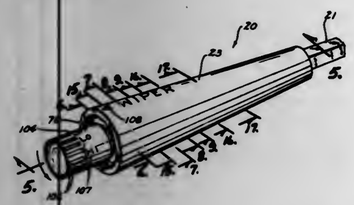
An assembly for mounting a panel telephone to a wall comprising a primary mounting device which is secured to the wall, an enclosure having an aperture received about the primary mounting device with the back of the enclosure engaged against the wall, and an adapter re-

ceived in the enclosure and secured to the back thereof for receiving the panel telephone which is secured to the



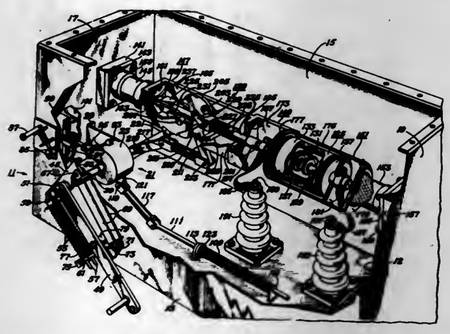
primary mounting device as well as to side walls of the adapter.

3,511,943
CONTROL SWITCH FOR A VEHICLE WINDSHIELD WASHER AND WIPER SYSTEM CONTAINED IN A TURN SIGNAL ACTUATING LEVER
Willis L. Kibler, Detroit, Mich., assignor to McCord Corporation, Detroit, Mich., a corporation of Maine
Filed June 27, 1968, Ser. No. 740,505
Int. Cl. H01h 25/06
U.S. Cl. 200—4 4 Claims



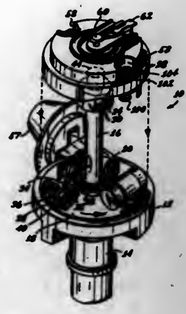
The electric control switch for operating the windshield clearing system of a motor vehicle includes a housing member carried on the steering column of the vehicle so as to form an extension of the actuating lever of a usual turn signal indicator system. Within the housing member are a plurality of stationary contact fingers and a movable bridge contact member. The stationary contact fingers are electrically connected to a wiper motor, a washer pump motor and an electrical energy source and are selectively engageable on manual actuation of the bridge contact member, to operate the wiper motor alone or concurrently with the pump motor. The bridge member is mounted on a control shaft that has a control knob for rotatably and longitudinally moving the bridge contact member relative to the stationary contacts. The control shaft is yieldably held in a first longitudinally moved or rest position in which it is rotatable to predetermined rotated position to control the wiper motor from an "off" position, to positions of "low" and "high" speed operation and in the opposite longitudinal direction to a second longitudinally moved position. When the control shaft is in its rest position, and the wiper motor is in the "off" position longitudinal movement of the control shaft in one direction to a stop position provides for the concurrent operation of the washer motor and a "low" speed operation of the wiper motor. Lateral movement of the housing operates the turn signal indicator system in a usual manner.

3,511,944
SWITCH ACTUATOR APPARATUS
James E. McClain, Argus F. Parks, and Maurice A. Hogue, Greenville, Tex., assignors to Esco Manufacturing Company, Greenville, Tex.
Filed June 3, 1968, Ser. No. 734,145
Int. Cl. H01h 5/06
U.S. Cl. 200—17 5 Claims



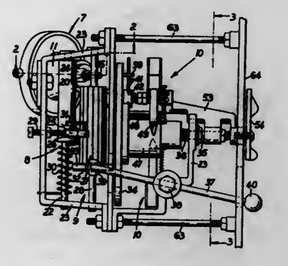
Improved switch actuator apparatus including arrangement for powering an actuator shaft in both the closed and opened directions, with the requisite power being stored by accumulator means. A differential gear system has an output gear which drives the actuator shaft and an input gear which is driven by a portion of the accumulator means. Latch mechanisms are associated with the input shaft and the planetary gears of the differential gear system, so that when the portion of the accumulator means which drives the input gear is loaded, the actuator shaft may be powered to the closed and opened positions by ordered release of the latch mechanisms.

3,511,945
SPARK ADVANCE ADJUSTMENT DEVICE
Willie B. Chambers, Inglewood, Calif., assignor to Eelco Mfg. & Supply Company, a corporation of California
Filed July 2, 1968, Ser. No. 742,033
Int. Cl. H01h 19/62
U.S. Cl. 200—31 10 Claims



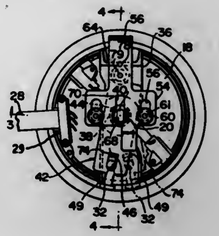
A device attachable to a distributor to allow adjustment of maximum spark advance of a centrifugal spark advance mechanism without adjustment of minimum spark advance. A bracket is provided supporting a screw having a head abutting a pin extending from the centrifugal spark advance mechanism, which pin moves in accordance with spark advance. The screw head abuts the pin in a desired maximum spark advance position and is adjustable to change the maximum position of the pin to decrease or increase maximum spark advance.

3,511,946
FLUID POWERED TIMING DEVICE
Roberts Kitchener Lynes, Moseley, Birmingham, John Marden Willis, Clent, and John William Taylor, Acocks Green, Birmingham, England, assignors to Roberts Kitchener Lynes and Bullinch (Gas Equipment) Limited, Birmingham, England
Filed Apr. 28, 1967, Ser. No. 634,589
Claims priority, application Great Britain, May 7, 1966, 20,323/66
Int. Cl. H01h 7/08, 43/22
U.S. Cl. 200—35 14 Claims



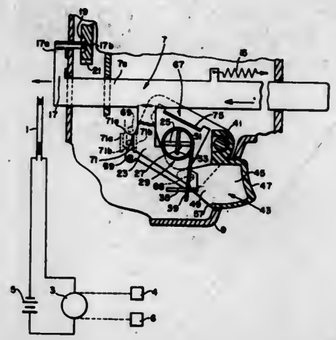
A timing device comprising a diaphragm for connection to a source of pulsating fluid pressure so that diaphragm movement drives a one-way drive mechanism controlling switch means.

3,511,947
COMBINATION SAFETY LOCK-SWITCH MECHANISM FOR POWER TOOL
Jerry G. Elkermann and Paul A. Hawley, Jefferson City, Mo., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Jan. 3, 1968, Ser. No. 695,492
Int. Cl. H10h 9/20
U.S. Cl. 200—42 7 Claims



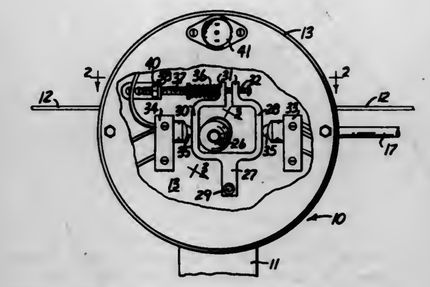
A safety lock-switch mechanism for a power tool having a switch actuating element and a shaft locking element which are movable between various interfering and noninterfering positions with one another which in a first instance precludes movement of the switch actuating member from its switch OFF position to its switch ON position when the shaft locking element is in its shaft locking position, and conversely in a second instance precludes movement of the shaft locking element from its shaft nonlocking position to its shaft locking position when the switch actuating element is in the switch ON position.

3,511,948
TRIGGER MECHANISM FOR MOTION PICTURE CAMERA OR THE LIKE
Edgar S. Marvin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 26, 1968, Ser. No. 747,957
Int. Cl. G03b 1/00
U.S. Cl. 200—52 12 Claims



A trigger mechanism is operative to instantaneously initiate or terminate operation of a motion picture camera or the like. Furthermore, the trigger mechanism provides the device with which it is operative with three operating conditions, i.e., a "lock" condition wherein the camera is maintained inoperative; a normal "run" condition wherein the camera can be manually rendered operative or inoperative; and a "continuous-run" condition wherein the camera is maintained operative. Operation of the camera is automatically initiated by changing the operating condition to "continuous-run."

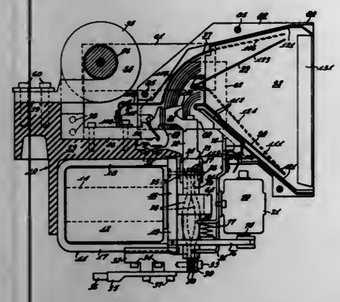
3,511,949
CONTROL APPARATUS
Richard W. Hanson, Spokane, Wash., assignor to R. A. Hanson Company, Inc., Spokane, Wash., a corporation of Washington
Filed Oct. 14, 1968, Ser. No. 767,424
Int. Cl. H01h 35/00, 3/16
U.S. Cl. 200—52 6 Claims



A control apparatus for a moving frame that is to be monitored in position or orientation with respect to a surface along a fixed element such as a string line. The control apparatus monitors movement in a selected plane, and includes a housing that pivotally supports a control arm for movement about a first axis perpendicular to the

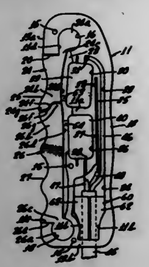
plane. An eccentric extension on the control arm engages a split member that controls two opposed switches. The split member is spring biased against the control arm extension and an adjustment screw permits spreading of the arms of the split member to vary the tolerance of the apparatus.

3,511,950
ARC CHUTE
Donald R. Boyd, Waukesha, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 23, 1968, Ser. No. 786,325
Int. Cl. H01h 33/08, 33/18
U.S. Cl. 200—144 10 Claims



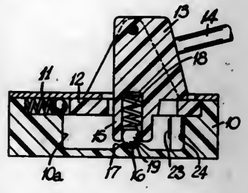
An arc chute adapted to be removably mounted on a direct current contactor has side-by-side arcing chambers in planes parallel to the plane of movement of the contactor movable contact, an elongated metallic arc runner in each arcing chamber and a V-shaped bridging electrode having a leg in each arcing chamber in spaced and divergent V-shaped relation to the arc runner therein and connecting the arc sections in the arcing chambers in series.

3,511,951
HAND-HELD SWITCHING DEVICE WITH INTERLOCKED TRIGGER ACTUATING MEANS
Robert C. Miller, Santa Ana, Calif. (7455 Bannock Trail, Yucca Valley, Calif. 92284)
Filed Feb. 12, 1968, Ser. No. 704,660
Int. Cl. H01h 9/06, 9/24, 21/10
U.S. Cl. 200—157 8 Claims



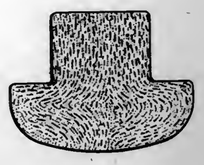
Two triggers are pivotally mounted along one edge of an elongated molded housing with their free ends extending toward each other and movable to operate a pair of switches confined by internal walls within the housing. In one embodiment, one trigger can be depressed independently of the other trigger to actuate a switch, but when the second trigger is depressed to operate a second switch, the free end of the second trigger engages the first trigger so that both switches are operated. In another arrangement using the same housing and switches, the free ends of the triggers move in overlapping paths so that either can be operated independently of the other but they cannot be operated simultaneously. In a third arrangement, a rocker element cooperates with the free ends of the triggers to prevent both triggers from being simultaneously operated.

3,511,952
ELECTRICAL SWITCHES
Norman Wilkinson, Fence, Burnley, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Apr. 11, 1968, Ser. No. 720,517
Claims priority, application Great Britain, May 15, 1967, 22,402/67
Int. Cl. H01h 3/06, 9/02
U.S. Cl. 200—166 3 Claims



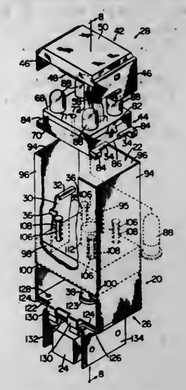
An electrical switch includes a relatively fixed body having a rotor supported thereon for angular movement between a plurality of angularly spaced positions, to open or close electrical contacts. An operating member is pivotally supported on the rotor for pivotal movement about an axis at right angles to the axis about which the rotor moves relative to the body, and further electrical contacts are provided, operable by said pivotal movement of the operating member relative to the rotor. There are further provided detent means acting between the body and the operating member for maintaining the operating member in either a position wherein said further contacts are open, wherein a position wherein said further contacts are closed, irrespective of the angular movements of the rotor relative to the body.

3,511,953
SILVER RHENIUM ELECTRIC CONTACTS
John Schmidt, Jr., Mount Prospect, Ill., assignor to Guardian Electric Manufacturing Co., Chicago, Ill., a corporation of Illinois
Filed June 6, 1968, Ser. No. 735,108
Int. Cl. H01h 1/02
U.S. Cl. 200—166 5 Claims



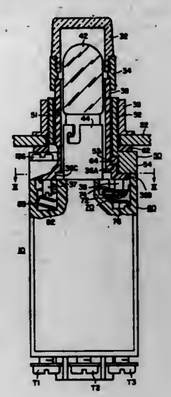
A uniform dispersion of 5–15% by weight rhenium in a silver matrix provides an electric contact which exhibits greatly improved erosion and current carrying characteristics in comparison to prior art pure silver and silver cadmium oxide contacts of like dimension. The diameter of the rhenium particles forming the dispersion varies between 10 and 25 microns, and the particles are uniformly dispersed in the silver matrix.

3,511,954
PUSHBUTTON ASSEMBLY MEANS, CASING, AND LOCKING MEANS
Anthony A. Di Pilla, Philadelphia, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Jan. 25, 1968, Ser. No. 700,627
Int. Cl. H01h 9/18
U.S. Cl. 200—167 26 Claims



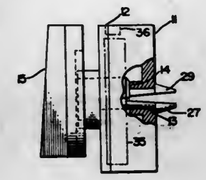
A pushbutton assembly means has an actuator means and a lamp holder means that can be inserted as a unit into a casing. The actuator and lamp holder are relatively movable to each other. When the actuator is pushed in and released, the lamp holder is automatically locked in the casing. The pushbutton assembly then cannot be removed until after the actuator is first pulled out, then pushed in and released, then lifted out of the casing.

3,511,955
COMBINED INDICATING LAMP AND PUSH-BUTTON SWITCH UNIT
Stanley L. Frank, and Stephen S. Dobrosielski, Beaver, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 21, 1968, Ser. No. 714,937
Int. Cl. H01h 9/18
U.S. Cl. 200—167 7 Claims



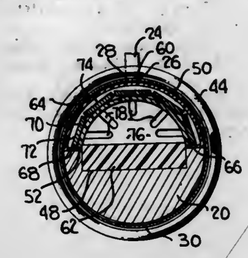
A combined indicating lamp and push-button switch unit having a housing or support member with an opening in which an indicating lamp is disposed. A hollow actuating member which surrounds the lamp is movable within the opening and is biased in a predetermined direction by a spring means and by the resilient contacts of a switch means disposed inside the housing. A transformer may also be disposed inside said housing and electrically connected to the indicating lamp.

3,511,956
ELECTRICAL SWITCH HOUSING
Albert F. Fields, Torrington, Conn., assignor to Dynamics Corporation of America, New York, N.Y., a corporation of New York
Filed Mar. 14, 1968, Ser. No. 713,064
Int. Cl. H01h 3/08
U.S. Cl. 200—172 5 Claims



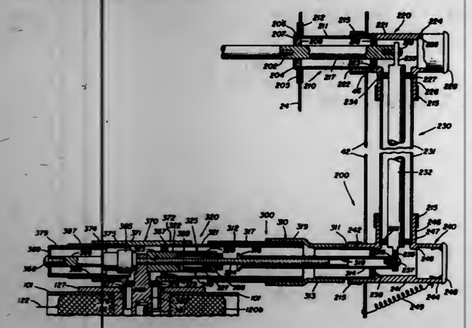
A rotary switch housing having an integral knob-shaft arrangement terminating in a split shaft with tapered ends. The tapered ends pass through an orifice in the housing so as to provide a self-locking feature.

3,511,957
DEVICE FOR IMPROVING EFFICIENCY OF RADIO-FREQUENCY WELDING
Howard S. Cannon, Evergreen Park, Phillip F. Catalano, Chicago, John D. Glomb, South Holland, and Roger M. O'Neill, Oaklawn, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 2, 1965, Ser. No. 429,726
Int. Cl. B23k 13/02
U.S. Cl. 219—8.5 32 Claims



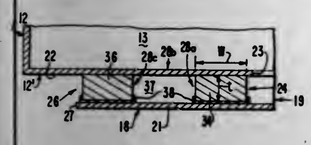
An impeder device for improving the efficiency of radio-frequency welding of continuous strip metal is disclosed. The impeder device includes a housing and a layer of high permeability magnetic material mounted within a recess in the horn about which the strip material is brought into edge-to-edge engagement for the welding together of the edges thereof. A magnetic field terminator block and heat sink is provided at the upstream end of the layer of magnetic material and the housing includes fluid passages for the conduction of cooling fluid into cooling relation with the layer of magnetic material. Sintered ferrites and particulated ferro-magnetic material in a resinous base are suitable for the formation of the layer of magnetic material which is constructed to provide a surface conforming to the interior surface of the strip edge portions to be joined.

3,511,958
ELECTRONIC OVEN INCLUDING MICROWAVE COUPLING STRUCTURE AND FOLDED CAVITY FILTERS THEREFOR
James E. Staats, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 31, 1968, Ser. No. 788,284
Int. Cl. H05b 9/06; H03h 7/10
U.S. Cl. 219—10.55 15 Claims



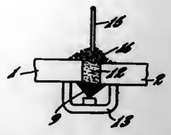
There is disclosed an electronic oven comprising a generator of microwave energy of a predetermined frequency coupled to a cooking cavity and to a source of DC and 60-cycle AC operating potentials by a coaxial transmission line, the inner conductor of the transmission line including structure defining a folded resonant cavity rejection filter for the second harmonic of the predetermined frequency formed by two cup-like conductors facing in opposite directions and disposed one within the other, and also including a capacitive bypass filter between the inner and outer conductors for the second and higher harmonics of the predetermined frequency.

3,511,959
MICROWAVE CAVITY HAVING A VARIED IMPEDANCE TRANSMISSION LINE MICROWAVE ENERGY SEAL AROUND THE ACCESS DOOR OPENING
Jerome R. White, San Carlos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Feb. 16, 1968, Ser. No. 706,041
Int. Cl. H05k 9/00; H05b 9/06
U.S. Cl. 219—10.55 13 Claims



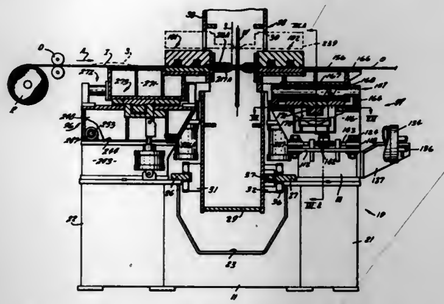
Two parallel spaced apart conductive rectangular bars are mounted at each of the four sides of a rectangular access door opening of a microwave heating cavity parallel to the edge of the door opening on the side of the cavity wall facing the conductive access door. The surfaces of the bars facing the access door are covered with a layer of polypropylene dielectric material. In the closed position, the access door rests against the covered bars. The bars have widths of about one-quarter wavelength of the microwave energy applied to the cavity in the medium between the bars and access door, and are spaced apart about one-quarter wavelength of the applied microwave energy in the medium between the access door and the cavity wall in the space between the bars. The access door is hinged at the cavity wall at a distance from the access door opening of about one wavelength of the applied microwave energy in the medium between the access door and the cavity wall structure.

3,511,960
ELECTRIC ARC WELDING
Robert Jean De Haeck, Uccle, Brussels, Belgium, assignor to La Soudure Electrique Autogene Procedes Arcos, Brussels, Belgium, a corporation of Belgium
Original application June 30, 1969, Ser. No. 837,771. Divided and this application Jan. 31, 1967, Ser. No. 612,864
Claims priority, application Belgium, Feb. 11, 1966, 23,971; Sept. 8, 1966, 33,086; Dec. 16, 1966, 37,319
Int. Cl. B23k 9/18
U.S. Cl. 219—73 7 Claims



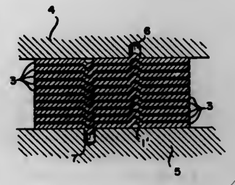
The invention relates to electric arc welding between two metallic plates, at least one of which is horizontal, placed in spaced relation to form a welding groove. The bottom of the groove is closed by material refractory to the molten metal, which may be loose granular material or a fiberous cushion of felt-like character. The welding groove is filled with essentially metallic particles and an arc is struck between a fusible metallic electrode introduced from above and the metallic particles. The refractory material in the preferred form does not generate gases in contact with the molten metal pool, has a melting point ranging between 1350 and 1450 deg. C., has a coefficient of expansion from heat ranging between 30×10^{-6} and 50×10^{-6} per deg. C. as computed from International Critical Tables and has a thermal conductivity ranging between 10×10^{-4} and 40×10^{-4} cal. $cm.^{-1}$ $sec.^{-1}$ deg. $C.^{-1}$. In a preferred form the refractory material is resiliently urged against the bottom of the weld groove as by a pneumatic tire or springs.

3,511,961
STRIP END WELDING MACHINE
John D. Morley, Bay City, and William F. Salbenblatt, Saginaw, Mich., assignors to Newcor, Inc., Bay City, Mich., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,971
Int. Cl. B23k 9/12, 11/06
U.S. Cl. 219—83 7 Claims



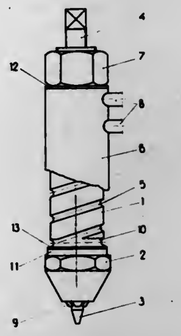
A strip end welding machine having a base upon which is slideably mounted a horizontally reciprocating, annular frame. The strips whose ends are to be welded pass axially through the frame transversely of its direction of reciprocation. The frame carries a shear for trimming the ends of the strips to be welded and welding and planishing rolls energizable for joining the overlapped strip ends. The machine includes base-mounted clamps on either side of the frame for gripping the strip ends to be joined.

3,511,962
PROCESS FOR BOSS WELDING METAL SHEETS
Rolf Suter, Mellen, Zurich, Switzerland, assignor to H. A. Schlatter AG., Schlieren, Switzerland
Filed Apr. 3, 1967, Ser. No. 627,966
Claims priority, application Switzerland, Apr. 6, 1966, 5,192/66, Patent 442,561
Int. Cl. B23k 11/14
U.S. Cl. 219—93 1 Claim



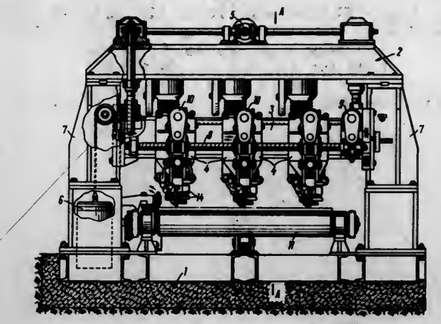
A process for boss welding metal plates by pressing bosses outwardly from the plates on opposite sides in superimposed alignment. The plates are assembled into a stack contacted at opposite sides by an electrode having a recess for the projecting bosses to prevent a burn-up of the plates at the bosses. The plates are interconnected by passing an electric current therethrough.

3,511,963
LIQUID COOLED CONTACT POINT OF A SPOT WELDER
Jan Chmiel, Ul. Sienkiewicza 9/8 Krakow, Poland
Filed Nov. 16, 1967, Ser. No. 683,566
Claims priority, application Poland, Nov. 21, 1966, P 117,490; Dec. 12, 1966, P 117,928
Int. Cl. B23k 9/24
U.S. Cl. 219—120 5 Claims



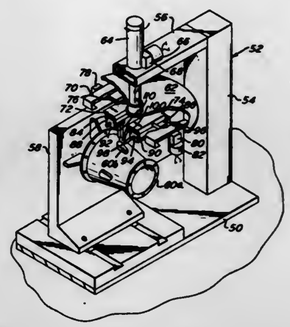
An electrode holder for holding and cooling a small solid electrode, provided with helical fluid conducting passages extending from remotely of the forward end to the forward end and thence back: the passages are formed by grooves in a holder body, having either a fluid retaining sleeve thereon or a pipe therein.

3,511,964
PLANT FOR WELDING BEAMS TO A METAL SHEET
Mikhail Matveevich Polyakov, Ul. Perova 9, kv. 4, and Alexei Maximovich Druzhbenikov, 2 Nagorny Mikroraion 5, kv. 35, both of Gorky, U.S.S.R.
Filed Sept. 14, 1967, Ser. No. 667,742
Int. Cl. B23k 9/12
U.S. Cl. 219—125 4 Claims



A plant for welding beams to a metal sheet is provided with a roller friction mechanism for moving the parts to be welded while clamping them to each other during the welding operation, there being several welding heads capable of performing relative movement with respect to one another across the width of the welding plant. The roller friction mechanism includes an individual pressure roller secured to each of said heads and acting upon an associated beam, and a common supporting shaft, disposed above the level of a bearing surface of a handling arrangement to cooperate with the pressure heads to clamp the parts to be welded.

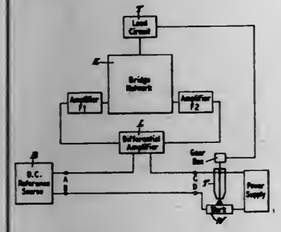
3,511,965
POSITIONING AND TRACKING APPARATUS FOR WORK TOOLS
Arthur C. Johnson, Cinnaminson, N.J., assignor to Inductotherm Corporation, Rancocas, N.J., a corporation of New Jersey
Filed Jan. 25, 1968, Ser. No. 700,553
Int. Cl. B23k 9/12; G05b 1/06
U.S. Cl. 219—125 6 Claims



A weld seam positioning and tracking apparatus having a source of infra-red radiation in the wavelength range of 1 to 10 microns directed on the weld seam and areas adjacent thereto, a detector for receiving and transducing reflected infra-red radiation, scanning apparatus

for scanning the detector relative to the weld seam whereby said detector produces a time pulse variation indicative whether the reflected radiation is received from the weld seam or the area adjacent thereto, and output apparatus relating the pulse created by the weld seam cavity to the scan width as an indication of the position of the detector relative to the weld seam.

3,511,966
ARC WELDING CONTROL APPARATUS
John D. Bose, Matawan, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Apr. 13, 1967, Ser. No. 630,557
Int. Cl. B23k 9/10
U.S. Cl. 219—131 4 Claims



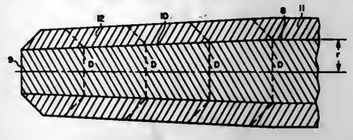
A transistorized arc welding control system which comprises a balanced bridge network for instantaneously reversing the direction of current to a load circuit including a D.C. servo motor in response to input signal polarity reversals. The load circuit is connected across the arms of the bridge network and the direction of current is controlled therethrough by the current flow in either base leg of the bridge network.

3,511,967
COATED ARC WELDING ELECTRODE FOR MINIMIZING POROSITY OF THE WELD METAL AT THE START OF WELDING
David F. Helm, Mount Lebanon, Pa., assignor to The McKay Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 3, 1968, Ser. No. 764,686
Int. Cl. B23k 35/22
U.S. Cl. 219—146 5 Claims



A coated arc welding electrode for minimizing porosity of the weld metal at the start of welding comprising a core wire having a body of uniform cross-sectional area and a starting end portion of reduced cross-sectional area at one end of the body, the starting end portion having a length between about two times the diameter of the body of the core wire and about 1.25 inches, preferably between about two diameters and about .8 inch, the end surface or tip of the starting end portion having a cross-sectional area between about twenty and about seventy, preferably between about twenty-five and about sixty, percent of the cross-sectional area of the body, the core wire having thereon a coating which is of uniform outside diameter except that the end surface of the coating extends at an angle outwardly from the tip of the core wire and generally toward the body of the core wire. The coating preferably is a stainless-low hydrogen type coating. The starting end portion of the core wire is preferably of truncated cone shape.

3,511,968
COATED ARC WELDING ELECTRODE FOR MINIMIZING BOTH POROSITY AND VARIATION IN COMPOSITION OF THE WELD METAL AT THE START OF WELDING
David F. Helm, Mount Lebanon, Pa., assignor to The McKay Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 3, 1968, Ser. No. 764,687
Int. Cl. B23k 35/22
U.S. Cl. 219—146 10 Claims

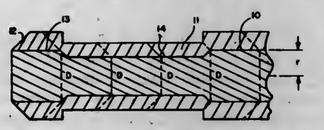


A coated arc welding electrode for minimizing both porosity and variation in composition of the weld metal at the start of welding comprising a core wire having a body of uniform cross-sectional area and a starting end portion of reduced cross-sectional area at one end of the body, the starting end portion having a length between about two times the diameter of the body of the core wire and about 1.25 inches, preferably between about two times the diameter of the body of the core wire and about .8 inch, the end surface or tip of the starting end portion having a cross-sectional area between about twenty and about seventy, preferably between about twenty-five and about sixty, percent of the cross-sectional area of the body, the starting end portion having less coating than an equivalent length of the body, the components of the electrode being proportioned so that the ratio of the quantity of coating consumed to the quantity of core wire consumed during the melting of the starting end portion is between about ninety and about one hundred ten, preferably between about ninety-five and about one hundred five, percent of the ratio of the quantity of coating consumed to the quantity of core wire consumed during the melting of the body of the electrode. The coating preferably is a stainless-low hydrogen type coating. Such relationship of the ratios of the quantity of coating consumed to the quantity of core wire consumed during melting may be established in the first increment of the length of the starting end portion equal to the diameter of the body of the core wire and continued through subsequent equal increments of the length of the starting end portion all the way to the body of the core wire. The outer surface of the coating on the starting end portion of the core wire is preferably of truncated cone shape. The starting end portion of the core wire is preferably of truncated cone shape.

3,511,969
COATED ARC WELDING ELECTRODE FOR MINIMIZING POROSITY OR FOR MINIMIZING BOTH POROSITY AND VARIATION IN COMPOSITION OF THE WELD METAL AT THE START OF WELDING
David F. Helm, Mount Lebanon, Pa., assignor to The McKay Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 3, 1968, Ser. No. 764,688
Int. Cl. B23k 35/22
U.S. Cl. 219—146 10 Claims

A coated arc welding electrode for minimizing porosity or for minimizing both porosity and variation in composition of the weld metal at the start of welding compris-

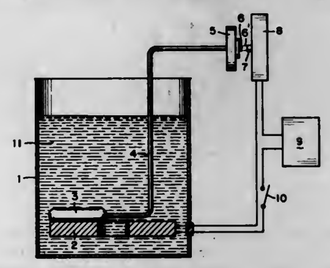
ing a core wire having a coating thereabout, the core wire having a body of uniform cross-sectional area and a starting end portion at one end of the body, the starting end portion of the core wire having at the end of the electrode a length of substantially the same cross-sectional area as the body of the core wire and including a length of diminished cross-sectional area following the first mentioned length, the cross-sectional area of the length of diminished cross-sectional area of the core wire being between about thirty-five and about eighty-five percent of the cross-sectional area of the body of the core wire, the total cross-sectional area of the electrode, including the coating, at the length of diminished cross-sectional area of the core wire being between about thirty-five and about one hundred percent of the total cross-sectional area of the electrode, including the coating, at the body of the core wire. The coating preferably is a stainless-low hydrogen type coating. The components of the electrode are preferably proportioned so that the ratio of the quantity of coating consumed to the quantity of



core wire consumed during the melting of the starting end portion is between about ninety and about one hundred twenty percent of the ratio of the quantity of coating consumed to the quantity of core wire consumed during the melting of the body of the electrode. The length of the starting end portion of the core wire which is of substantially the same cross-sectional area as the body of the core wire preferably has a longitudinal extent equal to between about .1 inch and about .4 inch and the length of the starting end portion of the core wire which is of diminished cross-sectional area has a longitudinal extent equal to between about .2 inch and about 1 inch. The length of the starting end portion of the core wire which is of diminished cross-sectional area preferably has a longitudinal extent equal to between about .3 inch and about .7 inch.

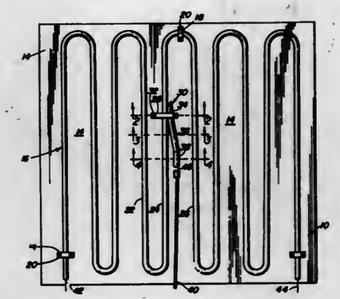
The total cross-sectional area of the electrode, including the coating, at the length of diminished cross-sectional area of the core wire may be substantially the same as the total cross-sectional area of the electrode, including the coating, at the body of the core wire.

3,511,970
VAPOR ACTUATED SAFETY THERMOSTAT
Burre I. Kjellberg, Ballwin, Mo., assignor to Diatemp, Inc., St. Louis, Mo., a corporation of Missouri
Filed Nov. 14, 1966, Ser. No. 593,849
Int. Cl. H05b 3/02; A47j 31/00
U.S. Cl. 219—331 2 Claims



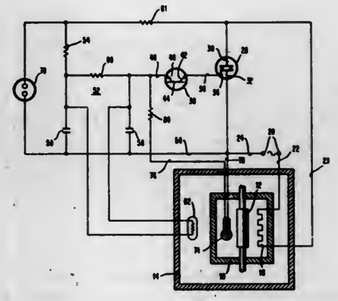
A fast-acting vapor-actuated temperature control for a coffee maker operating in a narrow temperature range between 205 and 208 degrees Fahrenheit, having a single hydraulic bulb in contact with the heater element to serve two purposes, first to regulate and maintain the temperature of the coffee in that narrow range just below the boiling point of coffee, and second to serve as a high-limit safety switch instantaneously cutting off the power supply to the heater element in case of a boil-over or accident.

3,511,971
TEMPERATURE CONTROL
Richard T. Keating, 4301 W. Madison St., Chicago, Ill. 60624
Filed Aug. 24, 1967, Ser. No. 662,940
Int. Cl. H05b 3/68
U.S. Cl. 219—449 9 Claims



A temperature control system is disclosed having a heat responsive element positioned in relation to the heat source and heat radiating means such that a portion of the heat responsive element is in contact with both the heat source and the heat radiating means, a portion is in contact with the heat radiating means and a portion is in contact with the atmospheric environment in the vicinity of the heat source and heat radiating means. In one embodiment the control system is shown in relation to a grill plate. Other embodiments are disclosed.

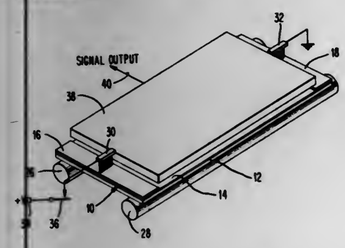
3,511,972
AMBIENT TEMPERATURE ADAPTIVE ON-OFF TEMPERATURE CONTROL CIRCUIT
Earl W. Shaffer, Jr., Warrington, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 19, 1969, Ser. No. 800,450
Int. Cl. H05b 1/02
U.S. Cl. 219—501 7 Claims



A solid state switch allows A.C. current to flow through a heater during a portion of each cycle of the A.C. source when the temperature being controlled is below its desired value. The portion of the cycle during which

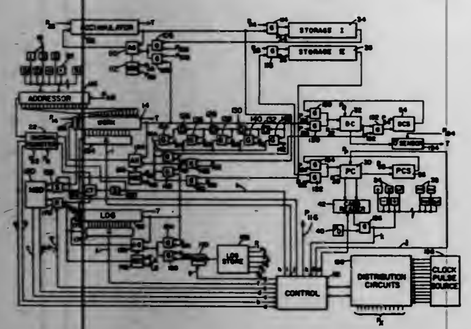
the heater current flows is modified by a phase control circuit in response to the ambient temperature as detected by a thermistor forming part of the phase control circuit so that more power goes to the heater when the ambient temperature is low. A thermostat prevents conduction of the solid state switch and hence prevents current flow through the heater when the temperature under control exceeds the desired value.

3,511,973
THERMO-RESISTIVE RECORDING TECHNIQUE
Donald T. Best, Plymouth Meeting, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,368
Int. Cl. G06k 7/00
U.S. Cl. 235—61.11 1 Claim



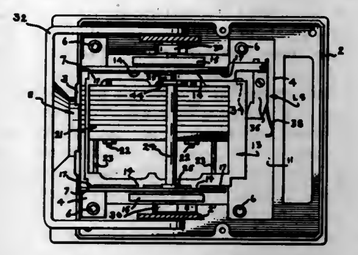
This invention relates to a recording scheme whereby the recording medium comprises an electrical resistive material of constant isotropic resistivity. Information is recorded on the medium by altering the resistivity thereof. Read out of the information occurs by scanning the medium to detect any changes of resistivity with thermographic equipment.

3,511,974
AUTOMATICALLY CONTROLLED CALCULATING APPARATUS
An Wang, Lincoln, Mass., assignor to Wang Laboratories Inc., Tewksbury, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 398,254, Sept. 22, 1964. This application Mar. 22, 1966, Ser. No. 536,428
Int. Cl. G06f 15/02; G06k 7/01
U.S. Cl. 235—61.6 10 Claims



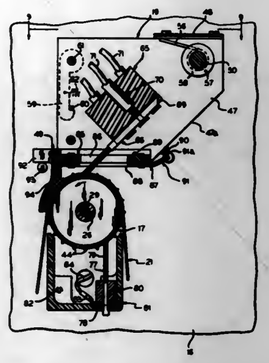
An electronic calculator system includes a record sensing device for receiving a record in fixed relation to said device. Numerical values from 0 through 9 and instruction codes for controlling calculator operation are applied respectively to the calculator input display register and arithmetic unit from either the record sensing device or a manually operable keyboard unit.

3,511,975
LOCKING SYSTEM FOR A CARD READER
Bryce Wilson Blair, Hershey, and Christopher Kingsley Brown, Camp Hill, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 14, 1966, Ser. No. 534,098
Int. Cl. G06k 9/04; H01h 43/08
U.S. Cl. 235—61.11 7 Claims



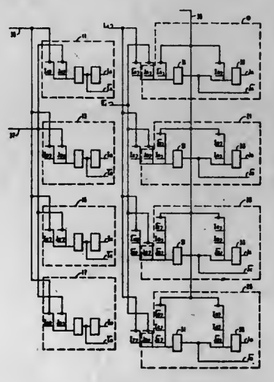
A card reader comprises a card-reading area into which a card to be read is disposed and includes stationary and movable contact means. Operating means are operatively connected to the movable contact means to move the movable contact means toward and away from the stationary contact means. Locking means is operatively engaged with the operating means to maintain the operating means in a locked position until a card to be read has been placed within the card-reading area and in engagement with the locking means whereupon the locking means is disengaged from the operating means so that the operating means can operate the movable contact means to read the information on the card to be read.

3,511,976
TAPE PROGRAMMER FOR CONTROLLING ELECTRICAL CIRCUITS
Lawrence L. Neidenberg, Maplewood, and Bernard J. Sopko, Fairfield, N.J., assignors to Industrial Timer Corporation, Parsippany, N.J., a corporation of Delaware
Filed June 1, 1966, Ser. No. 554,584
Int. Cl. G06k 7/06; H01h 43/10
U.S. Cl. 235—61.11 9 Claims



Tape programmer for reading programmed tape to generate a timed sequence operation of a group of electrical circuits including a rotatably mounted drum having a conductive surface, a punched tape of insulative material arranged over the drum and driven thereby, a plurality of brush contacts engaging the tape and making contact with the drum during the passage of punched holes in the tape, wherein successive line-to-line holes may be spaced to coact with the brush contacts so that a brush contact may make with a successive line hole before breaking with a preceding line hole. A protective device protects the brush contacts when in withdrawn position to change or apply a tape to the drum.

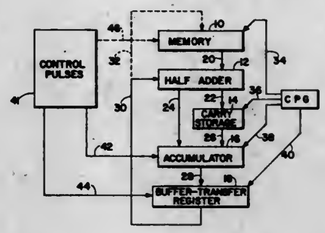
3,511,977
ELECTRONIC COUNTER
Louis M. Hornung, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 12, 1966, Ser. No. 578,791
Int. Cl. H03k 23/00, 21/16
U.S. Cl. 235—92 6 Claims



A high speed permutable binary counter wherein each counter stage includes a pair of binary storage elements termed counting and steering elements. Each counting element is responsive to a first source of timing pulses to assume the state of its associated steering element upon the occurrence of a timing pulse and remains in that state until the occurrence of a further timing pulse. Each steering element is responsive to a second source of timing pulses which occur alternatively with respect to the timing pulses from the first pulse source to assume a binary state dependent upon the state of the counting and steering elements of the preceding counter stage and upon the state of its associated counting element. The steering elements constitute a ripple counter while the counting elements constitute a non-ripple counter. Additionally, the steering elements can be permuted to any predefined state by control logic means which is responsive to the output signals of the counting elements.

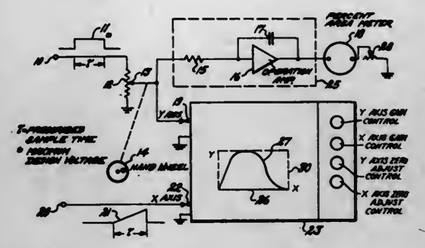
3,511,978
PARALLEL BINARY MAGNETIC ADDITION SYSTEM BY COUNTING
Harry Margulius, 5 Nottingham St., Newton, Mass. 02159
Continuation of application Ser. No. 500,787, Oct. 22, 1965. This application Oct. 24, 1968, Ser. No. 770,907
Int. Cl. G06f 7/385
U.S. Cl. 235—175 9 Claims

A full adder is disclosed which is based on magnetic-core-transistor logic. A novel accumulator is shown which comprises a chain of core-transistor binary counting elements to each of which are added additional inputs. The adder in its preferred embodiment comprises four registers with an element of core-transistor logic for each bit. The binary digits of A (the inverse of the addend A) appear in a storage register 10; and the binary digits of the augend B appear in a buffer transfer register 18. As a first step of the parallel adding process, corresponding bit position elements of the four registers accommodate the two inputs and the two outputs of an "exclusive or" binary half-adder. The inverted partial sum $\overline{S}$ output enters the counter register 16, the carry enters the carry register 14. A unity input to each element of the counter is implemented simultaneously with the input of the inverted partial sum $\overline{S}$ so that the latter is inverted to S. At a second step, the carrys are shifted out as two outputs spaced in time one from the other. A non-delayed first output serves



as a shift pulse to the counter module for the next digit order forward, as does a similar, nondelayed output from the corresponding lower-order counter module. Delayed outputs from corresponding order carry storage and counter modules are connected in like manner to form a single logic input to the next-higher-order counter module. In this manner carrys are applied simultaneously to the successive orders of partial sums and any additional carrys generated in the addition of a carry and a partial sum digit are propagated through the counter to reflect the final sum when all carrys have settled out.

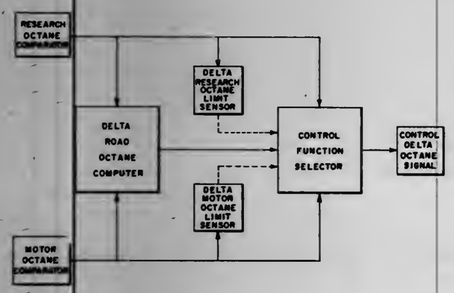
3,511,979
SYSTEM FOR MEASURING AREA UNDER A CURVE
Richard E. Rabe and Arthur Carnevale, Jr., Rome, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 26, 1968, Ser. No. 708,059
Int. Cl. G06g 7/18
U.S. Cl. 235—183 1 Claim

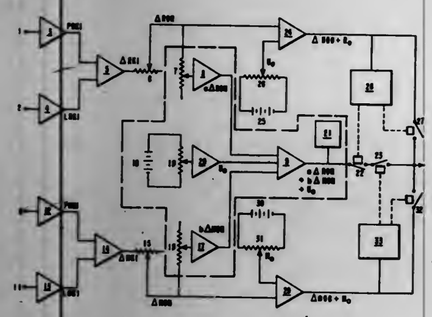


A system for measuring the area under a curve by comparing it to the area of a rectangle whose X and Y dimensions are equal to the vertical and horizontal extremities of the curve. This is accomplished by positioning a record of the curve and its associated encompassing rectangle on the surface of an X–Y plotter. A calibration is first performed to provide a first meter reading of one hundred percent while tracing the record of the rectangle on the X–Y plotter. A second meter reading is then obtained by tracing the record of the curve on the X–Y plotter. The two readings thus permitting a computation of the actual area under the curve. The Y input signal to

the plotter is a voltage whose amplitude is proportional to the height of the curve. The X input signal is a linearly increasing voltage along the horizontal length of the curves. Thus the output of the meter is proportional to the integrated Y signal.

3,511,980
DELTA ROAD OCTANE COMPUTER FOR CONTROLLING THE OCTANE QUALITY OF A GASOLINE BLEND
Joe Turner May, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,326
Int. Cl. G06g 7/58
U.S. Cl. 235—193 8 Claims

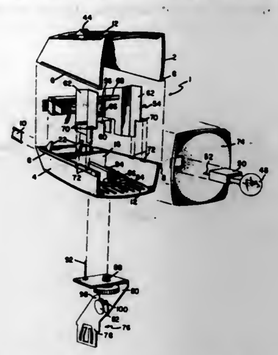




Method of continuously controlling the octane quality of a refinery gasoline blend containing at least one component which affects octane quality by controlling the amount of said component in the gasoline blend in response to the delta Road octane number of the blend. Electrical circuitry for a delta Road octane computer and method of producing a delta Road octane voltage signal from delta Research and Motor octane voltage signals.

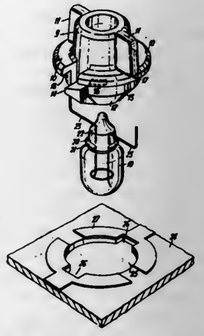
3,511,981
MOVIE LIGHT
Thomas Haraden, Ipswich, and Hendrik A. J. de Vos, Wenham, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 6, 1968, Ser. No. 710,964
Int. Cl. G03b 15/02
U.S. Cl. 240—1.3 6 Claims

A photographic illuminating device consisting of a housing having upper and lower portions, a baffle member supported in the housing, a reflector element within the housing, and a light source which extends through a central aperture in the reflector toward the front of the housing. The upper and lower portions of the housing have pairs of longitudinally extending flanges which are secured together by clip members. The baffle member has lateral projections thereon which extend between



the mating flanges of the housings and are supported thereby. The device is supported on the head of a camera by a two-way adapter mounting bracket which may be inserted into the various types of support elements provided on the head of a camera.

3,511,982
LAMP HOLDERS
Derek F. Salter, Addlestone, England, assignor to Rival Lamps Limited, Weybridge, Surrey, England, a British company
Filed Apr. 5, 1967, Ser. No. 628,624
Claims priority, application Great Britain, Apr. 18, 1966, 16,942/66
Int. Cl. B60q 3/04; H05k 1/12
U.S. Cl. 240—8.16 3 Claims

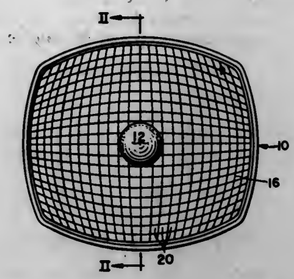


Miniature lamp holders fit in an aperture in a printed circuit panel. The holder has projections for locating itself in the aperture and clamping surfaces arranged to clamp the filament tails of the lamp directly against the printed circuit on the panel.

3,511,983
LIGHTING DEVICE FOR DENTAL AND SURGICAL PROCEDURES
William H. Dorman, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Apr. 10, 1967, Ser. No. 629,663
Int. Cl. A61b 1/06; F21b 7/08, 7/09
U.S. Cl. 240—41.15 2 Claims

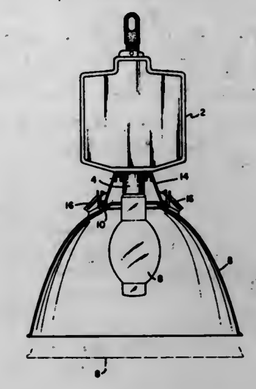
A lighting device for illuminating the oral cavity during dental and surgical procedures, the device having

a reflector in the basic form of a portion of an ellipsoid of revolution and a light source located at a focus of the ellipsoid and elongated along the axis of revolution



of the ellipsoid. The basic ellipsoidal shape of the reflector is modified by the superimposition thereupon of a large number of contiguous polygonal flutes having reflecting surfaces in the form of portions of circular cylinders.

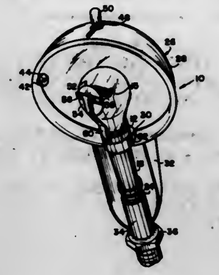
3,511,984
LIGHTING FIXTURE
Ronald G. Blaisdell, Saugus, and Hendrik A. J. de Vos, Wenham, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 27, 1967, Ser. No. 693,902
Int. Cl. F21v 7/00; F21s 1/02
U.S. Cl. 240—44.1 4 Claims



A luminaire for lamps of the metal vapor type in which an adapter ring may be interposed between the housing and the spider as a means for adjusting the relative location of the light center of the lamp with respect to the reflector whereby different light distribution patterns are obtained.

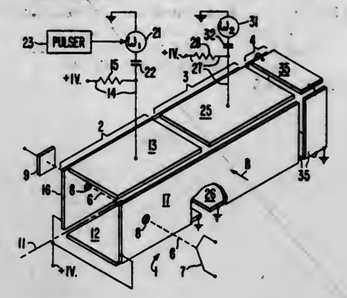
3,511,985
ADJUSTABLE BEAM LAMP
Joseph A. Muscovitch, 37 Franklin Ave., Saddle Brook, N.J. 07662
Filed June 8, 1967, Ser. No. 644,590
Int. Cl. F21v 7/06
U.S. Cl. 240—44.1 8 Claims

An adjustable beam lamp having a reflector capable of reflecting a concentrated beam when the light source is located at the focal center thereof and having a light bulb socket and reflector housing mounted for movement relative to each other for positioning the bulb filament at the focal point of the reflector. The reflector is movably mounted within the housing for manual adjustment of the reflector in a position in which its center is located behind the light bulb for producing an intense



concentrated beam of reflected light, and selective positions in which curved surfaces of the reflector of lesser diameter are located behind the bulb for producing dispersed beams of variable and controllable spread.

3,511,986
ION CYCLOTRON DOUBLE RESONANCE SPECTROMETER EMPLOYING RESONANCE IN THE ION SOURCE AND ANALYZER
Peter M. Llewellyn, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed May 15, 1967, Ser. No. 638,247
Int. Cl. B01d 59/44; H01j 39/34
U.S. Cl. 250—41.9 7 Claims



An ion cyclotron resonance spectrometer is disclosed which employs cyclotron resonance of a first species of ions in the ion source region and which employs cyclotron resonance of a second species of ions in a successive analyzer region. The spectrometer includes an electrode structure enclosed in an evacuated chamber and immersed in a unidirectional magnetic field. The electrode structure includes an ion source region for forming and projecting a beam of ions over a linear beam path to an ion collector. An analyzer structure is disposed along the beam path between the ion source and the ion collector for exciting and detecting cyclotron resonance of ions passing from the source into the analyzer. The ion source also includes structure for exciting cyclotron resonance of a certain predetermined species of ions with a relatively strong radio frequency electric field such that some of these resonant ions are selectively driven out of the ion beam by the applied RF field. The applied RF field, used to selectively remove the predetermined ion species from the beam is modulated at a convenient audio frequency such that the selected ion removal effect is modulated. A detector is provided for detecting such modulation, if any, in the resonance of a second species of

ions within the analyzer region. Such modulation of the resonance of the second species may be employed to identify unimolecular dissociation products of ion species selectively driven out of the beam in the source.

3,511,987

METHOD OF ALIGNING THE END FACES AND THE ACOUSTIC AXIS OF QUARTZ DELAY LINES FOR IMPROVING THEIR ACOUSTIC RESPONSE

John D. Young, Fayetteville, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force

Filed May 23, 1967, Ser. No. 642,291
Int. Cl. G01n *21/00, 23/00*
U.S. Cl. 250—42 3 Claims



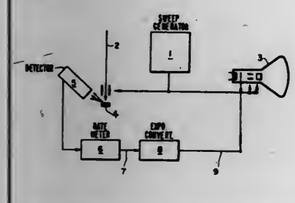
By subjecting quartz rod delay lines to an X-ray field the acoustic axis within the quartz is made more nearly perpendicular to the end faces of the quartz crystal, and through a bending of the rod by the X-rays the end faces are made more nearly parallel to each other.

3,511,988

SIGNAL DISPLAYING DEVICE FOR USE WITH AN X-RAY MICROANALYZER

Teruichi Tomura, Kokubunji-shi, Japan, assignor to Hitachi, Ltd., Tokyo-to, Japan

Filed Sept. 7, 1966, Ser. No. 577,759
Int. Cl. H01j *29/70, 37/00*
U.S. Cl. 250—49.5 2 Claims



A signal displaying device including means for converting an input signal representing information to be displayed into a control pulse having a duration time which is exponentially proportional to the intensity of instantaneous values of the input signal.

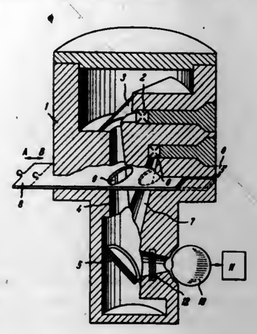
3,511,989

DEVICE FOR X-RAY RADIOMETRIC DETERMINATION OF ELEMENTS IN TEST SPECIMENS

Solomon Lazarevich Yakubovich, Ul. Poletaeva 52, korp. 5, kv. 108; Vasily Nikolaevich Smirnov, Ul. Ryleeva, 23, kv. 29; Stanislav Mikhailovich Przhiyalgovsky, Naperenyo ul. 35, korp. "G," kv. 18; Georgy Ivanovich Brylyakov, Leninsky, prospekt 57, kv. 167; and Eduard Sergeevich Blinov, Leninsky prospekt 60/2, korp. 8, kv. 30, all of Moscow, U.S.S.R.

Filed Feb. 21, 1967, Ser. No. 617,665
Int. Cl. G01n *23/20*
U.S. Cl. 250—51.5 5 Claims

A device for fluorescent X-ray quantitative analysis comprising a lead casing which accommodates a radioactive source for irradiating a changeable intermediate target and exciting therein characteristic radiation, the latter radiation being instrumental in exciting the characteristic radiation of the elements of a test specimen, which radiation is recorded by a detector. To account for the effect of variations in the elemental composition of a test specimen, a beta source is fixedly mounted in the casing or affixed to a movable shutter, the beta radiation from said source being scattered by said test specimen.



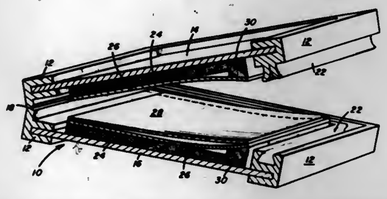
Irradiation of the test specimen by radiation fluxes of two dissimilar types is attained due to a movable shutter which shields one source at a time, or by means of a test specimen holder having an even number of apertures and capable of providing for the simultaneous irradiation of two portions of a test specimen with two radiation fluxes of dissimilar type.

3,511,990

RADIOGRAPHIC FILM CASSETTE HAVING A RESILIENT FILM RELEASE STRIP THEREIN

Robert M. Hauss, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 26, 1967, Ser. No. 648,586
Int. Cl. G03b *41/16*
U.S. Cl. 250—68 7 Claims



An X-ray film cassette having a pair of thickened elastomeric members along two opposite edges of the film which act, upon opening the cassette, to assure that the film is freed from the intensifying screen.

3,511,991

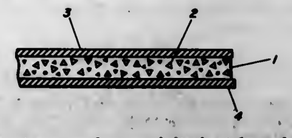
POLYCRYSTALLINE PYROELECTRIC DETECTOR IN WHICH THE CRYSTALS ARE BOUND TOGETHER WITH A PLASTIC CEMENT

Henry P. Beerman, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Continuation-in-part of application Ser. No. 704,554, Feb. 12, 1968. This application July 11, 1969, Ser. No. 843,914
Int. Cl. C01j *5/20, 5/58*
U.S. Cl. 250—83 8 Claims

Pyroelectric detectors are prepared with microcrystalline triglycine sulfate held together with a binder between metallic electrodes, one of the electrodes being preferably

blackened to increase absorption of radiant energy. The size of the microcrystals can vary typically from 3 to 100 microns and can be prepared by wet grinding larger single



crystals in acetone, or by precipitating the microcrystals by rapid cooling of the aqueous solution followed by filtering.

3,511,992

GE-SE-GA GLASS COMPOSITION IN AN INFRARED DETECTION SYSTEM

Robert J. Patterson, Beaverton, Oreg., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 18, 1967, Ser. No. 676,236
Int. Cl. C03c *3/12, 3/30*
U.S. Cl. 250—83 2 Claims

Disclosed is a composition of matter comprising germanium, selenium and gallium, which has been found to be glass transmitting in the infrared region of the electromagnetic spectrum. Also disclosed are methods of compounding this composition, and of obtaining viscosity data for the glass, and an illustration of the use of the glass composition of this invention as a transmitting element within an infrared detection system.

3,511,993

Ge-Se-Te GLASS IN AN INFRARED DETECTION SYSTEM

Robert J. Patterson, Beaverton, Oreg., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 18, 1967, Ser. No. 676,237
Int. Cl. C03c *3/12, 3/30*
U.S. Cl. 250—83 2 Claims

Disclosed are compositions of matter comprising germanium, selenium, and tellurium which have been found to be glasses transmitting in the infrared region of the electromagnetic spectrum. Also disclosed are methods of compounding these compositions and of obtaining viscosity data for the glasses and an illustration of the use of the glass compositions of this invention as transmitting elements within an infrared detection system.

3,511,994

NEUTRON DETECTOR HAVING A STANDARD BETA SOURCE FOR PRODUCING A CONTINUOUS CHECK CURRENT

Georg Salomon Jonsson and Karl Osten Ingvar Andersson, Nykoping, Sweden, assignors to Aktiebolaget Atomenergi, Stockholm, Sweden, a Swedish company

Filed May 26, 1967, Ser. No. 641,631
Int. Cl. G01t *3/00*
U.S. Cl. 250—83.1 3 Claims



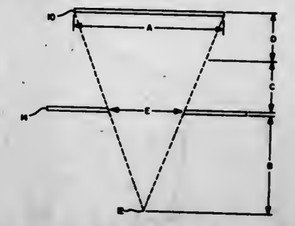
The invention is concerned with a neutron detector containing an emitter emitting beta radiation when irradiated with neutrons, and a collector for the beta particles. The beta radiation creates an electric current. The improvement consists in providing a radioactive substance which emits beta particles continuously, thus creating a continuous check current.

3,511,995

AUTOMATIC SHUTTER CONTROL FOR MAINTAINING CONSTANT A PREDETERMINED IMAGE FIELD SIZE

Daniel F. Lombardo, Cleveland, Ohio, assignor, by mesne assignments, to Picker Corporation, White Plains, N.Y., a corporation of New York

Filed Aug. 16, 1967, Ser. No. 660,962
Int. Cl. H05g *1/00*
U.S. Cl. 250—93 12 Claims



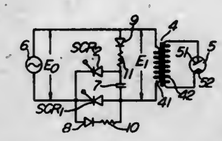
Shutter opening for delineating the size of an X-ray beam is controlled electronically by a servo circuit to maintain constant a predetermined image field size as distance between the shutter and image plane is varied. Field size may be manually selected or one of a number of preselected field sizes may be chosen.

3,511,996

X-RAY GENERATOR HAVING MEANS FOR PREVENTING D.C. MAGNETIZATION OF THE TRANSFORMER CORE

Haruyuki Kusagiya, Shigenobu Yanaka, and Shigeo Sato, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a Japanese corporation

Filed Oct. 19, 1966, Ser. No. 587,729
Claims priority, application Japan, Apr. 27, 1966, 41/26,298
Int. Cl. H05g *1/14*
U.S. Cl. 250—102 5 Claims



An X-ray generator is described wherein a controlled rectifier is used to preclude portions of a desired positive half-cycle of a sinusoidal supply voltage except for a chopped-out central portion. A resistor is connected in parallel with the controlled rectifier for exciting the transformer in a reverse direction during the undesired opposite half-cycle of the sinusoidal supply voltage. The parallel connected controlled rectifier and resistor are connected in series with the primary winding of a transformer whose secondary windings are connected to the anode and cathode of an X-ray tube. By this arrangement, D.C. magnetization of the core of the transformer and application of excessive reverse voltage to the X-ray tube is avoided, thereby enabling the X-ray generator to be made small in size and light in weight.

3,511,997

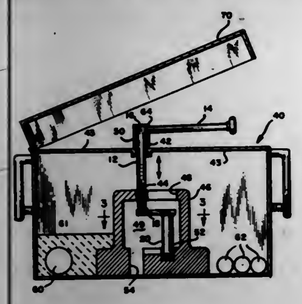
DENSITY MOISTURE METER USING A RADIOACTIVE SOURCE AND DETECTOR

Donald J. Seaman, 6983 N. Range Line Road, Glendale, Wis. 53209

Filed Nov. 1, 1966, Ser. No. 591,259
Int. Cl. G01t *1/18;* G21f *5/02*
U.S. Cl. 250—106 4 Claims

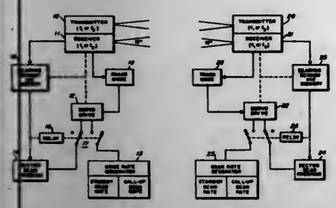
A meter, including a radioactive source, shielding means for the source, a housing surrounding the source

and shielding means and having a top wall and a cover pivotable from an open position to a closed position relative to the top wall, shaft means extending through the top wall and supporting the source at its lower end and within the shielding means, handle means pivotally coupled to the upper end of the shaft and being pivotable from a first position located inwardly of the closed position of the cover to a second position disposed in an interfering relation relative to pivotal movement of the cover



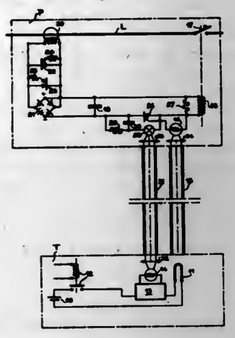
from its open to its closed position, the shaft and the radioactive source being movable from an inoperative, shielded position to an operative position when the handle is in its second position, and means for preventing movement of the handle out of its second position to its first position when the shaft and source are in their operative position, and for preventing movement of the shaft and source out of their inoperative shielded position when the handle is in its first position.

3,511,998
ACQUISITION SYSTEM
Melvin I. Smokler, Van Nuys, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Continuation-in-part of application Ser. No. 269,237, Mar. 28, 1963. This application Mar. 18, 1966, Ser. No. 536,949
Int. Cl. H04b 9/00
U.S. Cl. 250—199 **15 Claims**



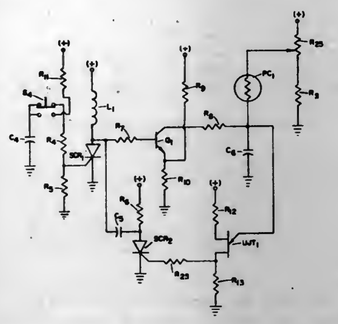
1. A communication system comprising:
at least one equipment for transmitting radiant energy within a small angle and at a determinable frequency;
at least one equipment for receiving said transmitted radiant energy within a limited angle of view;
means for driving said receiving equipment about two orthogonal axes;
means for driving said transmitting equipment through the solid angle of a sphere in the same period of time said receiving equipment is driven through its solid angle of view whereby transmission contact is completed between said equipments in a period of time not exceeding the full period of scan of said receiving equipment; and,
means responsive to signals transmitted between said equipments for recording the relative bearing of said equipments relative to each other upon initial transmission contact.

3,511,999
LIGHT RESPONSIVE CONTINUOUSLY TESTED TRIPPING DEVICE FOR ELECTRIC CIRCUIT BREAKER
Yves Pelenc, La Tronche, France, assignor to Merlin Gerin, S.A., Grenoble, France
Filed Nov. 2, 1966, Ser. No. 591,625
Claims priority, application Belgium, Nov. 4, 1965, 19,853
Int. Cl. H01j 31/50
U.S. Cl. 250—214 **6 Claims**



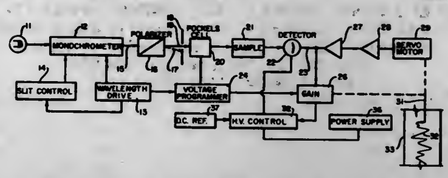
A monitoring circuit for checking photo-electric tripping devices in high voltage lines including a photoelectrically controlled switch and a disabling device operable to prevent switching in the absence of current in the high voltage line.

3,512,000
RADIATION SENSITIVE EXPOSURE CONTROL UNIT
Frederick W. Powell, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 665,569, Sept. 5, 1967. This application June 24, 1969, Ser. No. 839,790
Int. Cl. G03b 7/08; H01j 39/12
U.S. Cl. 250—214 **3 Claims**



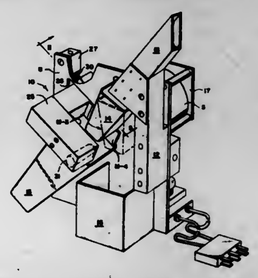
An automatic exposure control is provided wherein light reflected from a subject to be photographed is directed onto a photoconductor which determines the rate of charge of a capacitor. When exposure is initiated, a solenoid opens the shutter. When the charge on the capacitor reaches a certain level, the shutter is closed. A novel arrangement of silicon conducting rectifiers and a unijunction transistor is utilized.

3,512,001
SYSTEM FOR MEASURING DIFFERENTIAL ABSORPTION IN WHICH THE TRANSDUCER CIRCUIT GAIN IS VARIED
Donald Patrick Sproul, Los Altos, Calif., assignor to Durrum Instrument Corporation, Palo Alto, Calif., a corporation of Nevada
Filed Sept. 22, 1966, Ser. No. 581,232
Int. Cl. G01n 21/22, 21/24, 21/02
U.S. Cl. 250—218 **7 Claims**



A differential absorption measuring system in which light subjected to different absorption alternately impinges on a transducer, the gain of the transducer circuit is varied to provide a constant output signal. The gain adjustment gives an indication of the differential absorption.

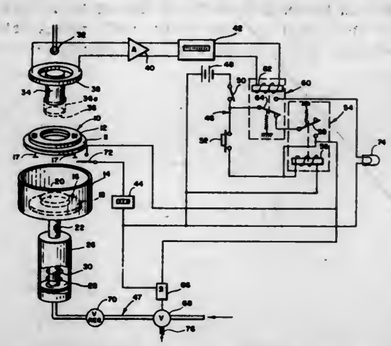
3,512,002
RADIATION SENSITIVE COUNTING METHOD AND APPARATUS
Robert W. Decker, Washington, D.C. (11313 Frederick Ave., Beltsville, Md. 20705)
Filed June 14, 1965, Ser. No. 463,690
Int. Cl. G06m 7/00; H01j 39/12
U.S. Cl. 250—222 **16 Claims**



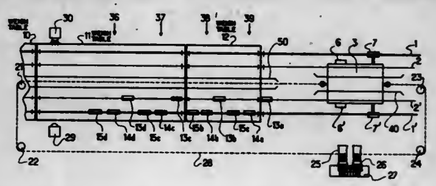
An invention relating to a method of counting and to apparatus therefor, and more particularly to counting method and apparatus which avoids the counting of "trash," and which apparatus includes a circuit which obviates the use of a solenoid switch.

3,512,003
RADIATION SENSITIVE PENETROMETER FOR PAPER
John William Berry, Stamford, Raymond Anthony Herrmann, Ridgefield, and Le Roy Harold Barum, Fairfield, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Oct. 3, 1968, Ser. No. 764,770
Int. Cl. G01n 5/02, 21/30
U.S. Cl. 250—222 **10 Claims**

A penetrometer is provided for measuring the resistance of sized paper and similar sized webs to penetration by colored fluids. The device automatically applies a quantity of colored fluid to one surface of sized paper or other web, starts a timer at the instant the fluid is applied to the web, and stops the timer when the surface reflectance of the other surface of the web has decreased to a predetermined value caused by penetration of the web by the fluid.



3,512,004
RADIATION SENSITIVE DEVICE FOR POSITIONING TRUCKS
Jacques Papin, Enghien-les-Bains, Jean Bruno, Brou-sur-Chantereine, and Robert Montrelay, Versailles, France, assignors to Compagnie Generale d'Automatisme, Paris, France
Continuation-in-part of application Ser. No. 342,980, Feb. 6, 1964. This application Mar. 20, 1967, Ser. No. 624,392
Claims priority, application France, Feb. 3, 1963, 924,651
Int. Cl. G01g 19/02
U.S. Cl. 250—223 **20 Claims**

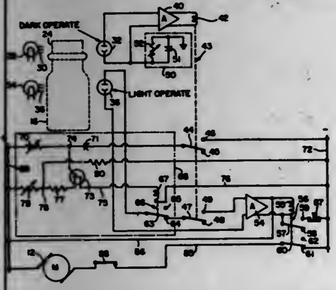


Automatic device for positioning railroad cars or the like on a weigh-bridge for continued successive weighing of individual cars of a coupled line including a hauling carriage control system for advancing the line of cars in accordance with the length of the wheel base thereof and a positioning control circuit for limiting the extent of movement in accordance with the length of the wheel base of the next car to be weighed.

3,512,005
FILL CHECKING APPARATUS
Joseph Anthony Bawduniak, Ambler, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
Filed Dec. 16, 1968, Ser. No. 784,038
Int. Cl. G06m 7/00; B07c 5/34
U.S. Cl. 250—223 **5 Claims**

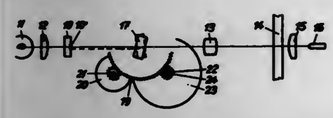
An apparatus is disclosed which prevents false indications of underfill of moving glass bottles by an underfill checking system using two light responsive devices. In such a system the upper device is actuated at a predetermined time after the neck of the bottle intercepts the upper light beam. This action conditions the second light responsive device into effectiveness. The second light responsive device is positioned below the upper one and is

actuated when the product in the bottle fails to intercept the lower light beam. The period of time the lower light responsive device is effective after being conditioned for operation to check underfill, is limited to a short period while the center portion of the bottle passes before the lower light beam. In this way false indication of underfill,



caused by the lower light beam being transmitted through the leading wall of the bottle when that wall is in the path of the lower light beam, is avoided. Similarly, false indication of underfill, caused by the lower light beam being transmitted through the trailing wall of the bottle when that wall is in the path of the lower light beam, is avoided.

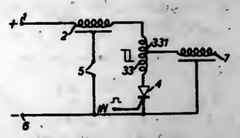
3,512,006
AUTOMATIC RECORDERS FOR PRECISION GONIOMETERS OR LENGTH MEASURING INSTRUMENTS EMPLOYING COARSE AND FINE SCALES
Rudolf Haller, Kolliken, Switzerland, assignor to Kern and Company, A.G., Aarau, Switzerland, a corporation of Switzerland
Filed July 24, 1967, Ser. No. 655,441
Claims priority, application Switzerland, July 23, 1966, 10,752/66
Int. Cl. G01d 5/36
U.S. Cl. 250—231 7 Claims



In automatic recorder measuring instruments having an index, and finely and coarsely divided scales, an imaging system for imaging the index on the finely divided scale, rotatable image-shifting plane parallel plate mechanically connected to a rotatable coded scale, and photocells responsive to the light from the image and through the coded scale for controlling the recorder.

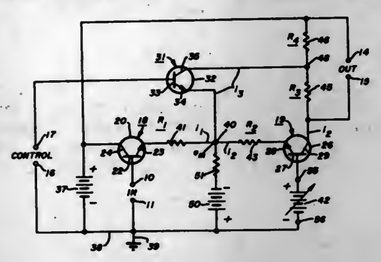
3,512,007
PULSE GENERATORS
Phillip John Fitz, Trevor Howard Robinson, and Alan William Cameron, Chelmsford, Essex, England, assignors to The Marconi Company Limited, London, England, a British company
Filed May 1, 1968, Ser. No. 725,624
Claims priority, application Great Britain, June 19, 1967, 28,198/67
Int. Cl. H03k 3/82
U.S. Cl. 307—88 7 Claims

In a triggerable pulse generator, suitable for use with pulse modulating oscillators there are two energy storing devices or networks. One of these is in a series circuit with a saturable reactor and a triggerable switch, e.g. a thyristor, and there is an operating potential source which can be connected across this series circuit. The second energy storing device or network is connected in a branch circuit which is in effective parallel with a



part of the series circuit which includes the thyristor but does not include the first energy storing device or network.

3,512,008
ELECTRONIC SIGNAL PROCESSING APPARATUS
Bert H. Dann, Altadena, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed July 27, 1967, Ser. No. 656,578
Int. Cl. H03k 17/00; H03d 1/18
U.S. Cl. 307—254 38 Claims



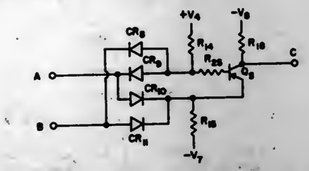
Apparatus for gating electric signals, either with or without amplification, modulation or demodulation, having singly or in combination

(a) a switching stage which provides substitute output signals for the apparatus during intervals between gating operations;

(b) at least two interconnected signal processing stages constructed to be gated on and off by control signals applied to a point between the interconnected processing stages;

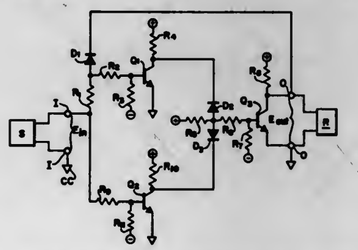
(c) switching and signal processing stages with common output circuits promoting the suppression of switching transients.

3,512,009
EXCLUSIVE-OR DIGITAL LOGIC MODULE
William G. Batte, Hampton, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed May 22, 1967, Ser. No. 641,441
Int. Cl. H03k 19/32
U.S. Cl. 307—216 1 Claim



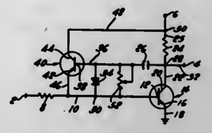
This invention is an Exclusive-Or digital logic circuit. A pair of inputs are connected through a biased diode circuit to the base-emitter junction of a transistor. When one of the inputs is true and the other is false, the transistor is switched to its opposite state. However, when both inputs are either true or false, the transistor is not switched. Additional circuitry is included for inverting, restoring and amplifying the output from the transistor.

3,512,010
SWITCHING CIRCUIT WITH HYSTERESIS
Ernest A. Washburn, Fairport, N.Y., assignor to Sybron Corporation, a corporation of New York
Filed Sept. 25, 1967, Ser. No. 670,337
Int. Cl. H03k 17/60
U.S. Cl. 307—218 20 Claims



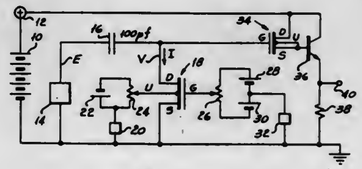
First, second and third transistors are connected to respective voltage dividers, such that if the voltages across the dividers are large enough the transistors conduct. Two of the transistors are connected to the divider of the third such as to prevent the third from firing if either of the transistors conduct. One of the two is arranged so that the voltage required to fire it is larger than the voltage required to fire the other of the two. The third transistor is arranged so that its conduction prevents the said other of the two transistors from conducting. A variable source of firing voltage is connected across the dividers of the said transistors. A fixed source of firing voltage is connected across the voltage divider of the third transistor, and will cause the latter to conduct provided that neither of the other two transistors are conducting. Consequently, when the third transistor is conducting, the voltage of the variable voltage source must fire the said one of the two transistors in order to make the third transistor cease conducting. On the other hand, if the third transistor is not conducting, the voltage of the variable voltage source must drop low enough to stop the said other of said two transistors from firing in order to cause the third transistor to conduct. If non-conduction of the third transistor results in turning a switch, or the like, on, and conduction thereof results in turning said switch off, switch-on occurs at a higher value of the variable voltagee than switch-off, or in short, hysteresis.

3,512,011
INTEGRATOR CIRCUIT WITH RETARDED RECOVERY TIME
Allen R. Martin, Central Islip, N.Y., assignor to General Instrument Corporation, Newark, N.J., a corporation of New Jersey
Filed Nov. 23, 1966, Ser. No. 596,561
Int. Cl. H03k 4/08
U.S. Cl. 307—228 12 Claims



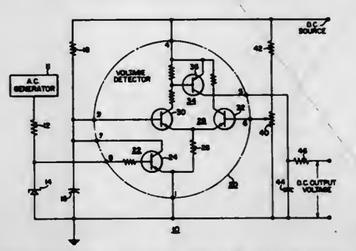
An integrator circuit in which the output signal is developed at least in part on a capacitor or the like and in which a discharge circuit is provided for that capacitor, the discharge circuit comprising current amplifying means which functions in conjunction with a circuit in shunt with the capacitor to bypass a portion of the available discharge current for the capacitor, thereby to reduce the rate of discharge of the capacitor.

3,512,012
FIELD EFFECT TRANSISTOR CIRCUIT
Lester H. Kosowsky, Norwalk, and Kenneth Solomon, Trumbull, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 16, 1965, Ser. No. 508,070
Int. Cl. H03k 1/16; H03c 3/00
U.S. Cl. 307—233 6 Claims



Insulated-gate field effect transistor circuits using the differing control properties of the insulated-gate and of the substrate include low-pass filters and modulators. In low-pass filter circuits, the insulated-gate is used to control over a wide range the approximate dynamic drain impedance, while the substrate is used to control over a narrow range the precise drain impedance and hence the cut-off frequency of the filter. In modulator circuits, small amplitude signals are applied to the insulated-gate, while large amplitude inputs are applied through a capacitor to the substrate which acts as a rectifier.

3,512,013
FREQUENCY SENSING CIRCUIT
Wendell Calfee, Lima, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 9, 1966, Ser. No. 578,348
Int. Cl. G01r 23/04, 23/10
U.S. Cl. 307—233 5 Claims

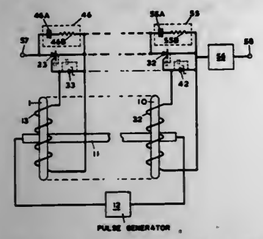


A frequency sensing circuit including a parallel capacitor-transistor input circuit connected to a differential amplifier voltage detector with an output to an integrator for providing outputs as a function of the frequency under preset conditions of the amplifier.

3,512,014
TRIGGER CIRCUITS
Edwin Garth Brumby, Stafford, and Jack Blanchard, Loughborough, England, assignors to The English Electric Company Limited, Strand, England, a British company
Filed Sept. 8, 1966, Ser. No. 577,873
Claims priority, application Great Britain, Sept. 8, 1965, 38,362/65
Int. Cl. H03k 17/00
U.S. Cl. 307—252 2 Claims

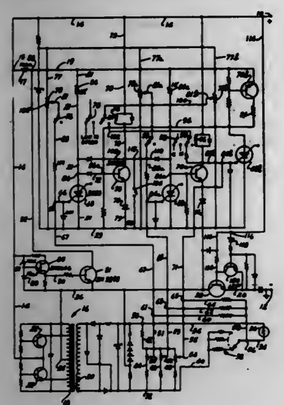
This invention relates to a circuit for firing a number of series and/or parallel connected thyristors and embodies a like number of saturable magnetic cores each having a winding coupled across the gate and cathode electrodes

of the corresponding one of the thyristors, the magnetic cores all being threaded by a single primary conductor connected to a pulse generator. In this manner, by pulsing the conductor from the pulse generator all the thyristors



in the series string are simultaneously fired. The rise time of the firing pulse thus produced is rendered extremely fast by a tuned circuit embodied in each thyristor firing circuit.

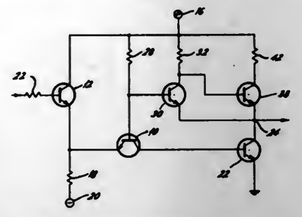
3,512,015
ELECTRONIC CONTROL CIRCUITRY
Atlee S. Hart, Oak Park, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 600,953
Int. Cl. H01h *47/02*; H03k *17/00*
U.S. Cl. 307—252 **4 Claims**



Electronic control circuitry wherein three transistor control devices are so interconnected with two controlled relays as to provide four different relay output arrangements. Each control device preferably includes a turn-on circuit comprising an SCS, a pulse means for momentarily allowing the SCS to turn off, and a signal means controlled by a relay output for over riding the pulse means to turn the SCS on under certain conditions. Principal use of the circuitry is in the electrical control of heating and cooling equipment.

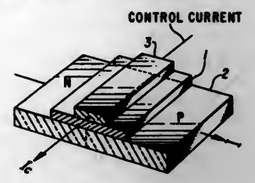
3,512,016
HIGH SPEED NON-SATURATING SWITCHING CIRCUIT
Chien Chang Huang, and William A. Hedrick, Lansdale, Pa., assignors to Philco-Ford Corporation, a corporation of Delaware
Filed Mar. 15, 1966, Ser. No. 541,440
Int. Cl. H63k *17/00*
U.S. Cl. 307—300 **15 Claims**

A high speed non-saturating switching circuit comprising, in its basic form, first and second transistors, the emitter-collector circuits of which are connected in series across a supply source and a third transistor, the emitter of which is connected to the output terminal formed by the junction of the first and second transistors, and the collector of which drives the base of the second transistor. Means are provided for driving the first and third transistors in like phase, whereby the first and second transistors will be driven in push-pull. The emitter diode of the third transistor limits the driving source voltage, thereby



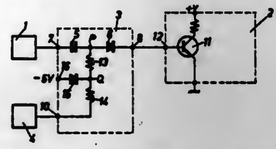
preventing the first transistor from saturating. A fourth transistor preferably is provided to drive the third and first transistors. The base and collector of the fourth transistor are connected, respectively, to the base of the third transistor and the base of the first transistor; thus changes in the emitter potential of the fourth transistor will produce like changes in the base potentials of the first and third transistors.

3,512,017
SUPERCONDUCTIVE SEMICONDUCTOR DEVICES
Joe T. Pierce, Richardson, and Walter H. Schroen, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 692,907
Int. Cl. H03k *3/38*
U.S. Cl. 307—306 **7 Claims**



Disclosed is a cryogenic switching device comprising superconductive semiconductor material containing regions of different conductivity.

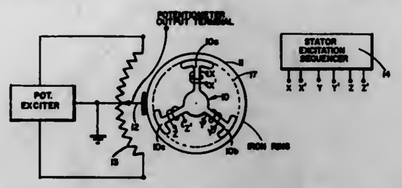
3,512,018
ELECTRONIC GATE CONTROLLED BY A DELAYED SIGNAL
Achille Castelli, Milan, Italy, assignor to General Electric Information Systems S.p.A., Caluso, Torino, Italy, a corporation of Italy
Filed Mar. 16, 1967, Ser. No. 623,724
Claims priority, application Italy, Mar. 17, 1966, 15,636/66
Int. Cl. H03k *17/00*
U.S. Cl. 307—320 **2 Claims**



An electronic gate controlled by a delayed signal, wherein a delay circuit comprises a capacitor having a capacity variable with the applied voltage, so as to obtain a

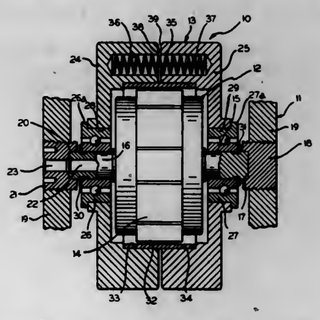
control signal with a delayed enabling action, when applied, and a substantially undelayed inhibiting action, when removed, and having reduced uncertainty intervals between enabling and inhibiting condition.

3,512,019
ELECTROMAGNETIC DEVICE
Joseph L. Durand, Woodland Hills, Calif., assignor to Systems Technology Inc.
Filed Feb. 21, 1968, Ser. No. 707,028
Int. Cl. H02k *37/00*
U.S. Cl. 310—49 **24 Claims**



A stepper motor or incremental electrical motor having a polyphase stator, which provides an incremental or discrete angular movement of an output element in response to each of a series of spatially commutated inputs. A plurality of no fewer than three radially-arranged, uniformly spaced electromagnetic stator field pieces describe the locus of a circle having a geometric center. A rigid ring-like rotor of magnetic material having a radius differing from that of the locus is rotatably mounted for hypocyclic motion about the locus in response to sequential excitation of the electromagnetic field pieces.

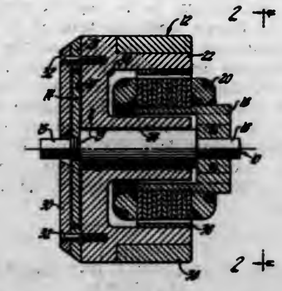
3,512,020
GYROSCOPIC-TYPE MOTOR
Henry Konet, Ho Ho Kus, N.J., assignor to R. C. Allen Business Machines, Inc., Grand Rapids, Mich., a corporation of Michigan
Filed Feb. 28, 1968, Ser. No. 708,887
Int. Cl. H02k *7/02*
U.S. Cl. 310—67 **8 Claims**



Gyroscopic motor having a fixed stator and a rotor of two substantially identical halves that may be spring loaded.

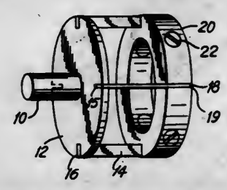
3,512,021
GAS BEARING MOTOR
Wilfred H. St. Laurent, Jr., Marblehead, Mass., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 593,846
Int. Cl. H02k *5/16, 7/08*
U.S. Cl. 310—67 **6 Claims**

A gas bearing motor including a stator portion having a single central journal section and an annular rotor wheel with an axial bore for receiving the journal. A single thrust plate is mounted on the stator on one side of the journal adjacent the motor wheel and is substantially enclosed by a thrust plate cap plate and spacer mounted to the rotor wheel and thereby provides bidirectional ax-



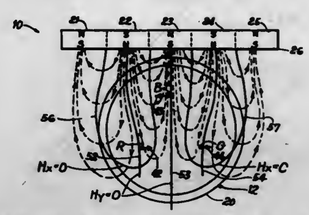
ial stiffness. The stator windings are supported from a portion of the stator on the opposite side of the journal and extend axially into an annular depression formed in the rotor wheel.

3,512,022
FLYWHEEL FLUTTER FILTER
Roswell W. Gilbert, New York, N.Y., assignor to Dictaphone Corporation, Bridgeport, Conn., a corporation of New York
Filed Feb. 21, 1968, Ser. No. 707,249
Int. Cl. H02k *7/02*
U.S. Cl. 310—74 **6 Claims**



A resonant torsional pendulum in the form of a spring-coupled mass is provided on the shaft of an A-C motor and tuned to the torque pulse frequency of the motor thereby to neutralize velocity flutter and produce a flat torque output with a load.

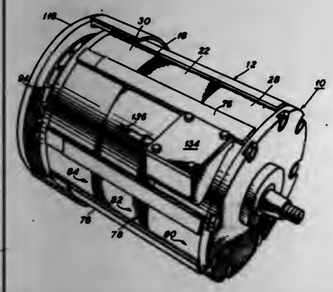
3,512,023
MAGNETIC APPARATUS FOR LATERALLY CONVERGING THE BEAMS OF A TRIPLE GUN CATHODE RAY TUBE
Albert M. Anthony, Conneaut, Ohio, assignor to Walter Kidde Company, Incorporated, Geneva, Ohio, a corporation of New York
Filed Apr. 16, 1969, Ser. No. 816,652
Int. Cl. H01f *7/02*; H01j *4/76*
U.S. Cl. 313—77 **9 Claims**



To adjust the lateral convergence of the first electron beam relative to the second and third beams, five magnets are disposed side by side along a line transverse to the axes of the beams. The fields of the magnets are trans-

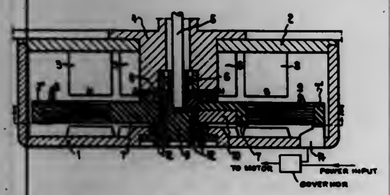
verse to such line, and also to the axes. The third magnet is opposite the first beam. The polarization of the second and fourth magnets is opposite to that of the other magnets. Moreover, the fields of the second and fourth magnets are sufficiently stronger than the fields of the other magnets to predominate in the regions around the second and third beams, while the field of the third magnet predominates in the region around the first beam. Thus, the magnets displace the first beam in one lateral direction while displacing the second and third beams in the opposite lateral direction. The magnets displace the beams along the *x*-axis while neutralizing any tendency towards displacement along the *y*-axis. Preferably, the magnets are incorporated into a single magnetic member which is rod shaped and rotatably adjustable about its own axis.

3,512,024
FRAMELESS PERMISSIBLE DYNAMOELECTRIC MACHINE
Paul H. Pape, Chicago, Ill., assignor to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 19, 1968, Ser. No. 753,533
Int. Cl. H02k *5/04*
U.S. Cl. 310—88 **11 Claims**



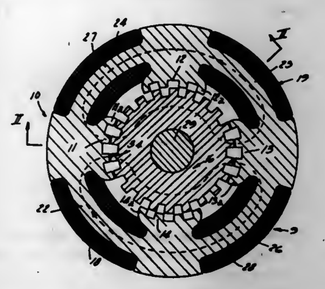
Frameless, explosion-proof or permissible dynamoelectric machine such as a motor or generator in which a laminated stator core is held compressed between end rings. A circumferentially continuous stream or envelope of cooling air is directed from a rotor-carried fan along outer, heat-discharging peripheral surfaces of the end rings and core. These surfaces have substantially the same outer cross sectional shape and size to facilitate heat transfer into the moving air stream.

3,512,025
DISCOIDAL ELECTRODYNAMIC MOTOR
Georges Quellet, Les Rasux 2013, Colombier, Switzerland
Filed Dec. 7, 1967, Ser. No. 688,826
Claims priority, application Switzerland, Dec. 13, 1966, 17,842/66
Int. Cl. H02k *21/26*
U.S. Cl. 310—154 **12 Claims**



An electrodynamic motor having a winding made of flat coils of polygonal shape, said coils being stacked upon each other and disposed each in a radial plane and the winding being intersected by axially extending magnetic fields.

3,512,026
ALTERNATOR
Janis Tiltins, South Euclid, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 9, 1968, Ser. No. 766,073
Int. Cl. H02k *17/42*
U.S. Cl. 310—168 **1 Claim**

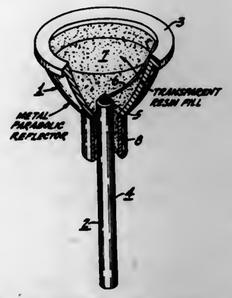


An alternator which may be driven at relatively low speed and produces a high frequency output has a stator formed with a plurality of longitudinally extending teeth and a rotor which is also formed with longitudinally extending teeth. The alternator is excited by direct current power applied to windings on the stator and power is removed from A.C. windings mounted on the stator. The alternator may be operated to provide outputs over a wide frequency range.

ERRATUM

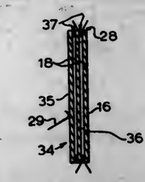
For Class 313—77 see:
Patent No. 3,512,023

3,512,027
ENCAPSULATED OPTICAL SEMICONDUCTOR DEVICE
George A. Kupsky, Milford, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Dec. 12, 1967, Ser. No. 689,955
Int. Cl. H01j *1/62, 63/04*
U.S. Cl. 313—108 **2 Claims**



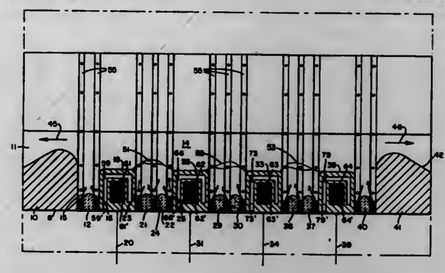
A light-emitting P-N junction diode in which the active semiconductor die is mounted on a metal stem. A paraboloidal reflector surrounds the semiconductor die. A transparent plastic fills the space within the reflector, encapsulates the semiconductor die, insulates the metal stem from the reflector, and provides a bond between the stem and reflector.

3,512,028
INDICATING DEVICE OF THE GASEOUS GLOW TYPE
Joseph T. McNaney, 8548 Boulder Drive, La Mesa, Calif. 92041
Filed Feb. 28, 1968, Ser. No. 709,115
Int. Cl. H01j *61/66*
U.S. Cl. 313—109.5 **6 Claims**



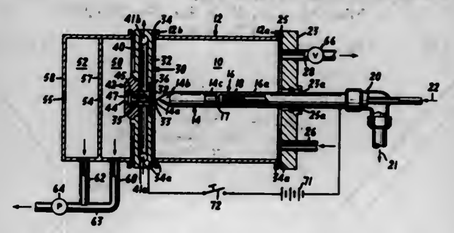
The present invention relates to a gaseous glow character display device having an envelope comprised of an electrically conducting plate and a light transparent plate with a thin layer of material at the extreme edges of each plate for supporting them in a spaced-apart relationship and containing therein an ionizable medium. The respective plates serve as front and rear portions of a sandwich-like structure. Within such structure there is an array of cathode electrodes representing a number of electrically isolated segments of a variety of differently formed character shaped arrays each, therefore, overlapping one another within a common viewing area of the device, and supported on the inner surface of the transparent plate. Other embodiments utilize a second array of such segments for the purpose of improving the legibility of character presentations. This second array is closely adjacent the first array; both arrays overlapping one another in the same viewing area. The rear portion of the envelope serves as the anode electrode of the device and a large variety of cathode segments are energized selectively to provide a large number of different, and legible, characters for viewing.

3,512,029
DUAL EXHAUST THREE-PHASE ALTERNATING CURRENT ARC HEATER FOR CHEMICAL PROCESSING
Peter F. Kienast, Pittsburgh, and Daniel A. Maniero, Monroeville, Pitcairn, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 14, 1967, Ser. No. 630,890
Int. Cl. H01j *1/50, 17/26*
U.S. Cl. 313—161 **9 Claims**



An arc heater has four axially spaced annular electrodes with heat shields therebetween, and exhaust nozzles at each end with a heat shield between each nozzle and the adjacent electrode, all forming an arc chamber. The four electrodes are connected to a three phase source of alternating current to produce three arcs. Each electrode has a field coil therein to set up a magnetic field for rotating the arc(s) therefrom in an annular path. Gas is admitted to the arc chamber on both sides of all electrodes through annular paths which extend around substantially the entire periphery of the arc chamber. No portion of the gas passes through more than two arcs before being exhausted; the two exhaust vents provide for quenching a pyrolyzed process gas to a temperature at which desired recombination products are present in substantial proportion in a very short time, for example less than one microsecond.

3,512,030
HIGH INTENSITY SOURCE OF SELECTED RADIATION
Maurice E. Levy, Fort Lee, N.J., assignor to Vitro Corporation of America, New York, N.Y., a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,673
Int. Cl. H01j *61/88*
U.S. Cl. 313—231 **30 Claims**



A plasma radiation source for producing selected high intensity radiation comprising a cathode having a forwardly converging surface, an anode providing an annular surface surrounding an aperture on a common axis with the cathode and located forwardly of and facing the cathode converging surface in close proximity, and a plasma chamber enclosing the cathode tip and the annular anode surface. The area of projection of the aperture on a plane normal to the axis is substantially less than the area of projection on the plane of the cathode tapering surface such that only radiation from the central core of an arc discharge plasma column established between the cathode and anode passes through the anode aperture. The arc discharge is stabilized by a pressurized flow of gas through the aperture. Radiation from the central plasma core may be viewed through the anode aperture, and through apertures in one or more secondary chambers located forwardly of the anode aperture, each secondary chamber being at a differential vacuum with respect to adjacent plasma chambers. In a self-stabilized arc discharge configuration, a window of radiation transmissive material covers the anode aperture, with the plasma chamber containing an ionizable gas.

3,512,031
TRIANGULAR ELECTRODE SUPPORT HAVING TWO RIGID AND ONE FLEXIBLE SUPPORT SURFACE IN CONTACT WITH CATHODE RAY TUBE NECK
Albert E. Oberg, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 8, 1968, Ser. No. 711,595
Int. Cl. H01j *19/52, 1/98*
U.S. Cl. 313—288 **1 Claim**

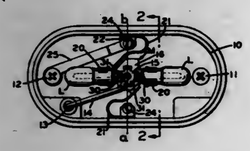
This invention relates to a centering device for positioning an electron gun within the neck portion of a cathode ray tube. The centering device consists of a member transverse to the longitudinal axis of the electron gun and the neck of the cathode ray tube. The transverse member is secured to the outer surface of an electrode of the electron gun and comprises at least two rigid support

surfaces bearing against the inner surface of the cathode ray tube neck and at least one flexible support portion



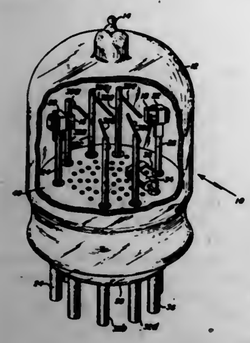
bearing against the inner surface of said cathode ray tube neck.

3,512,032
SHOCK ABSORBING LAMP SOCKET SUPPORT
Hendry J. Malachowski, Wilton, Conn., assignor to Yankee Metal Products Corp., Norwalk, Conn., a corporation of New York
Filed May 31, 1968, Ser. No. 733,378
Int. Cl. H05k 5/06
U.S. Cl. 313—318 9 Claims



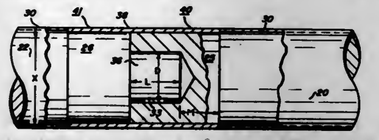
A shock absorbing lamp socket support utilizes spring metal strips that hold that socket spaced from a base. The strips are also held spaced from the base except at their ends, and are shaped so as to facilitate the twisting thereof whereby to permit twisting of the socket relatively to its base in the absorption of one type of shock, as well as movement of the socket toward and away from said base, whereby to prevent transmission of another type of shock to the lamp in said socket.

3,512,033
GASEOUS DISCHARGE DEVICE
Paul W. Stutsman, Tempe, Ariz., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Nov. 28, 1967, Ser. No. 686,858
Int. Cl. H01j 1/14, 19/06
U.S. Cl. 313—346 9 Claims



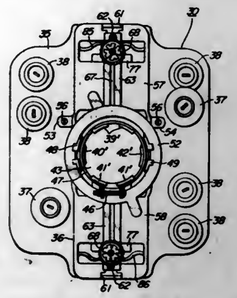
A gaseous discharge flashtube having improved life and low noise, comprising a gas-filled envelope containing anode, cathode and trigger electrodes wherein the cathode is formed partially of barium-aluminum eutectic alloy, and an apertured ceramic disc having holes therein of at least two different sizes is included within the envelope for absorbing high frequency shock waves produced by rapid changes in gas density resulting from sudden heating of the gas plasma when arcing occurs between the cathode and anode electrodes.

3,512,034
ELECTRODE AND ELECTRODE JOINT
Henry H. Jenkins, 864 W. Hacienda Drive, Corona, Calif. 91720
Filed Sept. 19, 1967, Ser. No. 668,873
Int. Cl. H01j 1/02, 1/14
U.S. Cl. 313—354 9 Claims



An electrode with first and second end portions of a smaller size than an intermediate portion therebetween and preferably comprised of an integral carbon member which may or may not be copper coated. The first end portion has an opening therein and the second end portion has an extension adapted to fit within an opening in another electrode. An annular joint member has a first end which fits on and around the first end portion and has an outer dimension the same size as the intermediate portion of the electrode. The joint member has a second end which is adapted to fit on and around the second end portion of another electrode and also has an outer dimension the same size as the intermediate portion of the electrode. The electrode joint is made by the interconnection of the hereinabove described first end portion of one electrode with the second end portion of another electrode by use of the corresponding opening and extension and the annular joint member. The annular joint member may be continuous or may be split by a generally axially extending slot as disclosed.

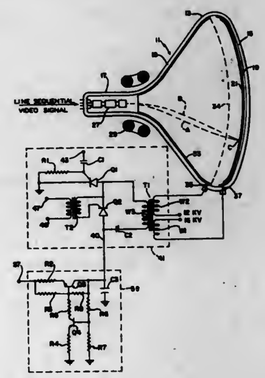
3,512,035
CONVERGENCE DEVICE FOR COLOR TELEVISION RECEIVER
Susumu Egawa and Katsuhiko Shioni, Osaka, Akira Aoki, Hironori Hisamoto, and Muneo Nishimura, Hirakata-shi, and Kanji Maeida, Moriguchi-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Feb. 11, 1969, Ser. No. 798,427
Claims priority, application Japan, Feb. 27, 1968, 43/13,245, 43/13,246, 43/13,247, 43/15,666, 43/15,667, 43/15,668, 43/15,669, 43/15,670, 43/15,671, 43/15,672, 43/15,673, 43/15,674, 43/15,675, 43/15,696, 43/15,697
Int. Cl. H01j 1/02, 7/24, 29/70
U.S. Cl. 315—13 18 Claims



A two-pole type convergence device comprising a rectangular convergence yoke provided with an attaching portion adapted for engagement with the neck portion of

a cathode ray tube, and two sets of dynamic convergence units and static convergence units constituted by static magnets serving also as lateral magnets, wherein "red" and "green" electron beams are simultaneously driven by one set of dynamic and static convergence units, and "blue" electron beam is driven by the other set of dynamic and static convergence units.

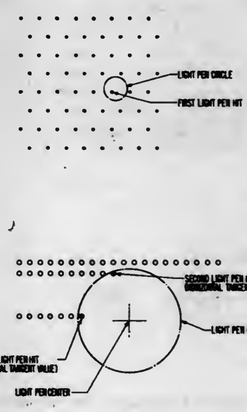
3,512,036
COLOR DISPLAY SYSTEM INCLUDING PROTECTIVE APPARATUS FOR A VOLTAGE SWITCHING CIRCUIT
Robert E. Smith, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 20, 1967, Ser. No. 676,842
Int. Cl. H04n 9/22
U.S. Cl. 315—14 9 Claims



Protective apparatus is disclosed for a color display system of the type in which the color of light emitted by a phosphor screen is changed by switching an electron accelerating voltage between different levels, the switching being performed by alternately triggering a pair of SCR's (silicon controlled rectifiers) which are connected so that they would shunt the supply current to the switching circuit if both should conduct simultaneously. The protective apparatus is operative to automatically deenergize the switching devices if this should happen. The protective apparatus includes a first transistor interposed between the SCR switching circuit and its energizing source and a second transistor for biasing the first transistor into conduction to an extent which varies as a function of the voltage applied to the switching circuit. Accordingly, when both SCR's conduct simultaneously and shunt the source current, the first transistor cuts off the supply of current to the switching circuit.

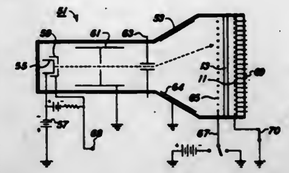
3,512,037
DOT-SCAN TANGENT-FIX TRACKING TECHNIQUE FOR GRAPHIC DISPLAY SYSTEMS
Edward R. Eckert, West Conshohocken, and Frederick V. Rehhausser, Malvern, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 3, 1969, Ser. No. 803,797
Int. Cl. H01j 31/12, 29/72
U.S. Cl. 315—10 12 Claims

This disclosure relates to apparatus and method for locating the position of a light pen adjacent to a cathode ray tube employed in a graphic display system, and for the positioning of a tracking symbol at that location. The apparatus and method are adapted to allow the operator of the system to move the tracking symbol to perform various functions such as "drawing" segments on the face of the cathode ray tube or to identify data in various forms displayed on the cathode ray tube. The system and method employ a dot-scan tangent-fix tracking technique in which a coarse scan is first employed to locate the vicinity of the sensitive area of the light pen after which a first fine scan is made to determine



a point representing the horizontal tangent to the light pen circle and then a second fine scan is made to determine the vertical tangent to the light pen circle. The locations of the latter two points are corrected to represent the location of the center of the light pen circle by the addition of the radius of the light pen circle. The system disclosed is a digital system and the various scans are carried out in incremental steps during the refresh portion of the cathode ray tube cycle.

3,512,038
PIN SYSTEM
Benjamin Kazan, Pasadena, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 582,857
Int. Cl. H01j 29/41
U.S. Cl. 315—12 20 Claims

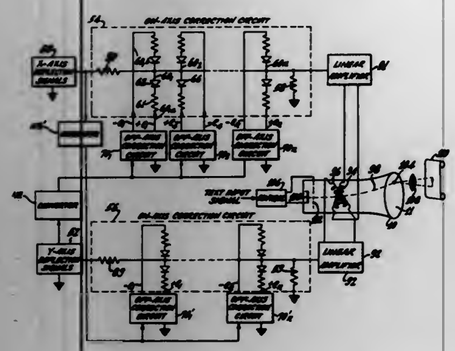


1. A structure for establishing an impedance pattern in a pin matrix corresponding to an image-configurated electric field comprising:

(a) a matrix of mutually insulated electrically conductive pins, said pins being disposed in electrical circuits to a common point including a common field-effect semiconductor layer, portions of said layer being in series with the electrical path of individual of said pins to said common point, and

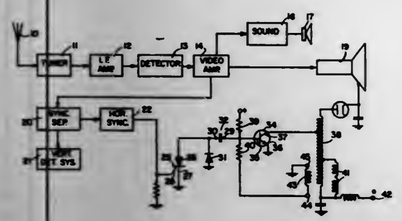
(b) means to impose an image-configurated electric field upon said semiconductor layer whereby the conductivity of said layer is varied in accord with said field and whereby the electrical impedance to ground of said pins is varied in accordance with said field.

3,512,039
DEFLECTION CORRECTOR CIRCUIT FOR CATHODE RAY TUBE
Richard J. Klensch, Trenton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Apr. 30, 1968, Ser. No. 725,422
Int. Cl. H01j 29/72
U.S. Cl. 315—24 5 Claims



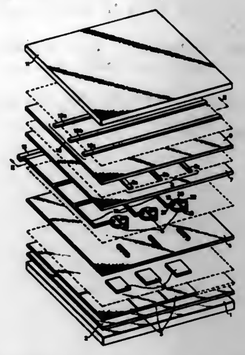
A corrector circuit improves the linearity of deflection of a scanning beam of a cathode ray tube by providing both on-axis correction and off-axis correction for the two coordinate deflection signals. An on-axis corrector produces increasing attenuation in the same axis deflection signal as this selfsame signal increases in magnitude, whereas an off-axis corrector produces further increasing attenuation of the said same axis deflection signal as the other coordinate deflection signal increases in magnitude.

3,512,040
TELEVISION RECEIVER DEFLECTION CIRCUIT USING A CONTROLLED RECTIFIER
Theodore V. Lester, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Dec. 23, 1968, Ser. No. 785,912
Int. Cl. H01j 29/76
U.S. Cl. 315—27 5 Claims



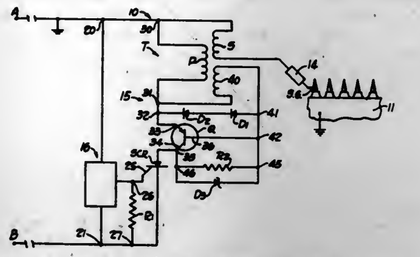
A transistor biased to conduction supplies a current to television receiver deflection coils through a transformer. The current through the transformer increases with time to provide the required deflection currents. A controlled rectifier is coupled to the transistor through a capacitor and is responsive to timing pulses to turn off the transistor. A feedback winding on the transformer provides voltage for turning off the controlled rectifier and also for maintaining the transistor in its non-conducting state for a required period of time.

3,512,041
DISPLAY DEVICE COMPRISING A MATRIX OF SELECTION ELECTRODES, FIELD EFFECT TRANSISTORS AND LUMINESCENT ELEMENTS
Claudio Dalmasso, Ivera, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivera, Italy
Filed Sept. 25, 1967, Ser. No. 670,071
Claims priority, application Italy, Sept. 26, 1966, 35,215/66
Int. Cl. H05b 37/00, 39/00
U.S. Cl. 315—169 3 Claims



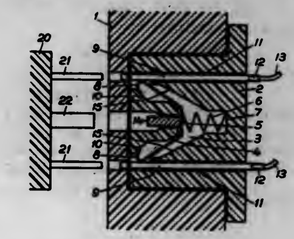
An electroluminescent display is described wherein a field effect transistor is connected to each luminescent element arranged in a contiguous mosaic comprising a light emitting layer excitable by the application of a potential difference to it. The electrode means for producing an electric field to control the conductivity of the selected transistor and the consequent light emission of the corresponding luminescent element are in the form of two groups of electrically conductive lines, disposed orthogonally to form a matrix of selection electrodes. Operating means are provided to produce the electrical control field required to render selected electrodes conductive by the formation of standing waves on selected electrodes in such a way that the antinodes of a wave of suitable polarity can select a luminiscent element.

3,512,042
HIGH FREQUENCY PULSED IGNITION SYSTEM
Stuart H. Malavasi, West Millington, Peter A. Danzo, Jr., Cedar Grove, and Walter R. Peterson, Belleville, N.J., assignors to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio
Filed Mar. 27, 1968, Ser. No. 716,511
Int. Cl. H05b 37/02, 39/04
U.S. Cl. 315—209 6 Claims



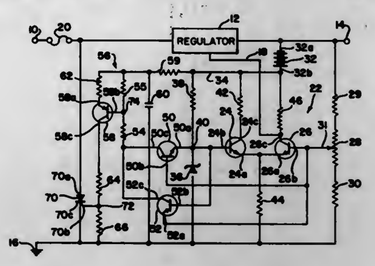
An ignition system for a fuel burner including a transformer having a primary winding, a secondary winding and a feedback coil, a transistor having an output circuit connected in series with the transformer primary and a control electrode connected to the feedback winding so that the transistor is rapidly rendered conductive and non-conductive in response termination and initiation, respectively, of current flow in the transformer primary and causing high frequency ignition arcs across a spark gap connected across the transformer secondary. The operation of the arc producing circuitry is modulated by a semi-conductor switch in the form of an SCR and in one disclosed embodiment a switching circuit is provided with oppositely poled SCR's which permit operation of the ignition circuitry during a half cycle of the power supply in which circuitry associated with the ignition circuitry does not operate.

3,512,043
MEANS FOR SHORT-CIRCUITING THE SECONDARY CIRCUIT OF A CURRENT TRANSFORMER
Lembit Jaaksoo, Hokasen, and Arne Johansson, and Werner Stange, Vasteras, Sweden, assignors to Allmanna Swenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Nov. 9, 1967, Ser. No. 681,644
Int. Cl. H02h 7/04
U.S. Cl. 317—14 2 Claims



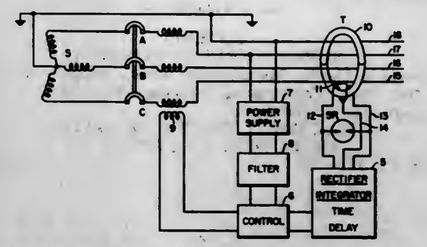
A device for short-circuiting the secondary circuit of a transformer when a contact making device is removed from such circuit comprises a body of insulating material in which is slidably mounted a short-circuiting member which is pushed into a position by a spring to make contact with two jacks when the contact making device is removed, so as to short-circuit the transformer. When the contact making device is replaced, a pin engaging a pin on the short-circuiting member pushes it to another position in which it no longer short-circuits the secondary.

3,512,044
OVER AND UNDER VOLTAGE PROTECTION CIRCUIT
Robert E. Jones, Wesleyville, Pa., assignor to Elgin Electronics, Inc., Waterford, Pa., a corporation of Ohio
Filed Aug. 11, 1967, Ser. No. 659,927
Int. Cl. G05f 1/58
U.S. Cl. 317—16 10 Claims



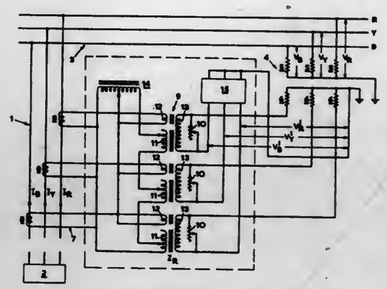
A transistorized circuit sensing operation of a differential amplifier control stage of a voltage regulator in over and under voltage conditions, to trigger a silicon controlled rectifier, and cause destruction of a replaceable fuse element protecting the regulator circuit.

3,512,045
GROUND FAULT RESPONSIVE APPARATUS FOR ELECTRIC POWER DISTRIBUTION APPARATUS
William C. Tipton, Newark, N.J., Robert A. Phillibert, Rockville Centre, N.Y., and David M. Sanger, Livingston, N.J., assignors to The General Signal Corporation, and O. Z. Electrical Manufacturing Co., Inc., both of New York, N.Y., and both corporations of New York
Continuation-in-part of application Ser. No. 597,086, Nov. 25, 1966. This application June 28, 1968, Ser. No. 743,268
Int. Cl. H02h 3/28, 1/04
U.S. Cl. 317—18 17 Claims



This ground fault protection apparatus responds to ground fault currents from phase to ground in electrical distribution apparatus. The response of such apparatus causes the power source to be disconnected from the phase wires until the fault has been removed and it is considered safe to again connect the source. This apparatus is protected from erroneous tripping in response to line transients, and the apparatus is inherently protected against catastrophic self-destruction in the event of excessively high fault currents. One form shows a self-powered unit receiving energy from the same transformer as supplies the measure of fault current. Another form shows a time-delay unit suitable for use with a plurality of other similar units to open the most remote circuit section having a fault without opening proceeding circuit sections.

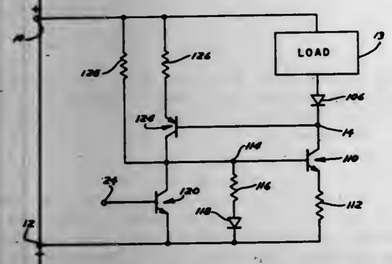
3,512,046
POLYPHASE PROTECTIVE RELAYS EMPLOYING A PHASE SEQUENCE DISCRIMINATOR TO DETECT FAULT CONDITIONS
Albert Russell van Cortlandt Warrington, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Jan. 25, 1967, Ser. No. 611,731
Claims priority, application Great Britain, Jan. 26, 1966, 3,579/66
Int. Cl. H02h 3/28, 3/38
U.S. Cl. 317—28 3 Claims



A polyphase protective relay operative either as a distance relay or a differential relay; (a) the distance relay having current and voltage transformers provided to develop signals dependent respectively on the phase cur-

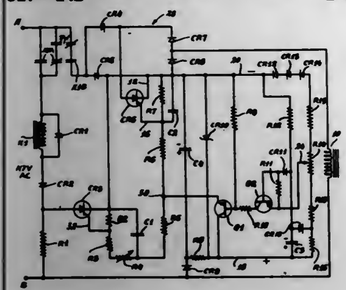
rents and the phase voltages occurring in a protected circuit, control means, including a replica impedance of this circuit, being provided to receive and combine corresponding ones of these signals and to cause the phase of the combined signals to differ from a predetermined reference sequence upon a fault developing in the protected circuit. A phase discriminator is provided to determine the sequence of these signals and is adapted to effect a protective function upon this sequence differing from the reference; (b) the differential relay operates in the same manner except that only current transformers are employed and these are disposed on opposite sides of the protected circuit.

3,512,047
SURGE CURRENT CONTROL
Lawrence Garde, Minneapolis, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed May 22, 1967, Ser. No. 640,215
Int. Cl. H02h 1/04; H02p 1/04
U.S. Cl. 317—33 4 Claims



An electrical circuit for preventing surge currents in an electrical load is disclosed. A current control devise, in series with a load, allows load current to increase in relation to a signal at its input. The signal is indicative of the condition of the load. As the condition of the load more closely approximate a steady state condition, the signal derived from the load causes the current control device to allow more current to flow in the load until the steady state level of current is reached.

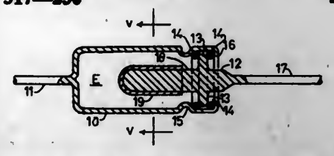
3,512,048
ELECTRONIC TIMER CIRCUIT
Klaus D. Wallenstowitz, Waterbury, and Robert S. Lundin, Thomaston, Conn., assignors to General Time Corporation, Stamford, Conn., a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,543
Int. Cl. H01h 47/18; H03k 17/28, 17/56
U.S. Cl. 317—142 2 Claims



A multiple interval timer. A self-holding relay is initially energized upon transfer of a transfer switch. The timer is energized upon retransfer of the switch. At completion of the timer interval an output load is energized through an SCR-diode bridge circuit solid state alternating current relay. The signal that initiates conduction of the SCR is passed through a delay device. After a delay, it energizes a second SCR which shorts out the first relay through one leg of the bridge to discontinue energization of it and the load.

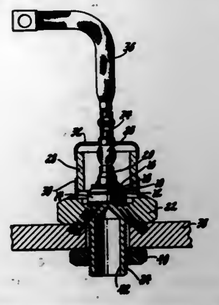
A novel direct current supply for the silicon-controlled rectifier of the solid state relay is derived from the same power line without the use of a transformer. A Zener diode is connected in parallel with a transistor and biasing resistors for controlling the gate of the SCR and insures that over voltages are not applied either to the SCR or to the transistor. The electronic timer derives its DC power from across the Zener diode. The timer comprises a resistor-capacitor bridge charging circuit having a transistor detector connected across it. A diode is connected intermediate of one arm of the bridge and to the capacitor for precharging the capacitor on initiation of a timing function. A diode is connected in series with the transistor junction to protect it against reverse bias. A plurality of diodes are incorporated into one arm of the bridge circuit and compensate for the temperature dependence of the junction potentials of the previously mentioned semiconductors.

3,512,049
ELECTROLYTIC TIMER
Max Hoberman, Teaneck, and Marshall Leibowitz, Englewood, N.J., assignors to Bergen Laboratories, Inc., Paterson, N.J., a corporation of New Jersey
Filed Feb. 28, 1968, Ser. No. 708,970
Int. Cl. H01g 9/00
U.S. Cl. 317—230 4 Claims



An electrolytic timing cell is arranged so as to cover the anodic substrate with a passivated surface layer, insulating cover or liquid, so that the cell, after plating a predetermined quantity of anodic material, will increase in resistance more rapidly and to a higher value, reducing any tendency to produce gas and interposing a high resistance anodic surface layer.

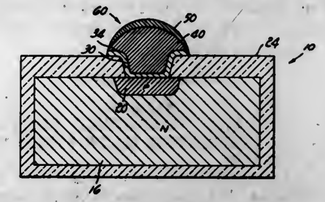
3,512,050
HIGH POWER SEMICONDUCTOR DEVICE
Robert M. Burton, Donald E. Lake, and Eugene H. Sayers, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 29, 1967, Ser. No. 686,465
Int. Cl. H01l 1/12, 1/14
U.S. Cl. 317—234 4 Claims



A high power semiconductor signal translating device having an improved capsule construction for reducing

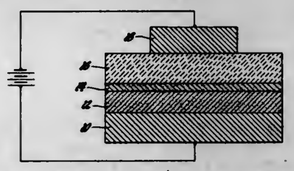
semiconductor element fatigue introduced by fabrication and thermal cycling. The thick base member of a high power device capsule has a significantly thinner section in the region bonded to the semiconductor element. In a preferred embodiment for a high power stud mounted capsule, the stud is hollow.

3,512,051
CONTACTS FOR A SEMICONDUCTOR DEVICE
Walter S. Noll, Somerville, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 29, 1965, Ser. No. 517,285
Int. Cl. H01l 1/14
U.S. Cl. 317—234 2 Claims



A semiconductor device and method of making it comprising a body of semiconductor material having a plurality of P–N junctions to which ohmic contacts are made. The ohmic contacts comprise, in order, a thin film of aluminum, chrome and silver, then a large mass of tin-lead-silver solder having a high melting point, and, finally, a layer of tin-lead-silver solder having a low melting point.

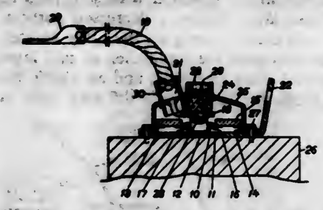
3,512,052
METAL-INSULATOR-SEMICONDUCTOR VOLTAGE VARIABLE CAPACITOR WITH CONTROLLED RESISTIVITY DIELECTRIC
Bernard A. MacIver, Lathrup Village, and Matthew C. McKinnon, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 11, 1968, Ser. No. 697,228
Int. Cl. H01l 3/00
U.S. Cl. 317—234 8 Claims



A nonlinear capacitor of the metal-insulator-semiconductor type in which inversion of the semiconductor at the insulator-semiconductor interface is prevented. A surface varactor is described in which the insulating layer has a selected moderate resistance and is of a high permittivity dielectric. The specification discloses forming such insulating layers by reactive sputtering.

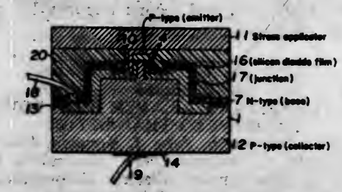
3,512,053
SEMI-CONDUCTOR DEVICE HAVING MEANS PRESSING A CONNECTOR INTO CONTACT WITH A SEMI-CONDUCTOR DISC
Nils Eric Andersson and Goran Lilja, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Jan. 25, 1968, Ser. No. 700,466
Int. Cl. H01l 1/14
U.S. Cl. 317—234 8 Claims

A semi-conductor device comprises a semi-conductor system in conductive contact with a connector. The semiconductor system and connector are enclosed between a cooling body forming a base and a cap, and are pressed against each other by a pressure body arranged in the cap.



The pressure body and the connector have mating doubly-curved surfaces.

3,512,054
SEMICONDUCTIVE TRANSDUCER
Atsushi Owada, Yokohama-shi, Shinichi Shibata, Tokyo, and Hideo Mori, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Dec. 16, 1966, Ser. No. 602,303
Claims priority, application Japan, Dec. 21, 1965, 40/78,229; Apr. 9, 1966, 41/32,148; Aug. 31, 1966, 41/56,979
Int. Cl. H01l 11/06
U.S. Cl. 317—235 9 Claims

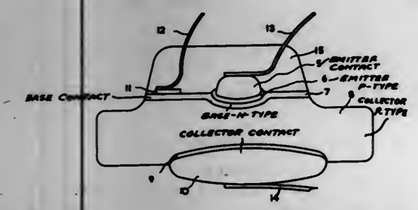


1. A semiconductor transducer comprising:
a planar transistor including a semiconductor wafer having a raised portion integral with the top face thereof, said raised portion having a top surface substantially parallel to the top face of said semiconductor wafer, said transistor having a base region of a first conductivity type, an emitter region of a second conductivity type, and a collector region of said first conductivity type, on which are respectively mounted a base electrode, an emitter electrode and a collector electrode, at least a portion of said base and emitter regions extending into said raised portion;
an oxide film masking at least a portion of the top face of said semiconductor body, the surface of said raised portion being unmasked; and
a stress applicator mounted on said raised portion of said transistor, the contact area of said stress applicator being larger than the area of said upper surface of said raised portion.

3,512,055
SEMI-CONDUCTOR DEVICES AND METHOD OF MAKING
Julian Robert Anthony Beale, Wraysbury, near Staines, England, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 6, 1957, Ser. No. 676,563
Claims priority, application Great Britain, Aug. 10, 1956, 24,559/56
Int. Cl. H01l 3/00
U.S. Cl. 317—235 27 Claims

10. A transistor comprising a semi-conductive body comprising a raised pedestal region containing a diffused surface layer of one conductivity type material and serv-

ing as a base region, an alloy electrode fused to said body at said diffused layer forming a recrystallized emitter region and an emitter junction with said base region, said diffused base layer having a depressed portion of predetermined thickness underlying the alloy emitter electrode but contiguous with the remainder of said layer and surrounding said alloy electrode, and an ohmic base contact to an exposed portion of said diffused layer and on the

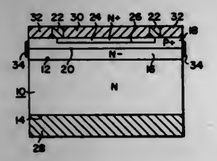


pedestal region and spaced from said emitter electrode, said diffused surface layer containing a first conductivity-determining impurity, said emitter region containing said first impurity and also a second impurity producing the opposite conductivity type material and determining the conductivity type of said emitter region, said first impurity possessing a greater diffusion velocity in said semiconductive body than said second impurity but a lower segregation coefficient than the latter.

3,512,056
DOUBLE EPITAXIAL LAYER HIGH POWER, HIGH SPEED TRANSISTOR

Ting Li Chu, Pittsburgh, Peter J. Kannam, Greensburg, and Donald A. Walczak, New Alexandria, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 25, 1967, Ser. No. 633,544
Int. Cl. H01l *7/36, 11/00*
U.S. Cl. 317—235 6 Claims



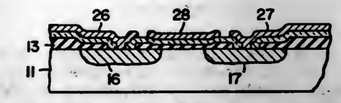
This invention provides a high power, high speed transistor comprising two epitaxial layers of semiconductor material grown on a large area substrate. The growth of the two epitaxial layers is accomplished in one continuous process. Each epitaxial layer is grown to a desired thickness and has a specific type of semiconductivity having a preferred level of impurity concentration. A required third region of semiconductivity is formed by diffusion in one of the epitaxially grown layers of semiconductor material.

3,512,057
SEMICONDUCTOR DEVICE WITH BARRIER IMPERVIOUS TO FAST IONS AND METHOD OF MAKING

Owen W. Hatcher, Jr., Sunnyvale, Calif., assignor to Teledyne Systems Corporation, Hawthorne, Calif., a corporation of California

Filed Mar. 21, 1968, Ser. No. 715,069
Int. Cl. H01l *11/00, 11/14*
U.S. Cl. 317—235 1 Claim

A semiconductor device includes an active inset region in one surface with a silicon dioxide passivating layer overlaying the surface including an aperture which exposes a predetermined area of the inset region. The aperture has a sidewall of a predetermined height. An additional phosphorus glass layer, which is impervious to fast diffusing ions from aluminum contacts, overlays the passivating layer and extends down the sidewall of the aperture into

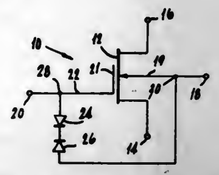


contact with the inset region to form an aperture exposing an area of the inset region smaller than the predetermined area. Thus, an impervious barrier to fast ions is provided between an aluminum contact placed in contact with the inset region through the smaller aperture and the silicon dioxide passivating layer.

3,512,058
HIGH VOLTAGE TRANSIENT PROTECTION FOR AN INSULATED GATE FIELD EFFECT TRANSISTOR

Heshmat Khajezadeh, Somerville, and Lewis A. Jacobus, Jr., Middlesex, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed Apr. 10, 1968, Ser. No. 720,128
Int. Cl. H01l *19/00*
U.S. Cl. 317—235 5 Claims

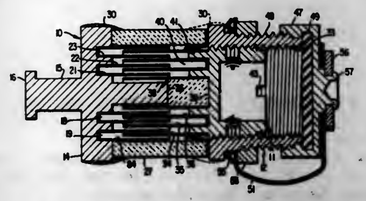


A pair of diodes having the same breakdown characteristics are connected in back-to-back relation between the gate electrode and the substrate of an insulated gate field effect transistor to protect the gate insulator against positive or negative overvoltages. The diodes are formed in the substrate of the transistor, and the equivalent breakdown characteristics are provided by forming the diodes as a pair of spaced highly doped regions within a single diffused region in the substrate.

3,512,059
ADJUSTABLE LOW-LOSS CAPACITOR

John E. Johanson, Boonton, N.J., assignor to Johanson Manufacturing Corporation, Boonton, N.J.

Original application Sept. 5, 1967, Ser. No. 665,527. Divided and this application Sept. 13, 1968, Ser. No. 785,410
Int. Cl. H01g *5/12*
U.S. Cl. 317—249 4 Claims

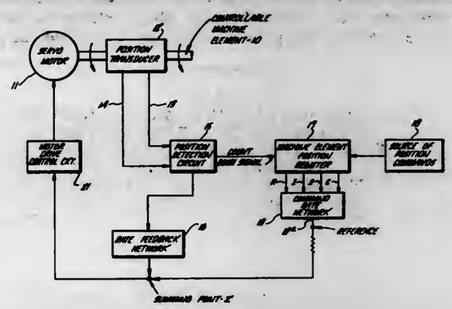


A low-loss capacitor having hollow cylindrical electrodes which are coaxially interleaved. The capacitance is varied by rotation of the rotor electrodes which are mounted on a screw member for axial displacement with respect to the stator electrodes when the screw member is turned. The screw member has a frictional locking means in the form of an outwardly resiliently bulging thin-walled section of reduced diameter and is located between two series of threads.

3,512,060
MACHINE TOOL CONTROL SYSTEM

George W. Floyd, Palos Verdes Peninsula, Calif., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan

Filed July 18, 1967, Ser. No. 654,200
Int. Cl. G05b *19/20, 19/32*
U.S. Cl. 318—18 20 Claims

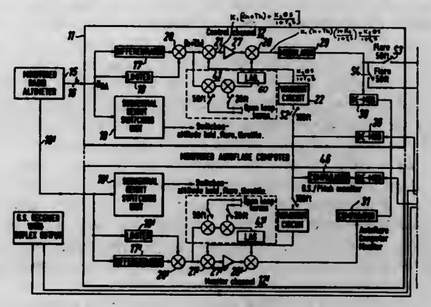


An automatic control system for a machine tool in which a single position transducer is employed to provide the necessary signals for monitoring both the position and the rate of travel of the controlled machine element. Position detection circuit means provide signals in response to the position transducer signals to program the controlled machine tool element for a rate of travel in accordance with its actual position. The transducer signals are also employed to generate signals representative of the actual rate of travel of the controlled machine element. These signals are combined to cause the machine element to travel at the programmed rate in accordance with its position.

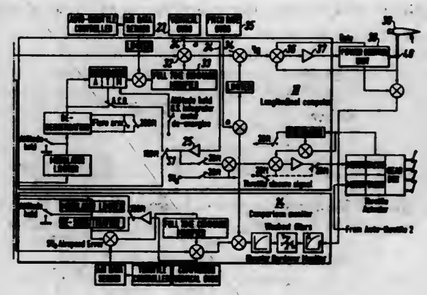
3,512,061
MONITORING CONTROL FOR AN AIRCRAFT LANDING SYSTEM INCLUDING PLURAL COMPARITORS TO TEST OR ISOLATE INDIVIDUAL COMPONENTS

Ian A. Watson and Derek Marshall, Lewisham, London, England, assignors to Elliott Brothers (London) Limited, London, England, a British company

Filed Jan. 30, 1967, Ser. No. 612,535
Claims priority, application Great Britain, Jan. 29, 1966, 4,058/66, 4,060/66
Int. Cl. G05b *23/02*
U.S. Cl. 318—18 3 Claims



An aircraft monitoring control for a landing system including a main control channel and a substantially duplicate monitoring channel. At various points in the system, a plurality of comparators are included which function in the conventional manner. A further feature

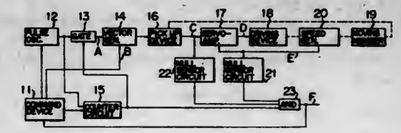


of the use of plural comparators is the ability to test individual components of the system or to isolate individual components which have failed.

3,512,062
POSITION CONTROL APPARATUS

Takaomi Aoki, Tokyo, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Oct. 31, 1967, Ser. No. 679,438
Claims priority, application Japan, Nov. 7, 1966, 41/72,859
Int. Cl. G05b *19/04*
U.S. Cl. 318—18 5 Claims



A position control apparatus wherein a current magnetic field expressed in terms of vector corresponding to a command information is produced by an electronic means in a position pickup having winding devices for detecting the error between the position of a movable member and a target position corresponding to the command information, whereby the movable member is moved in such a manner that the output of the position pickup device becomes null.

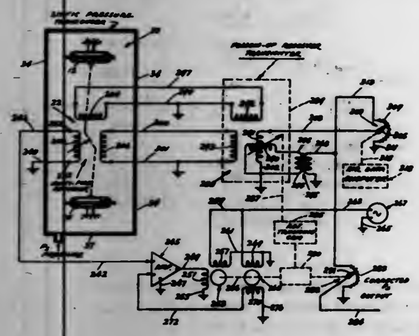
3,512,063
POSITION SERVOMECHANISM INCLUDING A UNIQUE RESOLVER NETWORK

Fred P. Modrowsky, Union, and Edward J. Moore, Paterson, N.J., assignors to The Bendix Corporation, a corporation of Delaware

Original application July 12, 1966, Ser. No. 564,571. Divided and this application Sept. 27, 1968, Ser. No. 763,229
Int. Cl. G05b *11/12*
U.S. Cl. 318—18 10 Claims

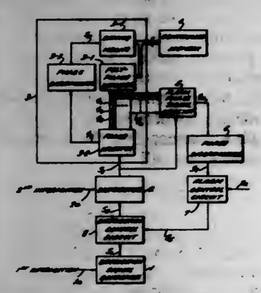
A position control servomechanism involving an improved inductive coupling arrangement in which outputs of a single speed resolver are fed into input windings of a multi-speed resolver so as to provide output signals for controlling a servomotor so as to provide at an output shaft of the motor an adjusted angular position to effect

a control function and which angular adjusted position of the output shaft corresponds to an effective amplification of an angular position of an atmospheric pressure responsive control device for operating the multi-speed resolver over a predetermined limited arcuate range, while an alternating current source applied to an input winding



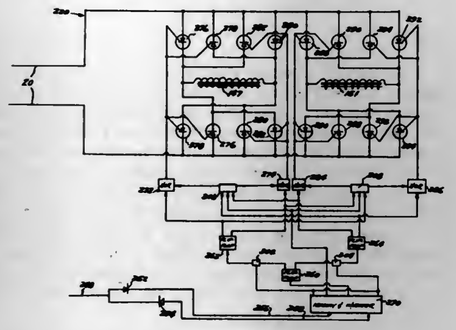
of the single speed resolver may be effectively varied to correct the effective amplification and thereby the angular adjusted position of the output shaft of the motor in accordance with the prevailing airspeed of an aircraft carrying the atmospheric pressure responsive control device.

3,512,064
NUMERICAL MACHINE TOOL WITH POLYPHASE POSITION DETECTOR WITH MEANS SELECTING PARTICULAR PHASE AND MEANS PREVENTING EXCESSIVE LAG
Kiyokazu Okumoto, Hajime Ida, Hiroshi Shinagawa, Masahiro Yoshioka, and Takeo Ando, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan
Filed Aug. 5, 1968, Ser. No. 750,049
Claims priority, application Japan, Aug. 3, 1967, 42/49,867
Int. Cl. H02p 1/54
U.S. Cl. 318—18 7 Claims



A system for controlling the droop between a controlled member such as a machine tool and command information so that the droop is maintained within prescribed limits. The digital system applies command pulses at a rate inversely proportional to the desired command rate. The controlled member is driven by suitable driving means which controls the operation of a polyphase detector capable of generating a plurality of signals of differing phases, one of which is selected by a phase selection circuit in accordance with the command pulses and direction, which selected phase signal after phase discrimination and amplification is employed to operate the driving means. One of the phase signals having a specific phase relationship to the phase signal operating the driving means is selected to generate a phase alarm signal which is produced whenever the phase alarm signal is negative relative to a predetermined reference level signal to generate a control signal which inhibits the application of command pulses to the phase selector until the droop falls within prescribed limits. The system is effective in maintaining the droop within the prescribed limits for either acceleration or deceleration commands applied to the controlled member. Command pulses are then reapplied to the phase selector as soon as the detected droop falls within the prescribed range.

3,512,065
HIGH-TORQUE STEPPING-MOTOR-DRIVEN SPEED-REDUCING PRIME MOVER
Werner H. Feagler, 23651 Fordson Drive, Dearborn, Mich. 48124
Filed July 13, 1966, Ser. No. 564,975
Int. Cl. H02k 37/00; H02p 5/06
U.S. Cl. 318—138 9 Claims

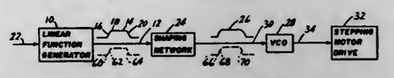


This high-torque electric stepping motor system (FIGS. 7 to 28 inclusive) includes either a radial (FIGS. 7 and 8) or axial (FIGS. 29 to 31 inclusive) rotary stepping motor or a linear stepping motor (FIGS. 32 and 33) energized either by a pulse-controlled electric circuit supplying half-wave direct current from an alternating current source for unidirectional motor motion (FIGS. 9 to 25 and 28) or full-wave direct current therefrom for bidirectional motor motion (FIGS. 26 and 27). The radial rotary stepping motor (FIGS. 8 and 8) has a rotor with wound radial pole pieces connected to slip rings on the rotor shaft and terminating in widened heads, each capable of spanning a pair of heads of the radial pole pieces of a stator containing twice the number of pole pieces as the rotor and of alternate polarities. The axial rotary stepping motor (FIGS. 29 to 31 inclusive) has a rotor with wound double-headed axial pole pieces also connected to slip rings on the rotor shaft and registering with the heads of pole pieces of alternate opposite polarities in a pair of stators disposed on opposite sides of the rotor. The linear stepping motor (FIGS. 32 and 33) has a linearly-movable actuator with wound double-headed transverse pole pieces registering with and overlapping the heads of pole pieces of alternate opposite polarities in a pair of stators disposed on opposite sides of the linearly-movable actuator.

The half-wave stepping motor energization and control circuit (FIG. 9) alternately energizes both sets of windings of the oppositely-wound alternate pole pieces of the stator with rectified half-wave electric current from an

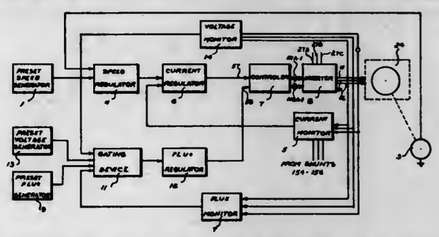
alternating current source to cause the rotor or movable linear actuator, as the case may be, to rotate or move linearly step-by-step in one direction in response to positive electrical trigger pulses transmitted from a command device, such as a probe tracing a contoured surface, to a unidirectional energization and control circuit which contains silicon-controlled rectifiers, logic modules and flip-flops and which passes positive electric pulses but blocks negative electrical pulses, so as to effect unidirectional step-by-step motion of the rotor or actuator. To bring about bidirectional motion thereof, a memory or sequencing and inverter subcircuit (FIG. 27) is provided, together with an opposite-direction network including logic circuits necessary to reverse the motion of the rotor or actuator in response to the reception of a negative electrical trigger pulse.

3,512,066
MOTOR ENERGIZING SYSTEM
Heinz Joseph Gerber and Leonard G. Rich, West Hartford, Conn., assignors to The Gerber Scientific Instrument Company, South Windsor, Conn., a corporation of Connecticut
Filed Mar. 8, 1967, Ser. No. 621,593
Int. Cl. H02k 29/02
U.S. Cl. 318—138 16 Claims



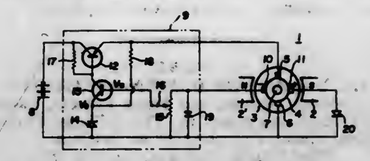
In a stepping motor drive system for a plotter, machine tool or the like, a means is provided for controlling both the acceleration and deceleration of the drive motor in such a manner that the actual values of acceleration and deceleration vary during the acceleration and deceleration periods so as to derive a maximum amount of available torque from the motor at all speeds. This is achieved by using a signal having an argument with nonlinear ramp portions for controlling the output frequency of a pulse generator forming part of the motor driving circuit. The signal may be either one wherein the argument is a characteristic analogously related to the output frequency of the pulse generator or one wherein the argument is a digital representation of a number the magnitude of which is related to the output frequency of the pulse generator.

3,512,067
SPEED REGULATION OF ASYNCHRONOUS THREE-PHASE MOTORS
Ioan Doré Landau, Bucharest, Rumania, assignor to Ministerul Industriei Constructiilor de Masini, Bucharest, Rumania
Continuation-in-part of application Ser. No. 534,493, Mar. 15, 1966. This application Aug. 19, 1968, Ser. No. 754,530
Claims priority, application Rumania, Mar. 25, 1965, 49,465
Int. Cl. H02p 7/62
U.S. Cl. 318—227 10 Claims



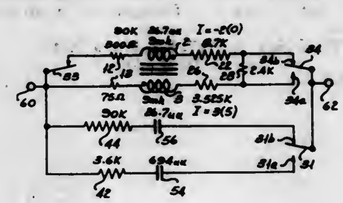
A reversible speed control arrangement for a three-phase squirrel cage induction motor employs independent regulation of the motor flux. The phases of the stator winding are selectively excited in one of two opposite senses by a pulse-operated thyratron-like inverter. The output voltage of the inverter is regulated by a first signal proportional to the difference between a preset motor flux and the actual motor flux. The output frequency of the inverter is separately regulated by a second signal obtained by comparing the real portion of the instantaneous motor current with a reference current proportional to the difference between the actual motor speed and a preset motor speed.

3,512,068
SPEED CONTROLLING APPARATUS FOR SMALL D.C. MOTOR
Horoyuki Mori, Yokohama, Japan, assignor to Nippon Electronics Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Apr. 18, 1967, Ser. No. 631,701
Claims priority, application Japan, Apr. 25, 1966, 41/25,870
Int. Cl. H02p 5/16
U.S. Cl. 318—331 1 Claim



A circuit for regulating the speed of a small D.C. motor by placing detecting brushes on the commutator in addition to the commutating brushes. The detected voltage from the additional brushes is used as the base voltage of a reference transistor which compares the detected voltage with a preset emitter voltage. Based on this comparison the reference transistor regulates the output of a control transistor connected across the electric source feeding the motor.

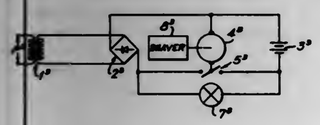
3,512,069
VARIABLE AMPLITUDE PULSE TORQUER
John V. Hughes, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Original application July 31, 1963, Ser. No. 298,955, now Patent No. 3,337,754, dated Aug. 22, 1967. Divided and this application May 5, 1967, Ser. No. 644,045
Int. Cl. H02p 7/36
U.S. Cl. 318—436 8 Claims



The invention contemplates the provision of a pair of forcing windings. In one embodiment of my invention the windings have different numbers of turns and are selectively connected in either series-aiding or series-opposing relationship. In a second embodiment of my invention the windings may have equal numbers of turns but pass different currents; and the windings are selectively coupled either in parallel-aiding or parallel-opposing re-

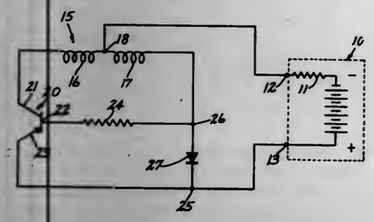
lationship. The second embodiment of my invention also includes a configuration where the parallel connected windings have different numbers of turns but pass equal currents. In both the first and second embodiments the currents flowing through the two windings, whether in aiding or opposing relationship, are the same. Thus no change occurs in either the mean power dissipation or in the spatial distribution of power dissipation. In a third embodiment of my invention a pair of bifilar conductors, simultaneously wound, form two forcing windings having the same spatial distribution. The windings are connected in parallel-opposing relationship. The currents through the windings are selectively varied while maintaining the total current through the parallel-connected windings constant. The resistance of the windings are such that total power dissipated in the two windings remains constant even though the power dissipated by each individual winding varies. Since the spatial distribution of the pair of simultaneously wound windings is the same, the temperature distribution over the instrument remains, for practical purposes, absolutely constant. In all embodiments of my invention, capacitive compensating networks are provided so that the torquer circuit presents a purely resistive impedance, independent of frequency.

3,512,070
A.C.-D.C. MOTOR-DRIVEN APPARATUS
Bodo Fetterer, Sarnen, and Hugo Fritschi, Sachseln, Switzerland, assignors to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 614,101
Claims priority, application Germany, Feb. 7, 1966, J 30,010
Int. Cl. H02j 7/00
U.S. Cl. 320—2 **2 Claims**



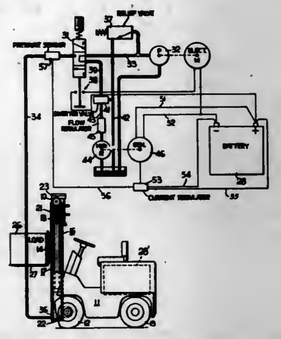
A circuit for selectively driving a motor from A.C. and D.C. power supplies by the use of a switch which simultaneously connects or disconnects the supplies to and from the motor and which is bridged by an indicator light, a rectifier circuit isolating the D.C. supply from the A.C. supply.

3,512,071
APPARATUS FOR IMPROVING LOW TEMPERATURE BATTERY PERFORMANCE
Howard L. Daniels, West St. Paul, Minn., assignor to International Electric Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 1, 1967, Ser. No. 679,767
Int. Cl. H02j 7/00
U.S. Cl. 320—5 **5 Claims**



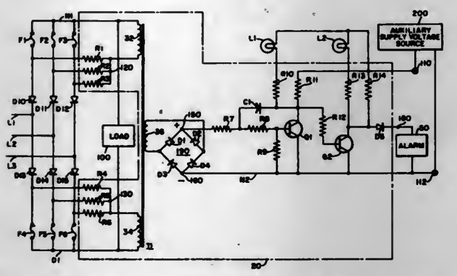
The apparatus includes a center tapped inductance with the center tap adapted to be attached to the negative terminal of a storage battery, one end of said inductance connected through a semi-conductor diode to a second terminal adapted to be attached to the positive terminal of the battery, and the other end of the coil connected through a transistor to the second terminal in a manner to cause the transistor to conduct periodically when the apparatus is attached to a battery. The apparatus drains a small current from the battery and forces a sufficient current back through the battery to raise the temperature thereof during periods when the external temperature is subnormal.

3,512,072
ELEVATED LOAD POTENTIAL ENERGY RECOVERY IN AN ELECTRIC TRUCK
Arvin Karazija, Oak Forest, and Myron J. Boyajian, Chicago, Ill., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 13, 1967, Ser. No. 682,388
Int. Cl. H02j 7/00
U.S. Cl. 320—61 **4 Claims**



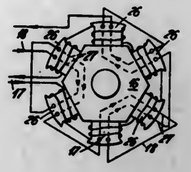
The potential energy of an elevated load in an electric lift truck is converted into battery charging current during lowering of the load. When the pressure in the return to reservoir circuit of the hydraulic lift cylinder control is sufficiently great, the fluid is diverted to a hydraulic motor, via a flow regulator, which drives a generator to produce a battery charging current. The current output of the generator is regulated in accordance with the battery potential and the hydraulic pressure of the lift cylinder.

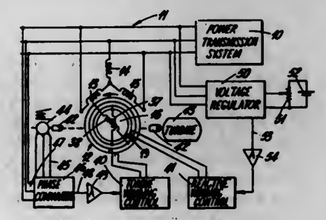
3,512,073
ELECTRICAL CIRCUIT FOR INDICATING THE BLOWING OF FUSES
William H. South, McKeesport, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 28, 1968, Ser. No. 771,129
Int. Cl. H02m 1/18; G08b 21/00
U.S. Cl. 321—14 **6 Claims**



An electrical circuit for indicating the blowing of fuses and, in turn, of diodes connected between the different phases of a polyphase alternating current circuit and a load circuit comprising a transformer connected between the diodes and the associated protective fuses and static switching means for controlling the actuation of indicating means by an auxiliary voltage source.

3,512,074
GENERATOR HAVING TWO FIELD WINDINGS AND CONTROL SYSTEM THEREFOR
John Alexander Soper, Hemel Hempstead, England, assignor to Central Electricity Generating Board, London, England, a British body corporate
Continuation of application Ser. No. 589,619, Oct. 26, 1966. This application Jan. 29, 1969, Ser. No. 794,906
Int. Cl. H02p 9/14; H02k 23/22
U.S. Cl. 322—20 **17 Claims**



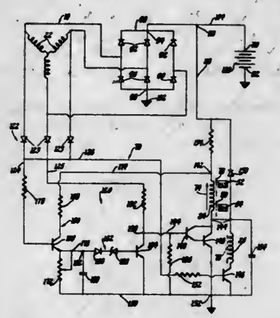


A synchronous alternating current machine has two rotor windings whose magnetic axes are at an angle, preferably about 60°. Current is supplied to one winding so as to maintain the other winding in a condition in which current through it produces substantially no torque on the rotor. This condition is the most favourable for the control of reactive power flowing to or from the machine's stator without introducing instability of the machine. The reactive power is thereby controllable by feeding the said other winding separately with direct current.

3,512,075
TRANSISTOR VOLTAGE REGULATING SYSTEM FOR GENERATORS HAVING MAIN AND REVERSE FIELD WINDINGS
Louis J. Raver and Richard L. Konopa, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 11, 1968, Ser. No. 759,122
Int. Cl. H02p 9/30
U.S. Cl. 322—28 **4 Claims**

In a preferred embodiment, a voltage regulating system is provided for a generator having an output winding, main and reverse field windings and a permanent magnet field provided by one or more permanent magnets. The regulating system is capable of maintaining the output voltage of the generator substantially constant and includes first and second output transistors connected in series respectively with the main and reverse field windings of the generator and across the output winding of the generator. A voltage sensing circuit senses the output voltage of the generator and biases both the first output transistor and a driver transistor connected to the second output transistor alternately conductive and nonconductive as a function of generator output voltage. The system is operative to bias the first output transistor conductive when the second output transistor is biased nonconductive and vice versa. The reverse field winding when energized by the conduction of the second output transistor develops a flux which opposes the effect of the magnetic field provided by generator permanent magnets.

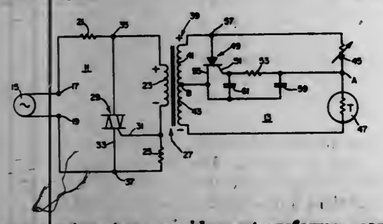
3,512,076
TRANSISTOR VOLTAGE REGULATING SYSTEM FOR GENERATORS HAVING MAIN AND REVERSE FIELD WINDINGS
Robert L. Larson and Gerald H. Stenklyft, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 11, 1968, Ser. No. 759,169
Int. Cl. H02p 9/30
U.S. Cl. 322—28 **3 Claims**



In a preferred embodiment, a voltage regulating system is provided for a generator having an output winding, a permanent magnet field provided by one or more permanent magnets and main and reverse field windings which are connected in series across the generator output. The regulating system is capable of maintaining the output voltage of the generator substantially constant and includes a regulating output transistor connected in series with the main field winding and in parallel with the reverse field winding. A voltage sensing circuit senses the output voltage of the generator and biases the output transistor alternatively conductive and nonconductive as a function of the generator output voltage. When the output transistor is biased conductive it shorts out the re-

verse field winding and energizes the main field winding. The main and reverse field windings are energized in series when the output transistor is biased nonconductive but the excitation of the main field winding is negligible since the reverse field winding includes a larger resistance and more coil turns. Only the reverse field winding of the generator develops maximum field strength which is produced to oppose the effect of the magnetic field provided by the permanent magnets.

3,512,077
TEMPERATURE CONTROL SYSTEM WITH ISOLATED CONTROL CIRCUIT
Egils Evalds, Ardmore, Pa., assignor to Atkens Controls Incorporated, a corporation of Pennsylvania
Filed July 26, 1967, Ser. No. 660,860
Int. Cl. G05f *1/44*
U.S. Cl. 323—19 9 Claims



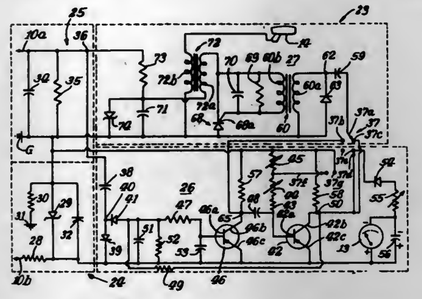
The present system provides a transformer coupling between the power section of the temperature regulating system and the temperature sensitive control circuit. The temperature sensitive control circuit employs an electronic switch to short circuit the secondary of the transformer and thus turn on a second electronic switch connected to the primary to fully energize the heater. This last-mentioned electronic switch is turned on a second time during a second half of an A.C. power cycle by saturating the transformer early in the second half of the cycle.

3,512,078
GYROMAGNETIC RESONANCE SPECTROMETER EMPLOYING AIR PRESSURE FOR EJECTING SAMPLES FROM THE MAGNET
Hugh J. Hall, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed June 12, 1967, Ser. No. 645,396
Int. Cl. G01n *27/78*
U.S. Cl. 324—.5 9 Claims



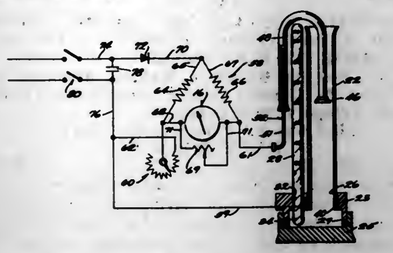
A gyromagnetic resonance spectrometer is disclosed which employs an air driven turbine for spinning the sample and an air driven ejector for ejecting the sample from the magnet. Also, a flue portion of the ejector may be employed for loading samples in the sample spinner. In one embodiment of the present invention, an automatic sample loader is programmed to drop successive samples into the flue for successive analysis by the spectrometer and to retrieve the samples as successively ejected by the ejector after analysis by the spectrometer. Thus, numerous samples can be analyzed without the presence of an operator.

3,512,079
TIMING ADVANCE TESTER CIRCUIT
Albert M. Wanninger, Prospect Heights, Ill., assignor to Peerless Instrument Co., a corporation of Illinois
Filed Oct. 7, 1968, Ser. No. 765,590
Int. Cl. G01m *15/100*
U.S. Cl. 324—16 8 Claims



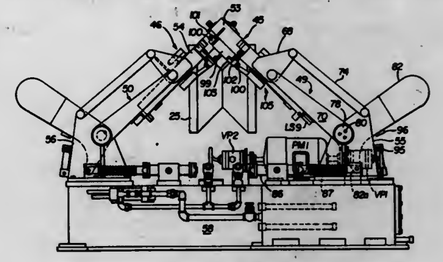
A tester circuit for controlling the operation of a standard timing light for indicating the ignition advance of the spark plugs of an automotive engine, such as an automobile engine. The control circuit includes a manually operable control for introducing a time delay in the flashing of the timing light to correspond with the advance in time of the spark plug firing occurring with an advance in speed of the automotive engine. The ignition advance tester is arranged for facilitated connection to the automotive engine components and conventional timing lights. The control circuit includes improved power supply means utilizing the high voltage power supply of the ignition system as a power supply source for a high voltage circuit portion thereof.

3,512,080
ELECTRICAL CONDUCTIVITY TESTER FOR MILK WITH MOVABLE ELECTRODE FOR TEMPERATURE COMPENSATION
Emil J. Hanson, 2340 W. Marne, Glendale, Wis. 53209
Filed June 9, 1967, Ser. No. 644,834
Int. Cl. G01r *27/22*
U.S. Cl. 324—30 2 Claims



Disclosed herein is a liquid testing device having a pair of electrodes positioned in a spaced relation within a reservoir and connected to an electrical circuit including an electrical conductivity indicating meter. One of said electrodes is mounted for movement in the reservoir relative to the other electrode and relative to the temperature scale on a thermometer positioned to respond to the temperature of the liquid in the reservoir.

3,512,081
AUTOMATIC BILLET INSPECTOR INCLUDING MARKERS LOCATED ON EITHER SIDE OF THE SENSOR IN DIRECTION OF SCAN
John J. Skubiak, Madison Heights, Mich., and John A. Toth, Highland Heights, and Joseph M. Mandula, Jr., Seven Hills, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Original application Nov. 1, 1965, Ser. No. 505,940. Divided and this application Jan. 22, 1969, Ser. No. 793,085
Int. Cl. G01r *33/12*
U.S. Cl. 324—37 4 Claims



Metal billets are conveyed past a defect scanning unit that reciprocates search coils across a billet surface. Scanning unit movement is reversed in response to the sensing of billet edges and defects that are detected are automatically marked on the billet surface over the defect, regardless of the direction in which the scanning unit is moving across the billet.

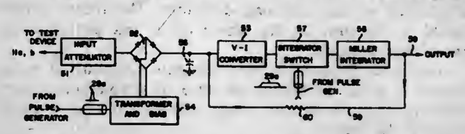
3,512,082
ROOF RACK FOR CARS
Eric Joos, Malung, Sweden, assignor to Aktiebolaget Eric Joos, Malung, Sweden, a corporation of Sweden
Filed Mar. 18, 1968, Ser. No. 713,618
Claims priority, application Sweden, Mar. 21, 1967, 3,928/67
Int. Cl. B60r *9/04*
U.S. Cl. 224—42.1 9 Claims



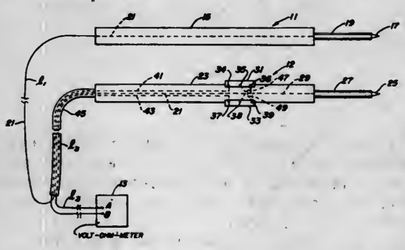
A car roof rack comprising a frame having two parallel rigid side pieces and a number of mutually parallel rigid cross bars which are pivotally connected to the difficult to perform by a person not used to the specific roof rack.

3,512,083
SAMPLING SYSTEM AND APPARATUS FOR TESTING ELECTRONIC DEVICES USING A PLURALITY OF SELF-CONTAINED PROBES
Samuel R. McCutcheon, Saratoga, William F. Boggs, Fremont, and William E. Ewin, Los Altos, Calif., assignors to Automated Measurements Corporation, Los Gatos, Calif., a corporation of California
Filed Dec. 12, 1966, Ser. No. 600,836
Int. Cl. G01r *27/00*; H03b *19/00*; H03k *5/00*
U.S. Cl. 324—57 6 Claims

A sampling system includes a plurality of selfcontained probes which are sequentially strobed by a relatively narrow pulse to sample test signal information from a device under test. Each probe has a single ended input for this narrow pulse to allow for rapid switching between probes and converts the sampled test signal to a format having an increased time base which is then coupled out of the probe to associated wave analyzing apparatus.

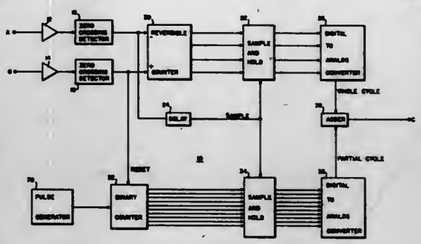


3,512,084
ELECTRICAL TEST PROBE DEVICE WITH SHORTING AND REVERSING SWITCH MEANS
Richard L. Roberts, 513 San Carlos, Albany, Calif. 94706, and Donald S. McHugh, 3101 Wiswall Court, Richmond, Calif. 94806
Filed Oct. 18, 1967, Ser. No. 676,687
Int. Cl. G01r *31/02*
U.S. Cl. 324—72.5 3 Claims



A pair of electrical probes wherein one probe includes a switching device that functions to both electrically reverse the probes and electrically short the probes. In the preferred embodiment of the present invention a lever is placed over the switching elements of two micro switches. The micro switches electrically reverse the probes when the switching elements of both micro switches are actuated by depressing the center position of the lever. The micro switches electrically short out the probes when the switching element of one of the micro switches is actuated by depressing the outer position of the lever.

3,512,085
CUMULATIVE PHASE METER USING WHOLE CYCLE AND PARTIAL CYCLE COMPARISON
Herbert L. Peterson, Washington, D.C., and George G. Nacht, Oxon Hill, Md., assignors to the United States of America, as represented by the Secretary of the Navy
Filed Mar. 3, 1967, Ser. No. 621,400
Int. Cl. G01r *25/00*
U.S. Cl. 324—83 14 Claims

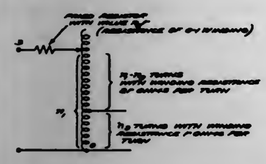


A meter which indicates cumulative phase difference between two input signals. Whole cycle phase comparison

is accomplished by a reversible counter energized by zero crossing detectors. Partial cycle phase comparison is accomplished by an oscillator energized binary counter controlled by zero crossing detectors. The meter output signal is the sum of the whole cycle and partial cycle phase comparisons.

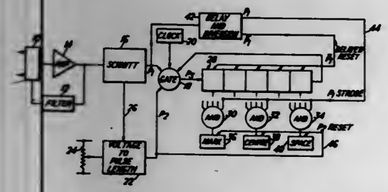
Additional features include alternate sampling of input signals to avoid ambiguity because of simultaneous zero crossing of both inputs; range adjustment and a pulse dropout detector.

3,512,086
AC VOLTAGE MEASURING SYSTEM UTILIZING VARIABLE RATIO TRANSFORMER
Endel Ulga, Rockaway, N.J., assignor, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 15, 1967, Ser. No. 616,406
Int. Cl. G01r 17/00
U.S. Cl. 324—98 9 Claims



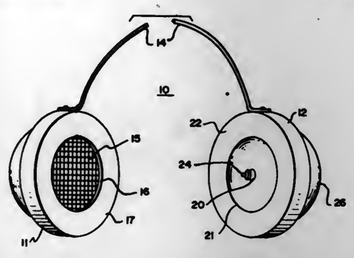
A system for measuring A.C. voltages which comprises a variable ratio transformer and a voltage level indicator which can be comprised of two thermocouples whose DC ouputs are arranged in series and opposition and connected to a galvanometer. A known, reference voltage is applied to one thermocouple and the output from a fixed tap on the transformer is applied to the other thermocouple. The unknown voltage is applied to a variable tap on the transformer which is adjusted, thus effecting a change in the transformation ratio, until a preset reference level e.g. zero on the galvanometer is reached. The value of the unknown voltage may now be derived from the value of the reference level and the ratio of the transformer. A stable gain amplifier may be connected between the fixed output tap on the transformer and the level indicator to increase input impedance and hence also the sensitivity of the voltage measuring system.

3,512,087
FREQUENCY MODULATION RECEIVERS FOR DATA TRANSMISSION
Alan Lewis, Chessington, Surrey, England, assignor to Evershed & Vignoles Limited, a British company
Filed Aug. 14, 1967, Ser. No. 660,388
Claims priority, application Great Britain, Aug. 17, 1966, 36,893/66
Int. Cl. H04l 27/14
U.S. Cl. 325—320 4 Claims



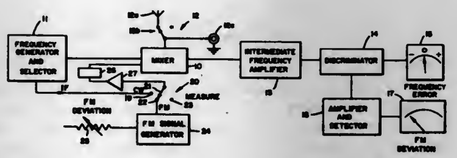
Frequency discriminating apparatus for use with signals frequency modulated with pulse data includes a counter receiving pulses from a clock pulse generator through a gating circuit. The gating circuit is controlled by the input waveform and by an inhibiting circuit, itself triggered by the input waveform, in such a manner that in a half cycle or cycle of the input waveform counting is inhibited for the minimum duration of the half period of the waveform. This reduces the number of pulses to be counted. The count during the remaining portion of the period indicates whether the incoming waveform is of the mark, centre, or space frequency.

3,512,088
HEADPHONE APPARATUS HAVING SELECTABLE LOUDSPEAKER OR EARPIECE SOUND REPRODUCER
Samuel Ross, Chicago, Ill., assignor to Ross Electronics Corporation, a corporation of Illinois
Filed Mar. 14, 1967, Ser. No. 623,030
Int. Cl. H04b 1/08
U.S. Cl. 325—361 6 Claims



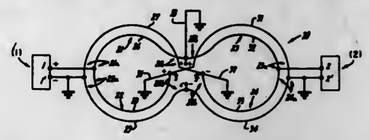
A headphone having a loudspeaker mounted adjacent one ear of a wearer and an earpiece for individual sound reproduction mounted for insertion into the opposite ear of the wearer. A radio receiver is built into the headphone, and has tuning and volume controls extending therefrom for manipulation by the wearer, and a switch for selecting either the loudspeaker or the earpiece for sound reproduction.

3,512,089
FM SIGNAL DEVIATION INDICATOR
Le Roy T. Cushman, 10200 Wolfe Road, Apt. 310, Cupertino, Calif. 95014
Filed Feb. 24, 1966, Ser. No. 529,827
Int. Cl. H04b 1/26
U.S. Cl. 325—363 6 Claims



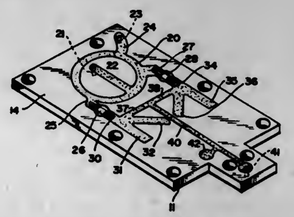
A communications test apparatus for indicating FM signal deviation of both external and internally generated signals. A mixer is coupled to an internal FM signal generator which produces an intermediate frequency signal whose deviation is sensed by an FM deviation meter. At the same time, this internally generated signal mixes with the local oscillator signal to provide an external signal of the desired frequency. Thus, the communications receiver is tested. When the signal generator is decoupled the mixer receives an external frequency modulated signal which when mixed with a local oscillator signal produces an intermediate frequency signal whose deviation is also indicated by the same indicator means.

3,512,090
HYBRID JUNCTIONS AND MIXERS AND MODULATORS CONSTRUCTED THEREFROM
Robert B. Mouw, Palo Alto, Calif., assignor to Aertech, Sunnyvale, Calif., a corporation of California
Filed Oct. 18, 1967, Ser. No. 676,111
Int. Cl. H04b 1/26
U.S. Cl. 325—442 17 Claims



A new type of hybrid junction in which the junction port of the isolated arm is equally excited by two arms connected in parallel to the excited input port. Embodiments in a wide variety of circuits are illustrated including lumped element, two-wire transmission line, coaxial line, microstrip, and waveguide. Mixers and modulators constructed from the hybrid junction are also disclosed.

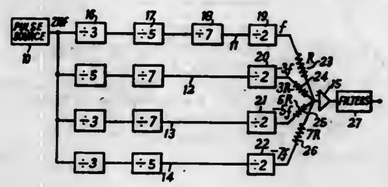
3,512,091
COMPACT STRIP-LINE TYPE MIXER USING HYBRID RING
Richard E. Blixt, Tempe, and Joseph C. Gundry, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Oct. 22, 1965, Ser. No. 500,635
Int. Cl. H04b 1/26
U.S. Cl. 325—446 2 Claims



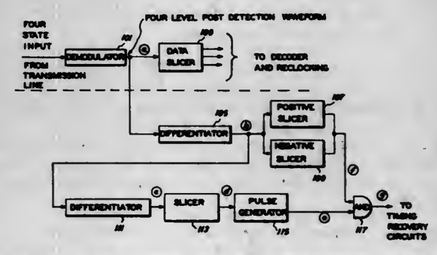
A pair of insulating boards are pressed together with at least one of the boards having conductive layers thereon. One of the conductive layers includes a hybrid ring adapted to receive incoming signals and locally generated signals. A pair of output connections on the hybrid ring are immediately adjacent a pair of recesses in one of the boards which receive a pair of diodes. Diodes are of the coaxial type having an enlarged center portion with elongated contact end portions. An output circuit extends from the recesses and is connected to a common output line with each diode being connected through a pair of broadbanding stub-type filters formed in a second conductive layer. The hybrid ring serves as an impedance matching device between the input connections and the two output diode connections.

3,512,092
APPARATUS FOR SYNTHESIZING SINE WAVES
Duncan Philip Thurnell, Rose Corner, 2 Steyning Road, Seaford, Sussex, England
Filed June 21, 1967, Ser. No. 647,869
Claims priority, application Great Britain, June 21, 1966, 27,755/66
Int. Cl. H03b 19/00
U.S. Cl. 328—14 10 Claims

Sine-wave synthesizing apparatus comprising a pulse source coupled through dividers to a plurality of flip-flops to give square waves having frequencies f, $3f$, $5f$ and $7f$, and amplitudes A, A/3, A/5 and A/7. The waves are combined in a summing network and the resultant wave is substantially sinusoidal, the $3f$, $5f$ and $7f$ waves being added in antiphase to the f wave directly in the network or all the waves being converted into corresponding triangular waves by integration and added in the network.

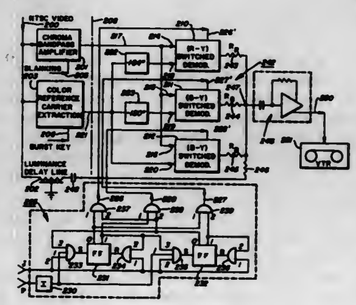


3,512,093
TRANSMITTED DATA TIMING RECOVERY SYSTEM
Donald A. Perreault, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 28, 1966, Ser. No. 590,357
Int. Cl. H03b 1/00
U.S. Cl. 328—139 4 Claims



This invention relates to data transmission systems and, more particularly, to the recovery of the baud timing of original transmitted data information.

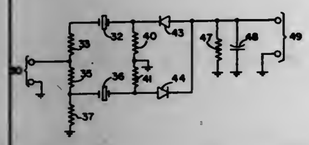
3,512,094
ELECTRONIC SIGNAL PROCESSING SYSTEMS
Bert H. Dana, Altadena, and Norton W. Bell, Pasadena, Calif., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed July 27, 1967, Ser. No. 656,573
Int. Cl. H04q 3/00
U.S. Cl. 328—137 6 Claims



Signal train resolving systems having sequentially switched signal processing circuits correlated in number to the signal components or component signal trains to

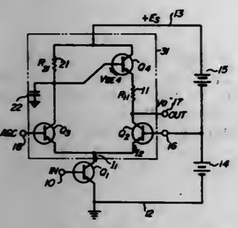
be resolved and providing substitute signals during their off periods to reduce the generation of error signals and increase the mutual compatibility of the switching components.

3,512,095
CRYSTAL DISCRIMINATOR WITH UNSYMMETRICAL DRIVE
Donald L. Linder, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Nov. 8, 1967, Ser. No. 681,318
Int. Cl. H03d 3/16
U.S. Cl. 329—117 5 Claims



A crystal discriminator incorporates a pair of crystals tuned to different frequencies to change a frequency modulated signal to an amplitude modulated signal wherein the amplitude modulation is proportional to the frequency modulation. The crystal discriminator handles wide deviation signals in which the deviation approaches the pole-zero spacing of the crystals. Unsymmetrical drive circuits couple the signal to the crystals to achieve linearity without the use of inductance.

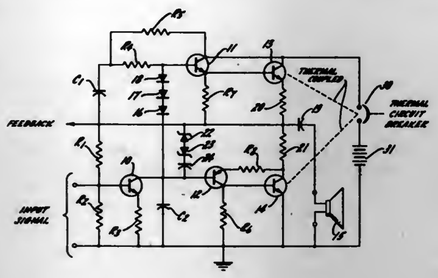
3,512,096
TRANSISTOR CIRCUIT HAVING STABILIZED OUTPUT D.C. LEVEL
Minoru Nagata, Kodaira-shi, Nobuhiko Aoki, Katsutashi, and Shikayuki Ochi, Kokubunji-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed May 28, 1968, Ser. No. 732,760
Claims priority, application Japan, May 31, 1967, 42/34,155
Int. Cl. H03g 3/30; H03f 3/68, 3/42
U.S. Cl. 330—29 10 Claims



A first and second amplifying transistors are connected in cascode configuration, a bypass transistor connected in parallel to the second transistor to form a signal bypass circuit, and a first and second load resistor connected respectively in the collector circuit of said second and bypass transistors, the base potential of the bypass transistor being controllable to vary the bypass circuit impedance so that an input signal applied to the base of the first transistor may be amplified and transmitted out a gain controlled output signal from the collector of the second transistor.

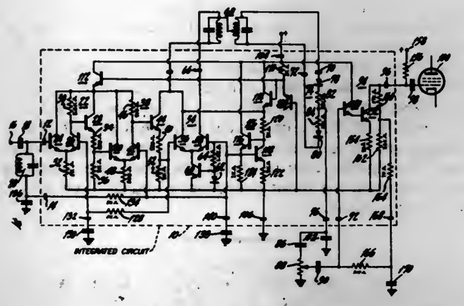
A load transistor is connected in series in the first load resistor circuit to make variable the output D.C. level in accordance with the emitter potential thereof, and the base potential of which is controlled by the collector potential of the bypass transistor, whereby stabilizing the output D.C. level during gain control operation.

3,512,097
POWER AMPLIFIER HAVING OVERLOAD PROTECTION MEANS
Marvin C. Tyler, St. Joseph, Mich., assignor to Heath Company, St. Joseph, Mich., a corporation of Delaware
Filed Nov. 9, 1967, Ser. No. 683,433
Int. Cl. H03f 3/18, 3/42
U.S. Cl. 330—11 11 Claims



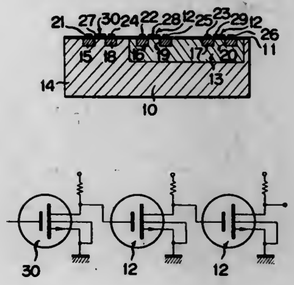
A transistor power amplifier circuit having means for protecting the transistors from a short circuit or severe overload by automatically clamping the input voltage at a predetermined level to limit the overload current in the output circuit to a non-destructive level. In the illustrated circuit, a pair of oppositely facing Zener diodes monitor the current in a resistor in the output circuit. If a predetermined overload current flows through the resistor, the Zener diodes clamp the input voltage at a level which prevents any further increase in the output current. To protect the transistor against sustained overload as limited by the clamping means, a thermal circuit breaker is connected between the transistor and the power source and is thermally coupled to the transistor.

3,512,098
TRANSISTOR ELECTRICAL CIRCUIT WITH COLLECTOR VOLTAGE STABILIZATION
Jack Avins, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Aug. 28, 1967, Ser. No. 663,871
Int. Cl. H03f 1/34
U.S. Cl. 330—25 4 Claims



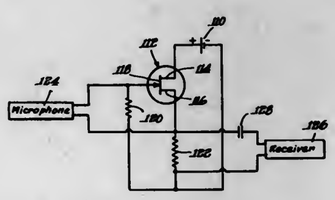
An electrical circuit wherein a signal output swing can be obtained from a transistor of a magnitude comparable to, but without exceeding, the collector breakdown voltage thereof, and wherein the transistor operates from an unregulated source of supply voltage substantially in excess of that breakdown voltage through a series dropping resistor subject to tolerance variations in its absolute value.

3,512,099
SEMICONDUCTOR AMPLIFIER WHEREIN SEVERAL METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTORS ARE COUPLED ON A SUBSTRATE
Atsushi Ohwada, Kawasaki-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Sept. 23, 1968, Ser. No. 761,667
Claims priority, application Japan, Sept. 28, 1967, 42/61,950; Sept. 14, 1968, 43/65,980
Int. Cl. H03f 3/16, 3/68, 3/14
U.S. Cl. 330—35 8 Claims



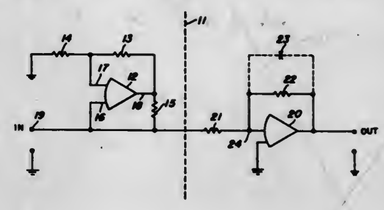
A semiconductor amplifier having a depletion mode MOS-FET unit disposed at the first stage and an enhancement mode MOS-FET unit positioned at the last stage, both of which are formed in the same semiconductor substrate. The drain electrode of the first stage MOS-FET unit and the gate electrode of the last stage MOS-FET unit are directly coupled so as to have the same potential.

3,512,100
AUDIO FREQUENCY AMPLIFICATION CIRCUIT
Mead Clifford Killion, Elk Grove Village, Elmer Victor Carlson, Prospect Heights, and Mahlon Daniel Burkhard, Hinsdale, Ill., assignors to Industrial Research Products, Inc., Elk Grove Village, Ill., a corporation of Delaware
Filed July 3, 1968, Ser. No. 742,239
Int. Cl. H03f 3/16
U.S. Cl. 330—38 9 Claims



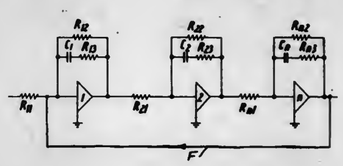
An audio frequency amplification circuit for use with a low voltage power source. The circuit includes a field-effect transistor which has a pinch-off voltage equal to or less than the voltage of the power source. The field-effect transistor has one electrode connected to one side of the power source and another electrode connected to one side of a load impedance element. The transistor also includes a gate electrode connected to one side of a signal source, and the other side of the signal source is connected to the other electrode of the transistor. A bias element is connected between the gate electrode and the other side of the load impedance element which is also connected to the other side of the power source. Means for receiving the amplified signal is connected across the load impedance element.

3,512,101
HIGH IMPEDANCE INPUT CIRCUIT FOR OPERATIONAL AMPLIFIER CIRCUITS
Walter Ellermeyer, 4878 Niagara Ave., Apt. 10, San Diego, Calif. 92107
Filed Mar. 22, 1968, Ser. No. 715,337
Int. Cl. H03f 1/36
U.S. Cl. 330—69 2 Claims



A high-input-impedance driver circuit for an inverting-type operational amplifier stage is disclosed. The driver includes a differential input operational amplifier arranged to operate as a conventional non-inverting stage. By adding another feedback resistance path to the conventional non-inverting configuration, the resultant circuit can drive a second operational amplifier stage with unique results. When the ratio of the added resistance to the input resistance of the second stage is made equal to a predetermined value, the first stage becomes a very-high-input-impedance device. Thus the input voltage to the inverting amplifier stage is always proportional or equal to the amplitude of the input voltage of the driver stage.

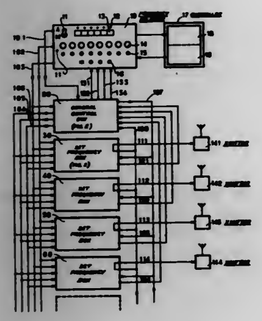
3,512,102
MULTISTAGE AMPLIFIER WHICH PREVENTS SELF-OSCILLATIONS
Hans Kubach, Vierhheim, Germany, assignor to Brown, Boveri & Cie Aktiengesellschaft,, Mannheim-Kafertal, Germany, a corporation of Germany
Filed Mar. 11, 1968, Ser. No. 711,945
Claims priority, application Germany, Mar. 9, 1967, B 91,534
Int. Cl. H03f 1/34
U.S. Cl. 330—107 2 Claims



Each of a plurality of amplifier stages of a multistage amplifier has a frequency-dependent feedback circuit connected between its output and its input. The components of each feedback circuit have magnitudes such that the resultant amplification v. frequency response characteristic includes a continuously extending integral portion approximating that of the amplifier without feedback, and self-oscillations of the amplifier are prevented. The feedback circuit of each of the amplifier stages comprises a

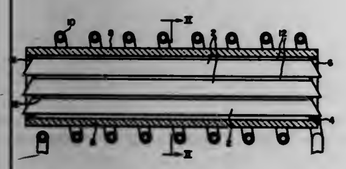
capacitor and a first resistor connected in series circuit between the output and the input of the corresponding amplifier stage and a second resistor connected in parallel with the series circuit connection.

3,512,103
MULTIPLE FREQUENCY SYNTHESIZER PROVIDING A PLURALITY OF SELECTED FREQUENCIES IN A SPECTRUM OF FREQUENCIES
Leon Bertaux, Asnieres, France, assignor to C.I.T.-Compagnie Industrielle des Telecommunications, a French company
Filed June 14, 1968, Ser. No. 737,057
Claims priority, application France, June 16, 1967, 110,793
Int. Cl. H03b 3/04, 3/08
U.S. Cl. 331—2 5 Claims



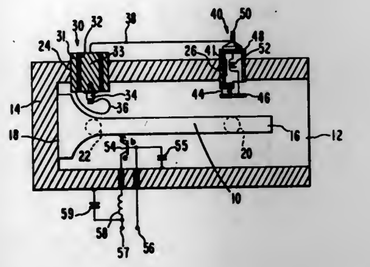
A synthesizer for providing each of a number of radio sets with a desired frequency which may be any of a spectrum of frequencies derived from a harmonic generator connectable by controls on a frequency selector box to each of a number of frequency control boxes associated with respective radio sets and each of which can be locked to any desired frequency of the spectrum by connections which can be switched from one box to another and which connect the boxes selectively to a general control box containing the harmonic generator.

3,512,104
OPTICAL MASER ASSEMBLY
Coleman J. Miller, Severna Park, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 29, 1965, Ser. No. 443,597
Int. Cl. H01s 3/00
U.S. Cl. 331—94.5 4 Claims



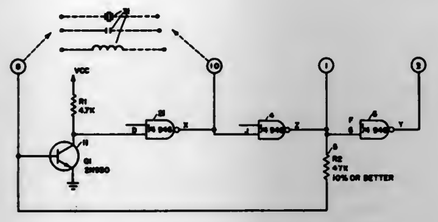
Stimulated emission of radiation apparatus including a cluster of active elements with a selective absorber in the region between the elements to provide a small effective diameter of active material at the laser output frequency for the reduction of transverse gain while at the same time providing a large effective diameter at the pump frequency to effectively absorb the pump energy.

3,512,105
LINEAR VOLTAGE TUNED MICROWAVE RESONANT CIRCUITS AND OSCILLATORS
Drew R. Lance, Jr., Saratoga, and Steven B. Rupp, San Francisco, Calif., assignors to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Apr. 29, 1968, Ser. No. 724,985
Int. Cl. H01p 7/04; H03b 5/18; H03j 3/18
U.S. Cl. 331—96 10 Claims



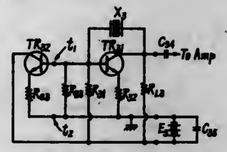
A resonant circuit may be tuned electronically and linearly by a mechanism comprising a first voltage-controlled variable capacitor inductively coupled to one portion of the resonant circuit and a second voltage-controlled variable capacitor capacitively coupled to another portion of the resonant circuit. An appropriate tuning voltage selectively applied to the two capacitors causes the operating frequency of the resonant circuit to vary as a linear function of the change in the applied tuning voltage.

3,512,106
CLOCK OSCILLATOR
Edward Daniel Rosenthal, Montreal, Quebec, Canada, assignor to Canadian Marconi Company, Montreal, Quebec, Canada
Filed Mar. 8, 1968, Ser. No. 711,722
Claims priority, application Canada, Mar. 17, 1967, 985,547
Int. Cl. H03k 3/26, 5/23
U.S. Cl. 331—111 10 Claims



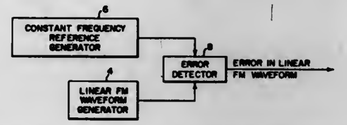
An oscillator circuit having a first feedback path comprising an inverter gate and a reactive element, and a second feedback path comprising an inverter gate and a resistive element, the input to the second feedback path being connected to the junction of the inverter and the reactive element of the first feedback path.

3,512,107
TRANSISTORIZED CRYSTAL OVERTONE OSCILLATOR
Yasutomo Miyake, Yokohama, and Toshio Shinada, Tokyo, Japan, assignors to Kabushiki-Kaisha Kinsekisha-Kenkyujo, Tokyo, Japan, a corporation of Japan
Filed Feb. 9, 1968, Ser. No. 704,417
Claims priority, application Japan, Feb. 11, 1967, 42/8,526; Apr. 3, 1967, 42/21,384
Int. Cl. H03b 5/36
U.S. Cl. 331—116 2 Claims



The present transistorized crystal overtone oscillator includes a transistor, a piezoelectric crystal unit connected between the base and the collector of said transistor, a unit including a capacitance and a resistance connected in parallel and connected in series between said transistor base and the ground, and a substantially pure resistance connected between said transistor collector and the ground for generating overtone oscillation with fundamental frequencies and with overtones of high orders which can be selectively produced.

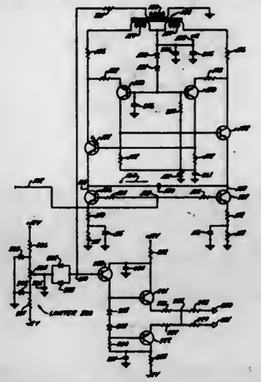
3,512,108
APPARATUS AND METHOD FOR THE PRECISE MEASUREMENT AND GENERATION OF PHASE MODULATED OR FREQUENCY MODULATED WAVEFORMS
Edsel A. Worrell, Baltimore, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 13, 1965, Ser. No. 425,175
Int. Cl. H03b 3/10; H03c 3/08; H03k 1/16
U.S. Cl. 332—19 19 Claims



Circuitry for measuring or improving the quality of the output of a linear FM generator by selecting a base frequency and rate of change of frequency which results is repetitious periodic occurrences, such as zero crossings. Sets of zero crossings, which occur periodically in an intrinsic reference of the output waveform, are marked by a simple stable clock or oscillator. The position of a mark is compared with the position of a zero crossing in the waveform to be measured by sensing or integrating the portion of the linear FM waveform around a zero crossing over the duration of the sampling time. Appropriate feedback can improve the quality of the waveform output from the generator.

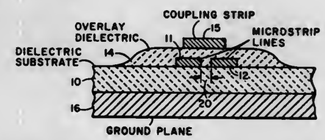
3,512,109
PHASE ANGLE MODULATOR
Alan G. Grace, San Carlos, Calif., assignor, by mesne assignments, to Allan R. Fowler, Orange, Calif., trustee
Filed Mar. 24, 1967, Ser. No. 625,756
Int. Cl. H03c 3/26; H03h 17/60
U.S. Cl. 332—16 17 Claims

First and second transistors each generate a current i proportional to the amplitude of the input signal. Another transistor pair, functioning as switches and responsive to the voltage on the capacitor, are retained in mutually exclusive states of conduction and nonconduction to alternately charge the capacitor in one direction from the current supplied by the first transistor and in the opposite direction from the current supplied by the second transistor. The capacitor is charged by the current i between voltage limits set by the switching transistors so that the charging period is a function only of the current



i. A current transformer receiving the current flowing through the switching transistors, a limiter stage coupled to the transformer and an output amplifier stage coupled to the limiter provide the angle modulated signal as a symmetrical square wave whose polarity is positive when one of the switching transistors is ON and whose polarity is negative when the other of the switching transistors is ON.

3,512,110
MICROSTRIP-MICROWAVE COUPLER
Philip L. Clar, Mesa, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed May 6, 1968, Ser. No. 726,828
Int. Cl. H01p 5/14
U.S. Cl. 333—10 3 Claims

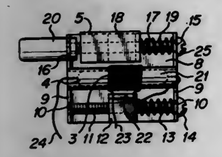


A dielectric substrate has a pair of microstrip transmission lines extending along a straight line for one-quarter wavelength of a design operating frequency. The lines are covered by an overlay dielectric having a dielectric constant equal to the substrate dielectric constant. A coupling strip extends in spaced relation to the microstrip transmission lines over the dielectric and over both lines to confine the electromagnetic fields to within the overlay dielectric and provide improved directivity between the lines. The strip acts as a floating electrode. A ground plane is provided on the substrate.

3,512,111
SPEEDY OPERATIVE CIRCUIT PROTECTOR
Hajime Goto, 57 Matsugaoka, Kanagawa-ku, Yokohama-shi, Japan
Filed June 3, 1968, Ser. No. 733,889
Claims priority, application Japan, Dec. 29, 1967, 84,511
Int. Cl. H01h 1/66, 51/22
U.S. Cl. 335—153 3 Claims

A circuit protector device wherein a two contact switch of magnetic material is disposed in a container which is

surrounded by a coil in series with the switch. A permanent magnet is disposed in the vicinity of the switch, and, when moved towards the switch acts to close the contact. This permits a current to flow through the switch and through the coil. The direction of current flow and the coil winding is such as to produce a magnetic field counter



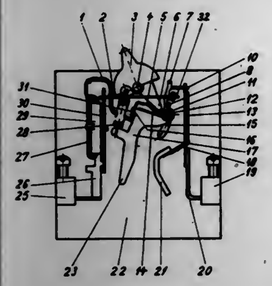
to that of the permanent magnet. Nevertheless, when the magnet is withdrawn away from the contacts a certain distance, the contacts remain closed, the field strength of the magnet about balancing the counter field strength of the coil and switch. When an abnormally large current flows across the coil, this opens up the switch.

3,512,112

SWITCH AND CIRCUIT BREAKER COMBINATION

Hermann Rick, Herbert Klingler, and Hans Pfund, Schaffhausen, Switzerland, assignors to Charles Maier & Cie, Schaffhausen, Switzerland, a company of Switzerland

Filed Jan. 14, 1969, Ser. No. 791,083
Int. Cl. H01k 71/16; H01h 61/20
U.S. Cl. 337—70 10 Claims



The housing of a toggle switch has guide slots formed therein, approximately transverse to the movement of the switching element, and the shaft, about which a switching element pivots, is slidable in the guide slots. The shaft is retained in a first position by a latch lever which, upon sensing of overcurrent conditions is moved to unlatch the shaft so that it can slide in the guide slots to interrupt the connection of the movable contact with the fixed contact of the toggle switch. Springs, which provide for switch contact pressure can be so arranged that they at the same time provide for power release of the movable contact as the shaft slides in the guide slots, when unlatched.

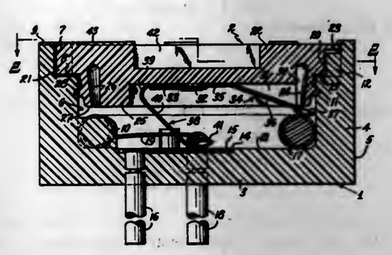
3,512,113

MINIATURIZED ROTARY POTENTIOMETERS

William D. Kirkendall, Dalton, Pa., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware

Filed June 28, 1968, Ser. No. 741,053
Int. Cl. H01c 5/02
U.S. Cl. 338—163 9 Claims

Rotary potentiometers, particularly when miniaturized, wherein the housing comprises a cup-shaped member and a second member which serves both as a closure and as an adjusting knob, the cup-shaped member having a cylindrical side wall with an inwardly opening transverse annular groove, the second member including an initially cylindrical skirt having a transverse annular outwardly projecting ridge. Both housing members are formed of resiliently deformable, low-friction polymeric material



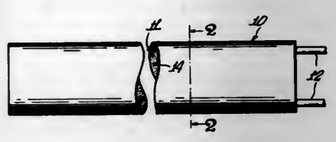
and the relative dimensions are such that, when the second member is forced axially into the cup-shaped member, the skirt is deformed frusto-conically and the ridge is resiliently biased into engagement in the groove to retain the second member in a predetermined axial position while allowing the same to be rotated to adjust the potentiometer.

3,512,114

ELECTRIC RESISTANCE HEATER

Walter J. Dzsack, Glenshaw, Pa., assignor to Edwin L. Wiegand Company, Pittsburgh, Pa.

Filed Jan. 29, 1968, Ser. No. 701,157
Int. Cl. H01c 1/02, 1/14; H05b 3/10
U.S. Cl. 338—241 3 Claims



An electric resistance heater and method of making the same in which an elongated resistor wire is disposed within a metallic sheath and has terminal conductor portions at respective ends thereof for protrusion beyond one sheath end for connection to a source of electrical energy. The resistor wire is supported by an elongated dielectric core having end portions closely fitting within the sheath and a separate, relatively small in cross-section intermediate portion maintaining the core end portions in spaced relation. The core end portions have circumferentially spaced, longitudinally extending rectilinear slots for receiving the heating wire and the latter is anchored to respective core end portions and is tensioned therebetween to maintain them assembled with the core intermediate portion.

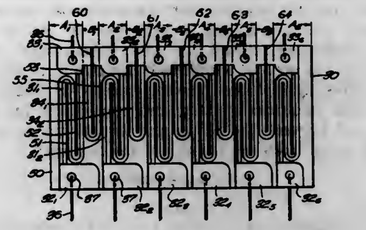
3,512,115

THIN FILM RESISTOR NETWORK

Benjamin Solow, North Hollywood, Calif., assignor to Angstrohm Precision Incorporated, Van Nuys, Calif., a corporation of Delaware

Filed Mar. 12, 1968, Ser. No. 712,437
Int. Cl. H01c 3/00
U.S. Cl. 338—285 11 Claims

A thin film resistive ladder network in which each resistor is selectively adjustable without affecting the valve of other resistors in the network. Each resistive path is formed in a respective area of a substrate, the areas being disposed in parallel across the width of the substrate.



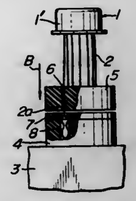
An individual resistor is trimmed by running a grinding wheel across the area containing that resistor to remove a selected amount of resistive material.

3,512,116

CIRCUIT MEMBER HAVING A CONNECTING ADAPTER AND A METHOD FOR CONNECTING SAID MEMBER

Ichiro Miwa, Kodaira-shi, Keiko Kasai, Kofu-shi, and Makoto Homma, Chiba-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Feb. 9, 1967, Ser. No. 615,002
Claims priority, application Japan, Feb. 16, 1966, 41/8,858, 41/8,859
Int. Cl. H01r 11/30, 13/36
U.S. Cl. 339—12 13 Claims



In connecting a circuit member such as an integrated semiconductor circuit having a number of lead wires onto a female member such as a socket which is secured to a printed substrate, the procedure of inserting the lead wires in said female member is efficiently facilitated by the provision of a connecting adapter having a number of through holes corresponding in number to the lead wires, the latter being inserted through said holes, and by effecting the connection by adjusting the positions of the respective edges of the lead wires so as to be in register with the receiving holes of the female member while sliding either said adapter or the lead wires relative to each other.

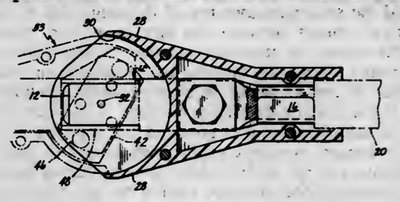
3,512,117

ELECTRICAL CONNECTORS

Alexander R. Norden, 350 Central Park W., New York, N.Y. 10025

Filed Jan. 16, 1968, Ser. No. 698,261
Int. Cl. H01r 13/44, 7/06
U.S. Cl. 339—40 23 Claims

Separable connectors are formed to include mutually cooperable guide parts that direct one of the connectors lengthwise along a line crossing the other connector at an axis and into assembled relation to the other with respective contact surfaces touching each other, after which relative pivoting of the connectors about that axis causes buildup of firm spring contact pressure. The preferred construction has a spring bridge on one connector and a pivoted channel under the bridge and facing its contact area, the bridge and the channel having cooperable cam parts so that the other connector enters the channel



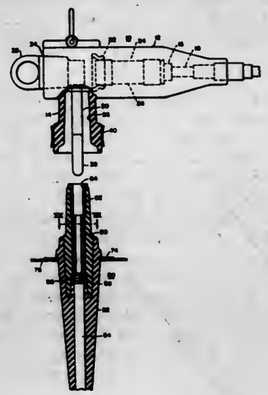
lengthwise and then swings the channel about its pivot to cause cammed buildup of the contact pressure. The preferred embodiment also includes mutually conforming insulating cases accommodating the assembling and swinging motions and closing the opening in one connector-case that admits the other connector initially.

3,512,118

HIGH VOLTAGE ELECTRICAL CONNECTOR

Merrill G. Leonard, Fowler, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

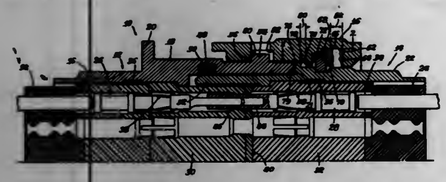
Filed Feb. 2, 1968, Ser. No. 702,630
Int. Cl. H01r 13/52, 13/54
U.S. Cl. 339—60 5 Claims



A connector comprising a first plug-in portion and a second stationary portion for connecting one part of a high voltage circuit to another part of a high voltage circuit. The removable or plug-in portion of the connector comprising a first terminal for connecting a high voltage conductor thereto and a second terminal for making contact with the fixed part of the connector and means for removably connecting a current limiting fuse in series relationship with the first and second terminals of the plug-in portion of the connector. The second or fixed part of the connector includes a protruding insulating member and the removable part of the connector includes a hollow insulation member which fits over said protruding insulation member when the connector is assembled with a loose fit and clamping means around the collar portion of the first or plug-in portion of the connector permits quick clamping of the hollow member to the protruding portion of the second member of the connector to obtain a tight interface fit between the protruding portion of the second member of the connector and the hollow portion

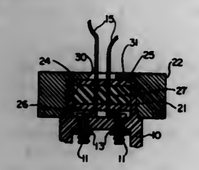
of the first member of the connector to force out air trapped between faces of the two members of the connector. The hollow portion of the plug-in member has an electrical contact member therein which mates with a spring contact member carried by the protruding portion of the stationary member of the connector to make electrical contact between the first or plug-in member and the second or stationary member of the connector, and means for quickly latching the removable or plug-in member of the connector in circuit making relationship with the second or stationary member of the connector. Arc quenching material is provided for both the plug-in and stationary members of the connector, to assist in quenching any arc which might develop during opening and closing of the contacts carried by the plug-in and the stationary members of the connector.

3,512,119
ELECTRICAL CONNECTOR
John K. Cameron, Hillside, Ill., assignor to The Bunker-Ramo Corporation, a corporation of Delaware
Filed Sept. 20, 1966, Ser. No. 580,744
The portion of the term of the patent subsequent to Nov. 12, 1985, has been disclaimed
Int. Cl. H01r 23/60
U.S. Cl. 339—90 5 Claims



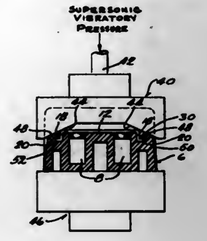
An electrical connector including a receptacle and a plug, both having hollow shells surrounding an insulating insert carrying corresponding contacts which interconnect when the receptacle and plug are joined. The connector includes a coupling ring surrounding the shell to releasably connect the receptacle and plug together, with a resilient spring washer interposed between the coupling ring and one of the shells, to provide more effective and uniform sealing between the parts, and wherein limiting shoulders are provided on the coupling ring and said one of the shells, which provide a positive stop means limiting movement of the ring and that shell to an extent less than the range of safe deflection of the resilient means, with the advantage of providing positive captivation between those elements and, eliminating overstressing of the resilient spring washer.

3,512,120
WATERPROOF CONNECTOR ASSEMBLY
Harley F. Bean, Grapevine, Tex., assignor to Teledyne Industries, a corporation of California
Filed Apr. 3, 1967, Ser. No. 627,826
Int. Cl. H01r 11/20, 13/58
U.S. Cl. 339—99 2 Claims



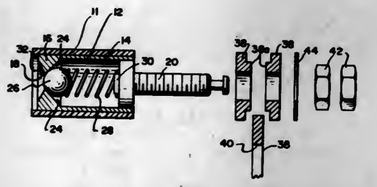
A connector assembly for coupling one or more wires to terminals which have been drilled to receive the wires and which have piercing means to puncture the wires' insulation and connect to conductors therewithin; the wires extending through waterproofing means including resilient packing confined between compression plates and this means having wire-clearance holes which are offset from the positions of the terminals; and the connector assembly having a thumb-screw closure which, when tightened, crimps the wires where they leave the terminals to prevent withdrawal therefrom, partly crushes the wires against the piercing means to establish and maintain electrical contact, and compresses the packing material between the plates and around the wires to exclude water from the vicinity of the terminals.

3,512,121
TERMINAL BLOCK AND METHOD OF MANUFACTURE THEREOF
Bruce A. Bergeron, Milwaukee, Wis., assignor to Curtis Development & Mfg. Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 11, 1967, Ser. No. 666,592
Int. Cl. H01r 9/10, 9/16
U.S. Cl. 339—198 4 Claims



A terminal plate with offset anchoring flanges at its ends, is permanently and unitarily fixed to a plastic terminal block by supersonic swaging which softens and deflects integral plastic portions of the block to overlie the offset anchoring flanges at the ends of the plate, leaving such deflected portions with surfaces extending to and merging with the top.

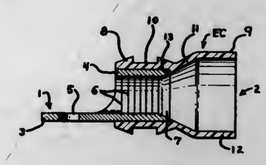
3,512,122
TEST CONNECTOR FOR ELECTRICAL EQUIPMENT
Richard J. Hughes, 6845 N. Oriole Ave., Chicago, Ill. 60631
Filed Feb. 19, 1968, Ser. No. 706,554
Int. Cl. H01r 9/12
U.S. Cl. 339—273 2 Claims



A quick connection device for electrical equipment, including an open ended tubular housing which surrounds an electrically conductive, substantially cylindrical sleeve. The sleeve has an interior cavity with an opening at one end thereof and with a frusto-conical seat about the opening on the interior of the cavity. A terminal or connecting member is electrically connected to the opposite

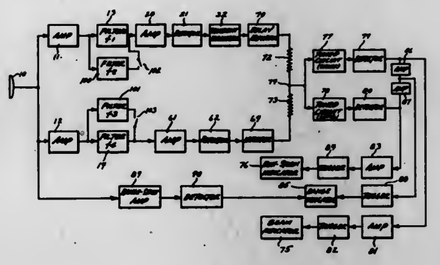
end of the sleeve for connection to test meters and the like. A resiliently biased ball member engages the opening in the sleeve and is so related in size and bias to the sleeve that a test wire can be manually inserted and removed from electrical connection with the sleeve by simple push and pull movements.

3,512,123
GUIDE AND CRIMP-LOCATING MEANS IN ELECTRICAL CONNECTORS AND METHOD AND APPARATUS FOR MAKING SAME
Joseph Stanley Costello, Mechanicsburg, and Nelson Arthur Bouchard, New Cumberland, Pa., assignors to AMP, Incorporated, Harrisburg, Pa.
Filed Dec. 22, 1966, Ser. No. 603,973
Int. Cl. H01r 11/08
U.S. Cl. 339—276 9 Claims



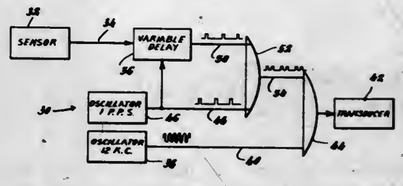
An electrical connector is provided with tapered surface means along the internal surface of a dielectric sleeve and at the entrance to a ferrule defining funnel means to guide a conductive portion of an insulated conductor means within the ferrule. Groove means are provided in an exterior surface of the dielectric member about a central portion of the ferrule to define crimp-locating means for locating the crimping dies of a crimping tool in proper relationship along the ferrule so that an effective crimp can be made.

3,512,124
SIGNAL ANALYZING AND INDICATING METHOD AND APPARATUS
Jack H. Watson, Los Angeles, Calif., assignor to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Feb. 29, 1960, Ser. No. 11,924
Int. Cl. G01s 9/66
U.S. Cl. 340—3 8 Claims



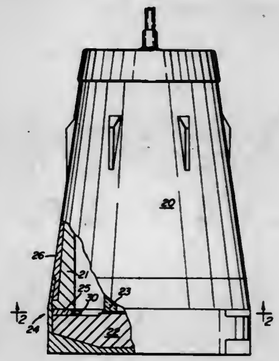
A sonar system for detecting relatively small objects and eliminating signals caused by echoes from large reflectors such as the ocean bottom. An explosive charge is used to create a sound wave and received echoes are separated by filtering and then recombined to substantially eliminate the lower frequency signals.

3,512,125
UNDERWATER ACOUSTIC TELEMETERING SYSTEM
Samuel O. Raymond, Catamnet, Mass., assignor to Benthos, Inc., North Falmouth, Mass.
Continuation of application Ser. No. 585,580, Oct. 10, 1966. This application Nov. 14, 1968, Ser. No. 778,361
Int. Cl. H04b 11/00
U.S. Cl. 340—5 10 Claims



This is a pulse position modulation telemetering system for conveying data from a trawl net under the ocean to a fishing trawler by means of acoustic pulses. Each data cycle begins with a reference pulse and is followed by a second pulse. The time interval between the pulses is proportional to the value of the variable being telemetered.

3,512,126
HERMETIC SEAL FOR UNDERWATER TRANSDUCERS
Frank Massa, Cohasset, Mass., assignor to Dynamics Corporation of America, Hingham, Mass.
Filed Mar. 27, 1968, Ser. No. 716,513
The portion of the term of the patent subsequent to June 27, 1984, has been disclaimed
Int. Cl. H04r 1/44
U.S. Cl. 340—8 9 Claims

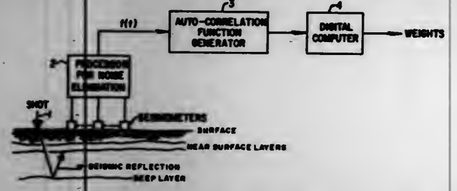


A rubber gasket is used to attach a vibratile plate piston diaphragm to a metallic cup which encloses a transducer. The interior edge of the gasket is covered by a metallic vapor barrier which precludes passage of moisture seeping from the water in which the transducer is used, through the gasket, and to the interior of the metallic cup. To provide a high level of compliance, the vapor barrier is made from a material which is more compliant than the gasket itself. It may be an annulus of a thin stainless steel material, such as is commonly used to make a metal bellows, for example.

3,512,127
DECONVOLUTION SEISMIC FILTERING

John P. Berg, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation of application Ser. No. 289,581, June 21, 1963. This application Mar. 13, 1967, Ser. No. 622,827
Int. Cl. G01v 1/28
U.S. Cl. 340—15.5 6 Claims



Disclosed is a process for removing multiple interference from relatively noise-free seismic traces by filtering each trace with a time domain filter in which the filter weights bear a specific relationship to the trace being filtered which may be expressed in matrix equation form as:

$$\begin{bmatrix} Y_0 & Y_1 & Y_2 & \dots & Y_M \\ Y_1 & Y_0 & Y_1 & \dots & Y_{M-1} \\ Y_2 & Y_1 & Y_0 & \dots & Y_{M-2} \\ \cdot & \cdot & \cdot & & \cdot \\ \cdot & \cdot & \cdot & & \cdot \\ \cdot & \cdot & \cdot & & \cdot \\ Y_{M-1} & Y_{M-2} & Y_{M-3} & \dots & Y_1 \\ Y_M & Y_{M-1} & Y_{M-2} & \dots & Y_0 \end{bmatrix} \begin{bmatrix} \Gamma_{M+1}{}^{M+1} \\ \Gamma_M{}^{M+1} \\ \Gamma_{M-1}{}^{M+1} \\ \cdot \\ \cdot \\ \cdot \\ \Gamma_2{}^{M+1} \\ \Gamma_1{}^{M+1} \end{bmatrix} = \begin{bmatrix} B_{M+1} \\ 0 \\ 0 \\ \cdot \\ \cdot \\ \cdot \\ 0 \\ 0 \end{bmatrix}$$

where:

$Y_0, Y_1, \dots Y_M$ are the autocorrelation coefficients of a portion of the seismic trace containing a primary reflection at $M+1$ delay intervals;

$\Gamma_{M+1}{}^{M+1}, \Gamma_M \dots {}^{M+1}, \Gamma_1{}^{M+1}$ are the filter weights at the respective delay intervals designated by the subscripts:

$T_{M+1}{}^{M+1} \equiv$ a preselected known value;

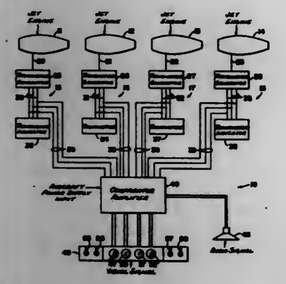
M is an integer; and

B_{M+1} is uniquely identified by the solution of the equation.

3,512,128
ENGINE CONTROL WARNING SYSTEM

Walter U. Maki, Cuyahoga Falls, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Apr. 26, 1967, Ser. No. 633,766
Int. Cl. G01c 21/12; B60q 5/00
U.S. Cl. 340—27 3 Claims

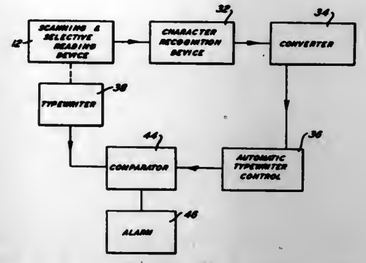


A warning system to assist in the control of jet engines to preclude heat damage. The warning device continually senses the operating speed of the engine, compares the operating speed with a pre-set minimum sustaining speed, and provides audio and video indications when the operating speed diminishes to a predetermined value approaching or equaling the minimum sustaining speed where corrective measures are necessitated.

3,512,129
CHARACTER RECOGNITION SELECTIVE COPYING AND REPRODUCING APPARATUS

Eugene E. Garfield, Swarthmore, Pa., assignor to Institute for Scientific Information, Philadelphia, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 318,685, Oct. 24, 1963. This application Sept. 7, 1966, Ser. No. 578,529
Int. Cl. G06r 9/00
U.S. Cl. 340—146.3 2 Claims

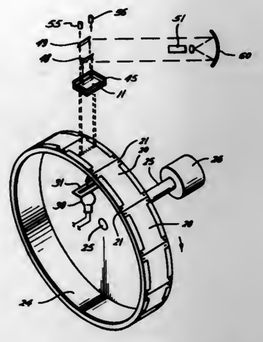


Copying apparatus comprising a hand manipulatable scanning device for selectively reading and copying, character recognition apparatus connected to the scanning device, and character reproducing means such as a typewriter connected to receive the output signal from the character recognition apparatus and reproduce the same in printed form.

3,512,130
BINARY PERFORATION CODED CREDIT CARD AND SYSTEM

John G. Hulett, Box 488, Rte. 1, Pearland, Tex. 77581

Continuation-in-part of application Ser. No. 561,170, June 28, 1966. This application Feb. 1, 1968, Ser. No. 702,285
Int. Cl. H04q 1/00
U.S. Cl. 340—149 8 Claims

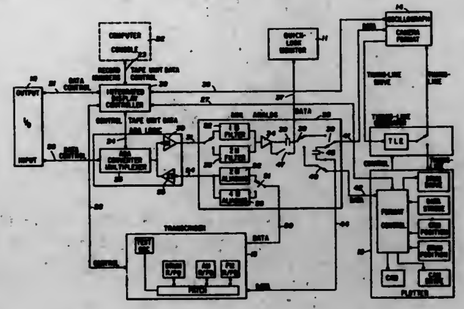


A credit card having an enclosed account number thereon for use in receiving credit from a plurality of different creditors. The invention includes a credit card system utilizing the novel credit card, and includes means for comparing the encoded account number on the card with a plurality of account numbers and signaling the presence of the encoded account number among the plurality of account numbers.

3,512,131
COMPUTER CONTROLLED SEISMIC DISPLAY SYSTEM

George G. Nelson and Stanley E. Leinhardt, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 30, 1966, Ser. No. 606,416
Int. Cl. H04j 3/14; G05b 15/00
U.S. Cl. 340—172.5 9 Claims

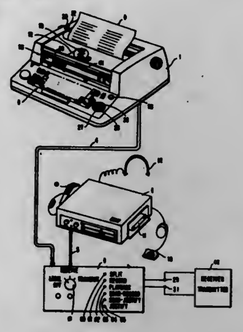


Digitized seismic data procesed by a computer is transmitted under the control of an interface unit between any one of several of input devices and any one of several output devices. The coupling between the computer and such devices provides for an on-line operation.

3,512,132
COMPOSING APPARATUS WITH TABLE LOOKUP MODE

John E. Jones and Robert A. Rahenkamp, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 14, 1967, Ser. No. 623,024
Int. Cl. G06f 1/00, 7/00, 15/00
U.S. Cl. 340—172.5 23 Claims

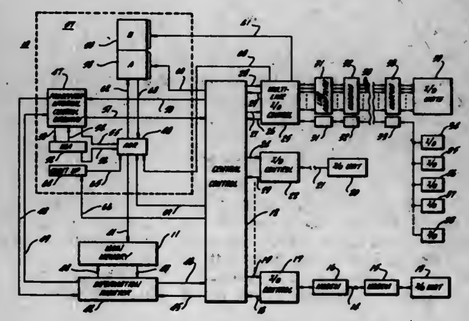


The embodiment disclosed includes a composer printing device interconnected with apparatus for recording and reproducing digital signals on a magnetic record media. The apparatus is concerned with the automatic justification of printed lines of information on a document. Initially, a draft of one or more lines is prepared. Counting means is provided for keeping track of line remainders when the end zone of a line is reached. Upon termination of a line, circuitry is provided for looking up permanently recorded data stored in a convenient place, such as a predefined area on the record media, and according to the spaces in the line, to determine the redistribution of the line remainder increments over the word spaces in the line. Such information may be used immediately to produce a justified line or may be stored in conjunction with an individual line on the record media or in a separate storage facility for use at a later time.

3,512,133
DIGITAL DATA TRANSMISSION SYSTEM HAVING MEANS FOR AUTOMATICALLY SWITCHING THE STATUS OF INPUT-OUTPUT CONTROL UNITS

James Russell Bennett, Glendora, and Kenneth O. James, Pomona, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 27, 1967, Ser. No. 626,012
Int. Cl. G06f 3/00
U.S. Cl. 340—172.5 10 Claims



A digital data transmission system in which an input-output control unit which controls communications between a main memory of the system and a remote input-output unit is automatically caused to switch from a "write" to a "read" status upon the termination of a message written into the remote unit during execution of a "flip" command. Detection circuitry determines the presence of such a command and detects the end of the message being written and control circuitry responsive thereto causes the control unit to switch to a "read" state wherein it is able to respond to a reply message transmitted to the control unit by the remote unit. In another embodiment, an input-output control unit is repeatedly switched back and forth in responsible to the termination of polling signals sequentially transmitted to a plurality of remote units communicating with the control unit and in response to "negative-acknowledgement" signals returned by the remote units. A positive signal returned by a remote unit terminates such switching.

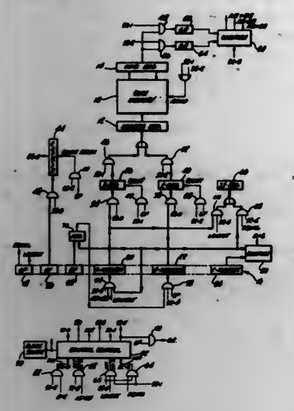
3,512,134
APPARATUS FOR PERFORMING FILE SEARCH IN A DIGITAL COMPUTER

Roger E. Packard, Glendora, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Apr. 3, 1967, Ser. No. 628,001
Int. Cl. G06f 7/10
U.S. Cl. 340—172.5 2 Claims

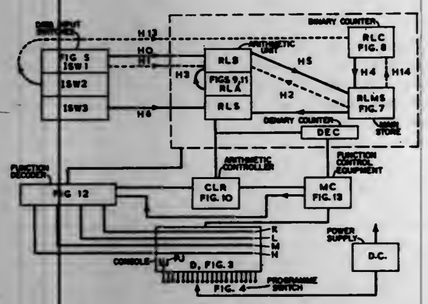
There is described a digital computer having a three address type command format in which a special command produces a search of a group of records in a file

in memory for a group of characters in each record equal to a search key or for the lowest group of characters in the file. The address of the first record key at the start of the file, the address of the end of the filed, and the



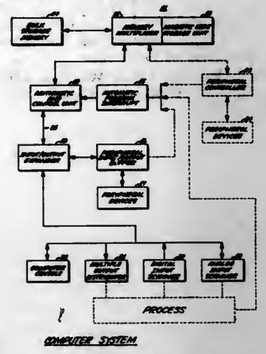
address of the search key to be used are specified as part of the command. When the item being searched is located, its address is stored in an index register for future reference.

3,512,135
PLUGGED-PROGRAM RELAY COMPUTER
David Thomas Simmonds, Luton, England, assignor to National Research Development Corporation, London, England, a British corporation
Filed June 26, 1967, Ser. No. 648,732
Claims priority, application Great Britain, June 27, 1966, 28,599/66
Int. Cl. G06f *9/02*
U.S. Cl. 340—172.5 9 Claims



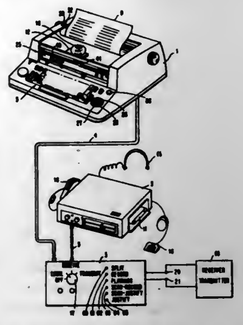
An electro-mechanical computer working at moderate speeds and designed to be useful both for instructional purposes and to provide a cheap, easily maintained machine for elementary purposes, comprises a rotary sequence control switch, the individual positions of which are allotted to specific arithmetic and data transfer functions, selections of which can be rendered operative during a rotation of the sequence switch by an associated manual plugboard. The main components used are electro-mechanical contact-making relays and wiper switches, and signal transmission is by a common multi-bit binary code over multi-wire highways.

3,512,136
INPUT/OUTPUT CONTROL APPARATUS IN A COMPUTER SYSTEM
Sherril A. Harmon, Ronald S. Hovey, and Emery A. White, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York
Filed June 21, 1967, Ser. No. 647,833
Int. Cl. G06f *9/18*
U.S. Cl. 340—172.5 19 Claims



Apparatus in a computer system for controlling the transfer of information between memory and peripheral devices. A program interrupt unit receives program interrupt requests from peripheral channels connected to the peripheral devices and provides an output corresponding to the interrupt request having the highest priority. A control word corresponding to each of predetermined peripheral channels is provided in memory to direct information transfers with the associated peripheral device through the predetermined channel when an interrupt request of the channel is granted by the program interrupt unit. A matrix is provided for generating output signals in response to an output of the program interrupt unit corresponding to one of the predetermined channels. The output signals of the matrix identify the peripheral device with which the information transfers are to occur and control operations in the computer system affecting the direction of information transfer.

3,512,137
CORRELATED RECORDING, REPRODUCING, PRINTING, AND COMPOSING APPARATUS
John E. Jones, Robert A. Kolpek, and Robert A. Rabenkamp, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 14, 1967, Ser. No. 623,022
Int. Cl. G06f *5/00*; G11b *11/00*
U.S. Cl. 340—172.5 49 Claims

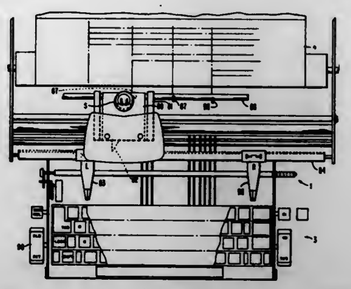


The apparatus includes a printing composer interconnected with a record media processing device where-

in lines of information printed on a document are correlated with a plurality of storage tracks on a media. In addition, the system includes means for producing justified printed copy from rough copy data. The media is shown in one case as a magnetic belt, and in another case as a magnetic card. In one mode, the system is responsive to rough copy data signals from the composer, representative of individual lines of information, to record the signals associated with an individual line in a particular storage track on the media. In a Side by Side column justification procedure, recognition of the ending of an individual line, as by a Carrier Return code, is effective to initiate justification operations to determine the values of interword spaces and the quantity of long spaces, to subsequently effect reproduction of the data signals in the track just recorded, and to supply the same to the composer for producing a justified line of copy automatically.

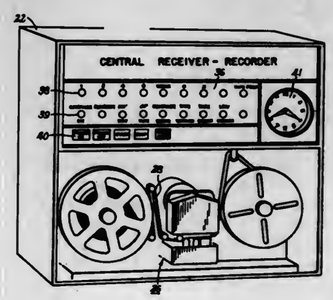
In a Single Column justification procedure, data signals are recorded in a track on the media that corresponds to a line on the document in a correlated manner. Recognition of the end of an individual line, as by a Carrier Return code, effects relative movement of the transducer and media in order to position a new track on the media for storage of signals entered during the succeeding line on the document. The selection of a new track on the media to store data signals in a succeeding line may occur immediately upon recognition of termination of the preceding line or following the recording of justification data associated with the preceding line. Therefore, each track on the media may also carry with it justification data associated with the informational and functional data in the line or justification data may be stored in a separate facility. When all lines of a printed document are recorded track-by-track in the media, the mode of the apparatus is usually changed to a Playback mode whereupon the justification data for each line is first recognized and used to product justified printed copy during the subsequent reading of the data for that line.

3,512,138
COMPUTER SYSTEM WITH PRINTER POSITION RECOGNITION AND CONTROL
Frederick T. May and Thomas H. Williams, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 17, 1967, Ser. No. 653,781
Int. Cl. G06c *29/00*
U.S. Cl. 340—172.5 9 Claims



The invention concerns a computer system with memory facilities, memory addressing circuits, arithmetic circuits, an input/output printer having the usual printing and functional capabilities and operable to print, space. tab, backspace, etc. from a left-hand margin for the preparation of accounting documents, and essentially electronic logic for keeping track of the horizontal position of the printer in relation to the document by a numerical count stored in memory, with appropriate updating as printing and spacing occurs. Provision is made for entering predefined printer tab locations into memory, for comparing the actual location of the printer in relation to the stored tab locations and for revising the printer position count in memory under various circumstances, such as tabulation in the forward or reverse direction. Additional means is provided for testing the printer location in relation to the document as the computer program proceeds and for continuing the program or initiating subroutines, depending upon the results of the test.

3,512,139
SYSTEM AND APPARATUS FOR AUTOMATIC DATA COLLECTION
Andrew C. Reynolds, Jr., Waterbury, John F. Carragan, Woodbury, and George J. Yagusic, Watertown, Conn., assignors, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 31, 1959, Ser. No. 863,227
Int. Cl. G11b *13/00*; G06f *1/00, 7/00*
U.S. Cl. 340—172.5 37 Claims

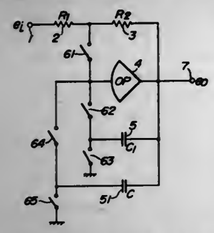


1. An automatic data collection and recording system comprising in combination, a central office, a plurality of outlying stations, a common multicircuit communication channel connected to each of said outlying stations and to said central office, means at each station for sending a calling signal over said communication channel to said central office, station selection means at said central office responsive to receipt thereat of a calling signal from any of said outlying stations to select a calling station and to initiate automatic transmission from the selected calling station to the central office, and means including said selection means for selectively engaging another calling station while receiving and recording at said central office a transmission from a previously selected calling station and preparing said other calling station for immediate transmission of data to said central office upon termination of data transmission by said previously selected calling station.

3,512,140
SAMPLE AND HOLD SYSTEM
Norio Yokozawa, Fuchu-shi, and Chikafusa Hirano, Kodaira-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Feb. 14, 1968, Ser. No. 705,354
Claims priority, application Japan, Feb. 15, 1967, 42/9,207
Int. Cl. H03k *5/00, 17/00*; G11c *11/24*
U.S. Cl. 340—173 3 Claims

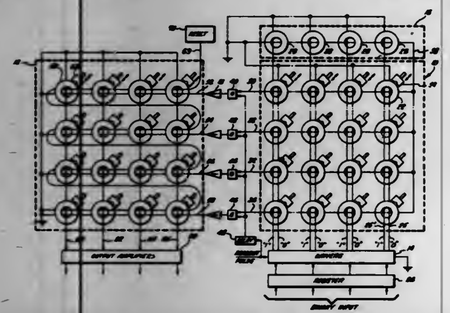
An improvement in the sample and hold system of the capacitor type used in analog computers or the like. The

improvement has been made by providing an additional capacitor or capacitors and electronic switch means which change connections of the capacitors between a sample



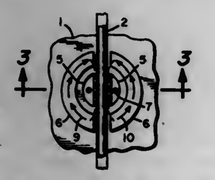
time and a hold time. Thus, an improved sample and hold system of shorter sample time and longer hold time can be obtained.

3,512,141
MANUALLY PROGRAMMABLE TRANSLATOR
Robert C. Minnick, Menlo Park, and Joseph Reese Brown, Jr., Pasadena, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Delaware
Filed June 13, 1960, Ser. No. 35,691
Int. Cl. G11e *11/06; 15/00; 17/00*
U.S. Cl. 340—174 19 Claims



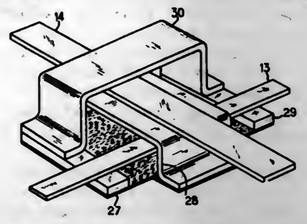
A digital code translator utilizing magnetic cores arranged in a pair of matrix arrays. Permanent magnets are selectively movable into proximity with any of the cores to saturate selected cores and thereby change the pattern of output signals generated inductively on output windings linking the cores by a particular pattern of input signals applied to windings linking the cores.

3,512,142
KEEPERED PLATED WIRE MEMORY PLANE
George A. Fedde, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,520
Int. Cl. G11c *11/06, 11/14, 5/08*
U.S. Cl. 340—174 10 Claims



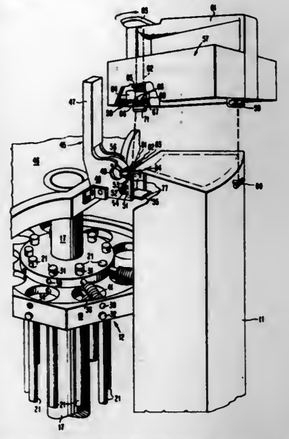
A keepered plated wire memory plane wherein the magnetic keepers are halves of a toroidal ferrite core located on each side of a plated wire in which the bit locations are determined by perforations in the substrate.

3,512,143
FERROMAGNETIC MULTIFILM MEMORY ELEMENTS
Henri Gerard Feissel, Paris, and Francois Charles Gallet, Orsay, France, assignors to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France
Filed Feb. 14, 1968, Ser. No. 705,532
Claims priority, application France, Mar. 8, 1967, 97,980
Int. Cl. G11c *7/02, 11/14;* H01f *10/06*
U.S. Cl. 340—174 8 Claims



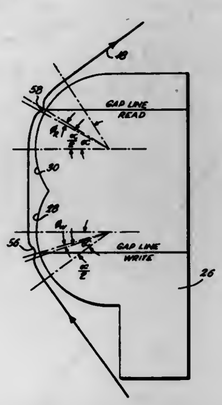
As component of a rapid matrix memory, a data storage element comprises an anisotropic magnetic film disposed at the crossing point of a first conductor and a second conductor, and two closing bridges of isotropic magnetic material applied to the same face of the said film in order each to close, respectively, a magnetic circuit around one of the said conductors, the first and second closing bridges being arranged to permit a certain mutual magnetic coupling to reduce the overall dimensions of the element or to improve the operation thereof.

3,512,144
MOUNTING ASSEMBLY FOR MAGNETIC STRIP STORAGE CELLS
David L. Stoddard, Los Gatos, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Apr. 4, 1966, Ser. No. 540,046
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 9 Claims



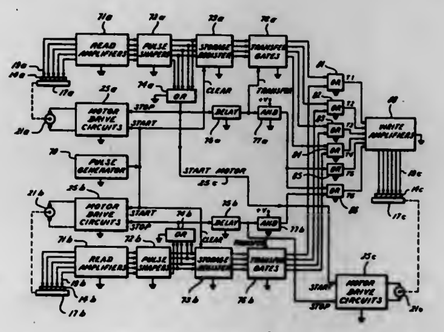
A flexible strip storage apparatus includes a multiplicity of elongated cells containing strips on the periphery of a cylindrical spindle. The cells may be removed for off-line storage and replaced by like cells. To remove a cell, the spindle is braked and then rotated to align the cell with a release lever. A protective cover for each cell is provided to prevent contamination and spilling of contents. The cover assembly includes a carrying handle and locking mechanism to couple the cell to the storage apparatus.

3,512,145
AERODYNAMIC TRANSDUCER DISPLACED WITH RESPECT TO THE CENTER OF TAPE WRAP
Andrew Gabor, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 385,727, July 28, 1964. This application Mar. 21, 1966, Ser. No. 535,781
Int. Cl. B65h *59/12, 77/00;* G11b *15/64*
U.S. Cl. 340—174.1 13 Claims



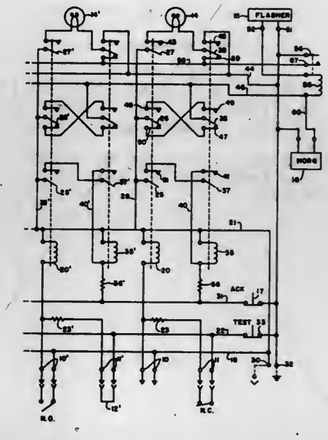
A transducing head module and drive means for magnetic storage tapes in which a head gap is located on the module at a point displaced from the normal or static center of wrap made by the tape on a rouned head surface so that the gap is positioned beneath a dip in the tape developed when the tape is passed over the surface at speeds to elevate the tape aerodynamically relative to the rounded head surface.

3,512,146
MAGNETIC TAPE RECORDING METHODS
John S. Smith, Ridgefield, Conn., and Arthur A. Cavelos, Liverpool, N.Y., assignors, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Original application Oct. 5, 1964, Ser. No. 401,343, now Patent No. 3,413,626. Divided and this application Aug. 26, 1968, Ser. No. 810,399
Int. Cl. G11b *5/02;* G01d *15/12*
U.S. Cl. 340—174.1 3 Claims



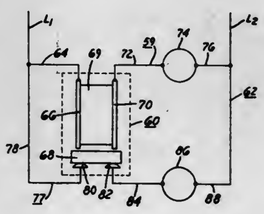
A method of recording the information merged from a first and second tape onto a third tape.

3,512,147
ANNUNCIATOR SYSTEMS UTILIZING RELAY ACTUATION
Merle E. Martin, Dallas, Tex., assignor to Beta Corporation, Dallas, Tex., a corporation of Texas
Filed Oct. 24, 1966, Ser. No. 588,818
Int. Cl. G08b *7/06*
U.S. Cl. 340—213.1 9 Claims



A relay circuit includes first and second relay coils, with associated contacts, which are normally energized. The first relay coil is de-energized by the actuation of either normally-closed or normally-open field contacts responsive to monitored conditions, the contacts of both relay coils then effecting activation of a horn and flashing light. Actuation of a manually operable acknowledge switch effects de-energization of the second relay coil, the relay contact effecting deactivation of the horn and bypassing the flasher circuit to effect a continuous light signal. Latching circuits are provided through the contacts of the two relay coils.

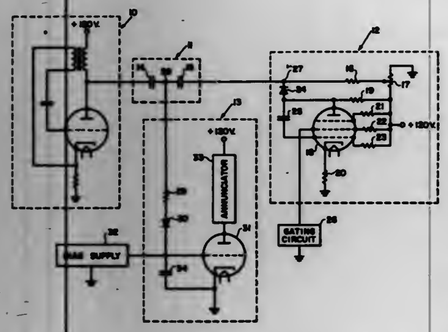
3,512,148
FREEZER WARNING SYSTEM
Charles C. Gambill, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Aug. 2, 1965, Ser. No. 476,396, now Patent No. 3,430,166, dated Feb. 25, 1969. Divided and this application Aug. 5, 1968, Ser. No. 750,364
Int. Cl. G08b *17/00;* H01h *37/58*
U.S. Cl. 340—228 3 Claims



In preferred form, a domestic freezer warning system including a first indicating light in an energization circuit including thermally responsive switch means that maintains the first indicating light on when a freezer

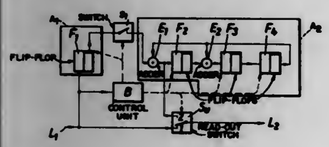
compartment is below a desired operating temperature. A second warning light is also operated by the thermally responsive switch and is off when the first light indicates a safe freezer temperature. When the temperature in the freezer compartment rises above a predetermined temperature, the thermally responsive switch turns the indicating light off and concurrently turns the warning light on. The thermally responsive switch means has an electrically conductive armature having magnetic properties exhibiting the Curie effect. The armature is adjustably disposed in the field of a permanent magnet.

3,512,149
DIRECT CURRENT LEAKAGE SENSING CIRCUIT
John E. Pugh, Belleville, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed May 24, 1968, Ser. No. 731,813
Int. Cl. G08b 21/00; H02h 1/00
U.S. Cl. 340—253 3 Claims



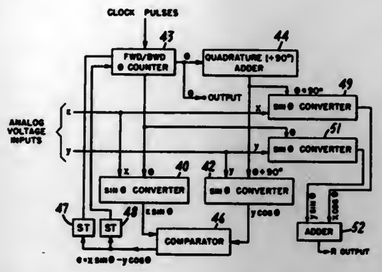
A direct current detector connected to a junction point between two serially connected capacitors each of which is electrically stressed by an applied direct current voltage. When perfect, each capacitor inhibits direct current flow thereby producing a zero direct current voltage at the junction point. When either or both capacitors develop leakage resistance, the applied direct current voltage is conducted to the junction point and may be detected to indicate the leakage fault.

3,512,150
LINEAR SYSTEMATIC CODE ENCODING AND DETECTING DEVICES
Horst Ohnsorge, Ulm (Danube), Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Nov. 10, 1965, Ser. No. 507,195
Claims priority, application Germany, Nov. 10, 1964, T 27,400
Int. Cl. H03k 13/24, 13/32
U.S. Cl. 340—347 15 Claims



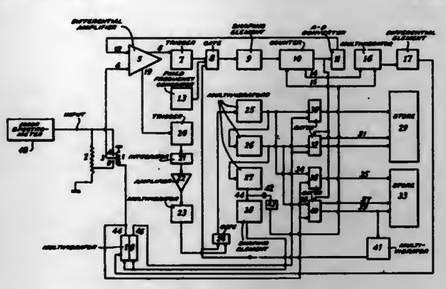
Digital devices for producing and reading linear systematic test codes for successive code words, such codes being produced by sending successive groups of code word bits into a first coding device for the production of coding bits for each such group and by then sending the coding bits through successive coding devices each of which derives new coding bits therefrom. Reading is performed at a receiver by deriving an identical test code for each received code word and comparing this with the received test code.

3,512,151
DIGITAL CONVERSION SYSTEMS
Seymour I. Finkel, East Orange, and Warren M. Janes, Dover, N.J., and Ragnar N. Nilsen, Los Angeles, Calif., assignors to Vitro Corporation of America, New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,021
Int. Cl. H03k 13/17
U.S. Cl. 340—347 5 Claims



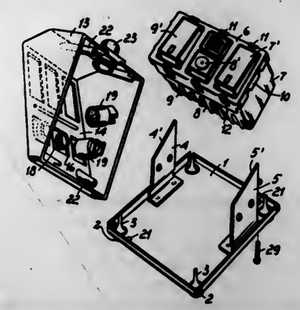
A computer system for extracting the explicit digital value of a variable θ, from a trigonometric equation in which it appears implicitly. Signals from a digital generator are fed to simulators of the required trigonometric functions, and appropriate quantities are compared in a comparator in accordance with the equation to be solved. The error signal from the comparator is used to adjust the number stored in the digital generator.

3,512,152
ANALOGUE DIGITAL DEVICE
Chanh-Trung Huynh and Lucien Espagno, Pau, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France, organized under the laws of France
Filed Feb. 11, 1966, Ser. No. 526,778
Claims priority, application France, Feb. 16, 1965, 5,771
Int. Cl. H03k 13/20
U.S. Cl. 340—347 4 Claims



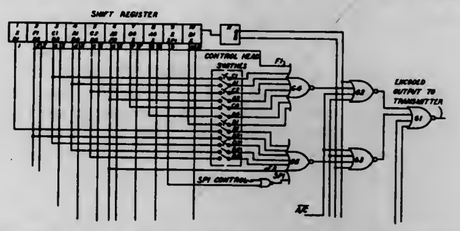
An analogue to digital converter apparatus for converting the maximum amplitude of successive continuing signals represented by voltage peaks which are delivered onto a single input of the apparatus by a sampling multichannel apparatus which cyclically samples various continuing magnitudes which vary simultaneously.

3,512,153
ELECTRIC SMALL TABLE-CONTROL-PANEL WITH CONVENTIONAL DEVICES FOR ELECTRIC ENERGY DISTRIBUTING PLANTS
Ermanno Bassani, Corso di Porta Vittoria 9, Milan, Italy
Filed Apr. 11, 1967, Ser. No. 630,038
Claims priority, application Italy, Apr. 12, 1966, 4,273/66
Int. Cl. H02b 15/00; G08b 5/00; G09f 9/00
U.S. Cl. 340—366 4 Claims



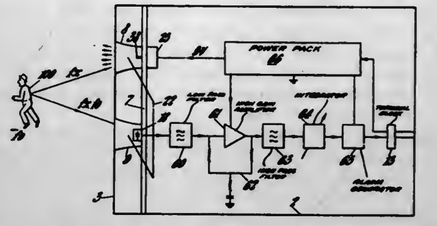
An electrical control panel includes a base member which can be positioned on a supporting surface and a frame member whose dimensions are such as to be accommodated within the outline of the base member. A plurality of modular electrical devices are mounted in the frame member and each have an exposed portion located at one side of the frame member. Support means is provided on the base member and supports the frame member with the electrical devices in a position in which the one side of the frame member is inclined at a predetermined angle with respect to the base member and to a support surface therefor. A cover is provided overlying the base member and covering the frame and it has an external surface inclined to the base member and to the support surface at an angle which is at most slightly different from the predetermined angle. The external surface is provided with a plurality of cutouts in each of which the aforementioned portion of one of the electrical devices is visible and accessible. Connecting means connects the cover with the base member.

3,512,154
METHOD AND APPARATUS FOR TRANSPONDER ENCODING
James G. Farrar, Lee's Summit, Mo., assignor to King Radio Corporation, Olathe, Kans., a corporation of Kansas
Filed Aug. 5, 1968, Ser. No. 750,145
Int. Cl. G01s 9/56
U.S. Cl. 343—6.8 13 Claims



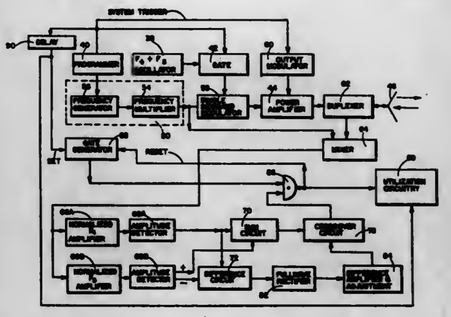
The Transponder encoding section uses RTL (resistor-transistor-logic) to perform the encoding functions thereof. A series of clock pulses determines the system timing in that the basic time between clock pulses is 1.45 microseconds. This system timing corresponds to the timing of the reply coding. A shift register, which is constructed to count through its capacity twice during the encoding of each individual number, correlates the code set in the control head or from an altimeter digitizer with the selected information pulses. The RTL provides suitable gating in combination with the shift register to enable the transmitter to send the proper code.

3,512,155
DOPPLER APPARATUS
John Anthony Bloice, London, England, assignor to Memco Limited, Isleworth, Middlesex, England, a British company
Filed July 1, 1968, Ser. No. 741,736
Claims priority, application Great Britain, July 3, 1967, 30,514/67
Int. Cl. G01s 9/42; G08b 13/00
U.S. Cl. 343—8 9 Claims



A Doppler transmitter and receiver are disclosed in order to detect movement. Separate transmitter and receiver aerials are placed alongside one another with a coaxial cable connecting the two aerials together in order to maintain the mixer diode, which is located inside the receiver aerial, in a conductive condition by a portion of the output signal of the transmitter aerial. The mixer diode detects relatively small reflected signals from a moving burglar within the system range and the output of the mixer diode is filtered to provide Doppler frequencies which are integrated over a period of time to provide a mean signal level which, if it exceeds a predetermined threshold level, triggers an alarm to signify the detection of the burglar.

3,512,156
QUASI-MONOPULSE RADAR SYSTEM
James A. Canaday and Jerome C. Hill, Fullerton, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,733
Int. Cl. G01s 9/02
U.S. Cl. 343—16 2 Claims



2. In a radar system having a frequency sensitive antenna, quasi-monopulse means for determining the direction of energy reflections received from a detected

radar target in the scanning direction of said antenna, comprising in combination:

periodic means cooperating with said antenna for generating an alternate one of a first and second transmitted beam of energy having a respective first and second frequency, said frequencies differing by a preselected frequency difference corresponding to said beams being mutually angularly squinted in said direction and overlapping in space as to define a boresight axis;

programming means coupled to said periodic means for commonly translating said frequencies of said beams by successive increments whereby the boresight axis is caused to scan;

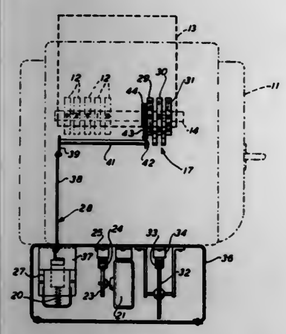
receiver mixer means coupled to said antenna and said periodic means for providing first and second intermediate frequency signals indicative of corresponding echoes of said two alternately transmitted beams of different frequency;

a first and second narrow band pass means having mutually exclusive center frequencies, the center frequency signal resulting from echoes of a mutually exclusive one of said alternately transmitted beams of different frequency, for providing a first and second detected signal;

delay means for delaying said first detected signal by an amount equal to the periodic interval between said first and second alternately transmitted beams of energy of different frequency; and

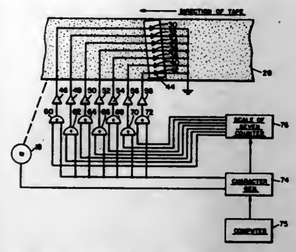
difference detection means responsive to said first delayed detected signal and said second detected signal for providing a signal indicative of the difference therebetween and corresponding to the angular position in the scanning direction of a detected target relative to said scanning boresight axis.

3,512,157
METER WHICH PRINTS TIME AND FLOW READINGS
Leo Zuckerman, Parsippany, N.J.
(100 Knoll Road, Boonton, N.J. 07005)
Filed May 23, 1968, Ser. No. 731,397
Int. Cl. G01d 9/02
U.S. Cl. 346—43 4 Claims



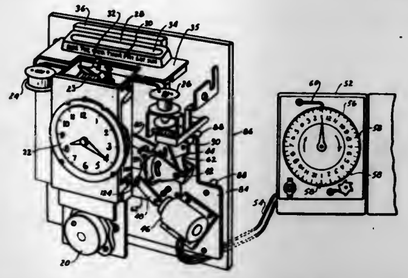
A liquid flow meter which has means to print on a ticket the liquid readings at start and completion of a delivery of liquid, to show the amount of liquid delivered, with which is combined a time clock, means to print on the same ticket each time a delivery is started, the time of starting alongside a starting gallon reading, followed by the time of completion of said delivery alongside a completion gallon reading, to enable management to gather information concerning the performance of delivery men, including the busy and slow hours of operation.

3,512,158
INFRA-RED PRINTER
Alfred D. Scarbrough, Northridge, Calif., assignor, by mesne assignments, to The Bunker-Ramo Corporation, Oak Brook, Ill., a corporation of Delaware
Filed May 2, 1968, Ser. No. 726,110
Int. Cl. G01d 15/14; G06k 15/02
U.S. Cl. 346—76 15 Claims



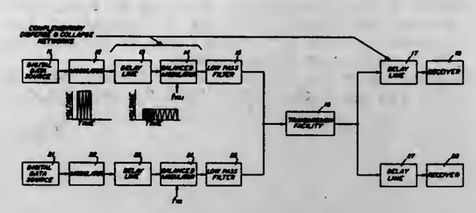
The invention comprises an infra-red printer using infra-red emitters, such as infra-red emitting diodes, as a source of heat to produce printing or graphical characters on heat-sensitive paper. In one embodiment, a heat-sensitive paper strip is pulled past seven infra-red diodes arranged in a line across the paper to correspond to the seven vertical positions of a character matrix such as that used in display equipment. Selective energizing of the diodes irradiates the paper to correspond to a sequence of characters that can be constructed from a dot matrix. Typically the diodes are pulsed, although they may be driven for longer durations to print lines on the paper either by moving the paper past the diodes or by moving the diodes relative to the paper.

3,512,159
ATTENDANCE RECORDER WITH ADJUSTABLE PROGRAMMING MEANS
John I. Clark, Stamford, and William P. Ryan, Bethany, Conn., assignors to Mite Corporation, New Haven, Conn., a corporation of Delaware
Filed Nov. 5, 1968, Ser. No. 773,561
Int. Cl. G07c 1/06
U.S. Cl. 346—86 16 Claims



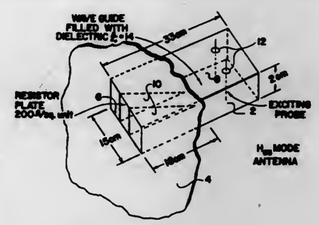
An inexpensive time recorder is modified to permit programming in many steps, and to locate the time record as desired on a time card. A timer operates a feed pawl engaging a ratchet sector which carries a lift arm to control the card position. A releasable lock means secures the lift arm to the ratchet sector at a desired angle, thereby determining the starting position on the card. Another releasable lock means secures a knock-off means at a desired angle to the said ratchet sector, thereby determining the "knock-off" position of the card. The knock-off means releases both the feed pawl and the check pawl, and additional means is provided to hold the pawls in disengaged position until the next time the feed pawl is operated by the timer.

3,512,160
MULTIPLEX TRANSMISSION SYSTEMS
Thrygve R. Meeker, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 29, 1960, Ser. No. 79,458
Int. Cl. H04j 3/04
U.S. Cl. 343—200 11 Claims



1. A multiplex transmission system comprising a plurality of pulse signal sources, dispersive delay means for each of said sources having a delay versus frequency characteristic which is significantly different from that of the dispersive delay means associated with each of the other sources, a pulse transmission facility, means for applying the dispersed pulses from said dispersive means to said facility, a plurality of receivers, and means for distributing pulses from said facility to individual receivers comprising collapse delay means for each of said receivers having a unique delay versus frequency characteristic which is complementary over a given frequency range to that of the dispersive delay means of one of said sources.

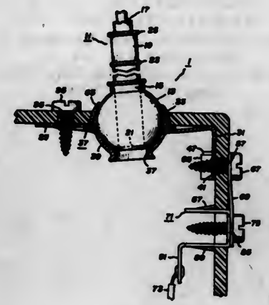
3,512,161
THIRD MODE SUPER-DIRECTIVE SLOT ANTENNA
Anthony G. Jennetti, Lebanon, Pa., assignor to The Ohio State University Research Foundation, Columbus, Ohio
Filed Mar. 14, 1968, Ser. No. 713,033
Int. Cl. H01q 13/10
U.S. Cl. 343—771 8 Claims



The invention is for super-directive broad-band slot antennas, with increased directivity accomplished by excitation of a single 3rd order mode is a dielectric-loaded waveguide.

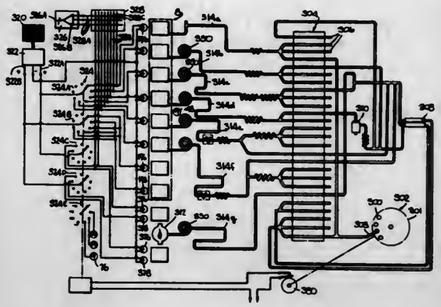
3,512,162
COMBINATION VHF ANTENNA MOUNTING CLIP AND SIGNAL TRANSFER
Donald J. Siebold, Syracuse, and Charles W. Charles and Terence P. Chou, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 2, 1967, Ser. No. 672,113
Int. Cl. H01g 1/10, 1/24, 3/02
U.S. Cl. 343—702 7 Claims

An antenna assembly is provided for a television receiver including a mounting arrangement for supporting the antenna on the receiver cabinet. The mounting arrangement includes a mounting clip supported within the cabinet for forming a ball and socket joint with the antenna for allowing swivelled movement thereof. An electrical connection arrangement directly electrically connects the antenna to suitable circuitry within the set and includes a snap-in antenna connector positioned in an aperture in the cabinet wall and including a tab portion for reception of a suitable terminal lead. A removable



connecting link is positioned outside the receiver cabinet to span the space between a portion of the snap-in antenna connector and a screw fastener, extending into the cabinet and partially supporting the mounting clip, to complete the circuit. Removal of the link connector allows an outside antenna to be connected directly to the snap-in antenna connector.

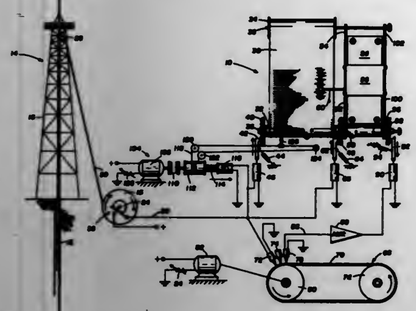
3,512,163
APPARATUS FOR DETERMINING THE DENSITY OF FLOWING SAMPLES INCLUDING A PRIMARY AND SECONDARY RECORDER
Milton H. Pelavin, White Plains, N.Y., assignor to Technicon Corporation, a corporation of New York
Filed Feb. 23, 1966, Ser. No. 529,492
Int. Cl. G01d 9/04; G01j 3/46
U.S. Cl. 346—1 11 Claims



Method and apparatus are described for the colorimetric analysis of a plurality of liquid samples which provides that each flow cell is being read at its maximum optical density. To indicate proper phasing of the liquid sample, an auxiliary indicator is connected to at least one flow cell to indicate, or monitor the optical density of the liquid sample as it flows through the flow cell. The auxiliary indicator provides a signal which chronologically overlaps the actual signal read and recorded by the primary recorder and has superimposed thereon a signal indicative of the operative connection of the primary recorder to

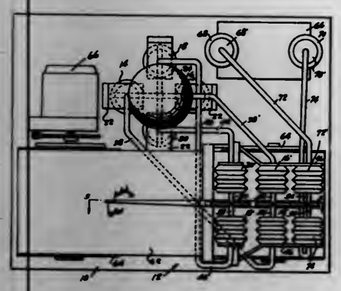
the corresponding flow cell. The location of the superimposed signal with respect to the peak, or plateau, of the optical density signal indicates the phasing of the primary recorder with respect to the optical density of the liquid sample.

3,512,164
WELL DEPTH-DRILLING MUD ANALYSIS CORRELATING SYSTEM
Winfred W. Bynum, 3793 Greenway Place, Shreveport, La. 71105
Filed Nov. 29, 1968, Ser. No. 779,875
Int. Cl. G01d 9/00
U.S. Cl. 346—1 14 Claims



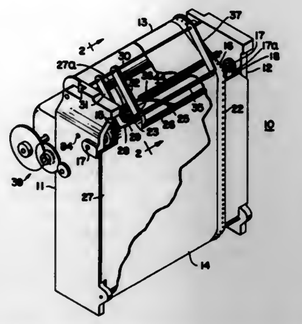
A system for correlating a drilling mud analysis with well depth in which an analysis recording pen and a length of chart paper are moved forward a distance equivalent to one foot when the well depth is increased one foot and in which the recording pen is moved backward the same distance when the drilling mud lag time has elapsed after each advance. This keeps the pen in alignment with each section of paper until completion of the analysis of the mud corresponding to the section. A second pen carts the well drilling rate by recording the elapsed time between each paper advance.

3,512,165
PNEUMATIC VEHICLE RECORDER
Charles P. Mantooth, 2633 Magnolia Ave., Knoxville, Tenn. 37914
Filed Aug. 23, 1968, Ser. No. 754,764
Int. Cl. G01d 9/00
U.S. Cl. 346—7 9 Claims



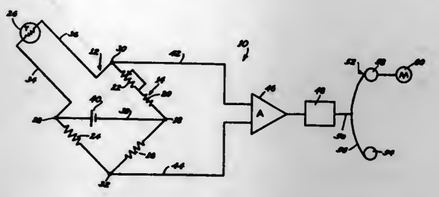
A device for indicating the driver attitude of an operator comprising bellows means disposed on opposite sides of a centrally located actuating means with the centrally located actuating means having lever means and stem means for compressing the bellows means to force fluid from the bellows means through a line to a corresponding bellows means to actuate recording means which transcribe said action on a permanent record.

3,512,166
ANALOG CENTESIMAL RECORDERS
William T. Gray, Jenkintown, Raymond W. Ross, Cheltenham, and Albert J. Williams, Jr. Philadelphia, Pa., assignors to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 620,366, Mar. 3, 1967. This application Oct. 2, 1968, Ser. No. 766,378
Int. Cl. G01d 9/06
U.S. Cl. 346—23 4 Claims



A multi-range, analog centesimal recorder, with wide range and high resolution having one marking means for inscribing a coarse curve on a chart and another marking means for inscribing a fine curve. A driving connection is disposed between the fine and coarse marking means with a speed reduction such that a change in position of the coarse marker by one of the divisions in its path is 100 times as significant, with respect to the input signal, as a change in position of the fine marker by one of the divisions in its path.

3,512,167
TEMPERATURE RECORDING APPARATUS
Berel Weinstein, New York, N.Y., assignor to Computronic Sciences, Inc., New York, N.Y.
Filed Aug. 5, 1968, Ser. No. 750,344
Int. Cl. G01d 3/06
U.S. Cl. 346—33 3 Claims

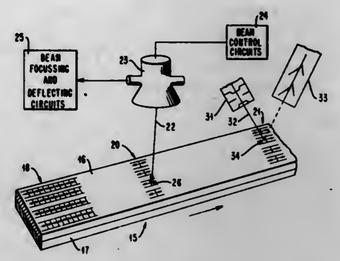


Temperature recording apparatus is provided which includes a bridge circuit one arm of which comprises a thermistor which is adapted to be placed on an area of the person whose temperature is to be recorded. The bridge is connected to a high gain amplifier whose output is connected to a movable stylus, the position of which is dependent upon the magnitude and polarity of the signal from the bridge circuit so that small variations in temperature will result in movement of the stylus to provide a relatively sensitive instrument. Graph paper is adapted to engage and move relative to the stylus to provide a continuous and permanent record of the temperature of the person.

ERRATA

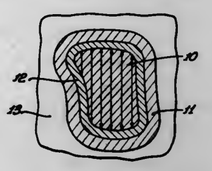
For Classes 346—43 thru 346—86 see:
Patent Nos. 3,512,157 thru 3,512,159

3,512,168
APPARATUS FOR RECORDING IN A METASTABLE STATE WITH REVERSION TO A STABLE STATE
Geoffrey Bate, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, a corporation of New York
Filed June 30, 1965, Ser. No. 468,356
Int. Cl. G01d 15/12; G11b 5/00, 11/10
U.S. Cl. 346—74 2 Claims



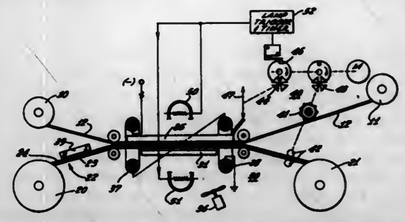
Apparatus is disclosed in which information is stored in a magnetic medium by the application of either magnetic or thermal force. Magnetic energy is preformed into the magnetic medium by a prerecorded pattern. Application of a magnetic and/or thermal force causes a selected storage location to traverse from a stable to a metastable state wherein the adjacent preformed magnetic forces effect an alteration in orientation at the selected location.

3,512,169
MAGNETOCHEMICAL METHOD AND MEANS FOR CREATING VISIBLE DISPLAYS IN COLOR
Lyne S. Trimble, 4724 Arcola Ave., North Hollywood, Calif. 91602
Filed Oct. 20, 1965, Ser. No. 498,986
Int. Cl. G03g 19/00; G01d 15/34
U.S. Cl. 346—74 22 Claims



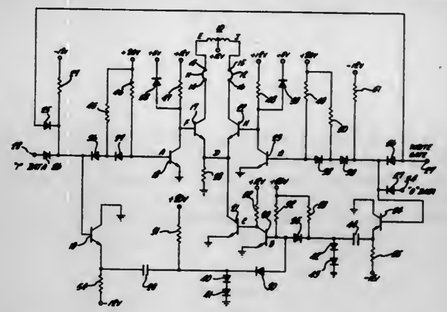
Method and means for the controlled production of a plurality of primary colors in a single film, wherein normally colorless magnetochemical particles, each of the particles comprising a magnetostrictive core, a brittle coating and a core overcoating in the form of an interlayer of metal, are surrounded with a proper chemical environment which will react upon particle rupture with the interlayer metal of the core to produce a primary color. Color activation is accomplished by a triggering reaction which ruptures the particles when subjected to properly chosen magnetic pulses, the core, coating and interlayer having selectable control parameters influencing the triggering of the reaction, and which permit selectivity as to the respective color producing particles.

3,512,170
THERMOMAGNETIC RECORDING AND COPYING METHOD AND SYSTEM
Alfred M. Nelson, Redondo Beach, Calif., assignor to The Magnavox Company, Torrance, Calif., a corporation of Delaware
Filed Sept. 27, 1966, Ser. No. 582,358
Int. Cl. G01d 15/06
U.S. Cl. 346—74 39 Claims



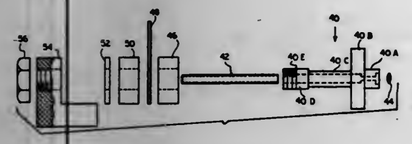
A magnetic recording and copying method and system is disclosed in which a regular pattern of magnetic pole lines is thermomagnetically produced concurrently with the application of a variable intensity pattern of radiant energy representing two-dimensional information and tending to shift the pole lines locally relative to each other, to generate image increments in which the ratio of area size of different dimensions represents a gray tone. Alternatively a regular pole line pattern is partially erased along lines transverse to the pole lines and controlled in accordance with a scanning beam.

3,512,171
DRIVE CIRCUITRY FOR HIGH FREQUENCY DIGITAL RECORDING
John A. Hibner, Sierra Madre, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 17, 1967, Ser. No. 661,364
Int. Cl. G01d 15/06
U.S. Cl. 346—74 18 Claims



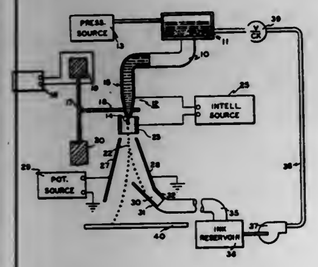
A drive circuit having two symmetrical circuits for respectively presenting write currents of opposite polarity and having a fast transient rise time to a recording head. Each symmetrical circuit presents a source of constant voltage to the head during the transient period and a source of constant current to the head during a succeeding steady-state period. A switching element common to both symmetrical circuits effects the transition after a predetermined period of time.

3,512,172
INK DROP WRITER NOZZLE
Paul Colecchi, Des Plaines, Ill., assignor to A. B. Dick Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 22, 1968, Ser. No. 754,539
Int. Cl. G01d 15/18
U.S. Cl. 346—75 6 Claims



A nozzle construction for an ink drop writer is provided wherein in order to obtain the emission of uniformly sized and spaced droplets in the fluid which is emitted from the ink drop writer nozzle, the fluid stream passing through the nozzle is mechanically modulated by applying successive mechanical pulses to a housing holding the nozzle which stretch the housing and thereby reduce its diameter which in turn applies compressive pressure to the nozzle. This is accomplished by using a pair of crystals mounted on the housing and which when excited electrically expands axially to stretch the housing.

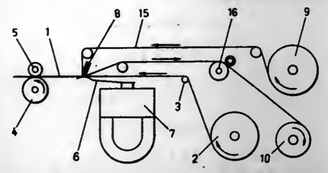
3,512,173
ALPHANUMERIC INK DROPLET RECORDER
David E. Damouth, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 28, 1967, Ser. No. 694,264
Int. Cl. G01d 15/18
U.S. Cl. 346—75 6 Claims



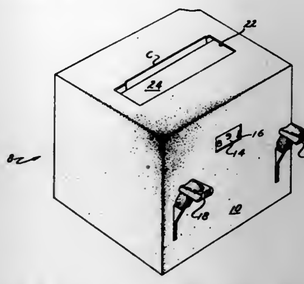
An ink droplet recording apparatus wherein ink droplets are deflected onto a recording medium in accordance with the charge imparted to each droplet, this charge being a function of the instantaneous amplitude of a gated portion of a linearly varying voltage signal applied to a pre-deflection charging electrode through which each droplet must pass.

3,512,174
THERMO-SENSITIVE RECORDER
Fritz Schwarzer, 38 Barmasenstrasse, 8000 Munich 60, Germany
Filed Nov. 6, 1968, Ser. No. 773,722
Int. Cl. G01d 15/10
U.S. Cl. 346—76 2 Claims

A heated ridge for an inkless recorder of the type in which a galvanometer recorder arm applies pressure to recording media directed over the ridge. The recording media becomes sensitive to pressure upon being heated by the ridge for recording a trace of points of pressure applied thereto by the recorder arm. The ridge comprises a thin straight electrically heated wire seated within a strip of heat-insulating material with a substantial portion of its circumferential surface exposed as the apex of the ridge for receiving the recording media. A rigid supporting member holds the wire and its insulating material adjacent to the recorder arm.



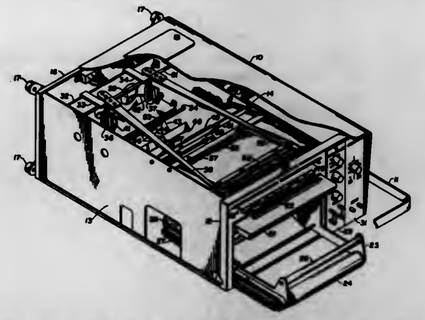
3,512,175
ELAPSED TIME RECORDER
La Verne H. Williams, Columbia, Conn., assignor to The Gunver Manufacturing Company, Manchester, Conn., a corporation of Connecticut
Filed Aug. 8, 1968, Ser. No. 751,317
Int. Cl. G07c 1/06
U.S. Cl. 346—82 4 Claims



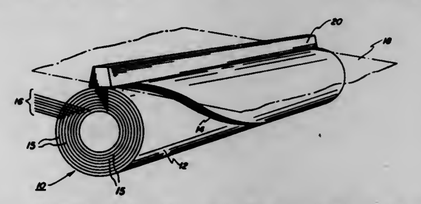
An elapsed time mechanism having a clock mechanism rotating a printing disc with two concentric bands of time-related indicia, a unitary printing striker pivotably disposed and having a surface of sufficient radial extent to engage simultaneously both said concentric bands of indicia. A card carrier carried on said striker on the side toward the printing disc. Separate printing levers for bringing a card disposed in said carrier into printing contact with the printing disc and a shield movable radially of said printing disc and disposed between the disc and the card carrier, said shield being movable in response to operation of one of the printing levers.

3,512,176
LIGHT BEAM OSCILLOGRAPH
James L. Fisher, Fred T. Klein, John D. Schroeder, and Calvin O. Vogt, Tulsa, Okla., assignors to Century Geophysical Corporation, Tulsa, Okla., a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,486
Int. Cl. G01d 15/14
U.S. Cl. 346—109 13 Claims

A strip chart oscillograph including one or more vertically mounted pivotable galvanometers mounted toward the rear portion of the oscillograph housing to deflect a light beam through an optic system in accordance with an input signal desired to be recorded on a light sensitive paper. A servomotor tachometer drives a paper transport system at any one of a number of preselected speeds to dispense the light sensitive paper as the deflection of the light beam is recorded thereon. Operating in synchronism with the speed of the paper transport is a timing system to record on the light sensitive paper time interval marks. Each galvanometer of the oscillograph is individually adjustable by means of a linkage extending through the front panel of the oscillograph housing to position the light beam deflections onto a given area of the light sensitive paper.

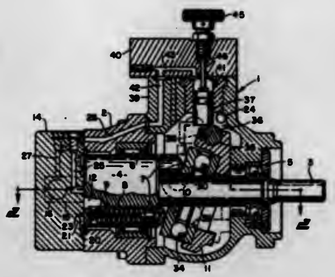


3,512,177
INK RECORDING SYSTEM
Edward C. Mutschler, Rochester, and Uldis Klavsons, Pittsford, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 26, 1968, Ser. No. 786,903
Int. Cl. G01d 15/16
U.S. Cl. 346—140 6 Claims



A recording system wherein a linear ink source is provided coextensive with one dimension of a recording medium which is moved therepast. On the side of the recording medium opposite this linear ink source, active ink attracting electrodes are selectively presented thereby effecting the deposition of ink onto the recording medium from the ink source. The type of backing assembly embodying these active electrodes is such as to enable high speed elemental line recording.

3,512,178
AXIAL PISTON PUMP
John G. Russell, Highland Heights, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 24, 1967, Ser. No. 633,282
Int. Cl. F04b 1/02
U.S. Cl. 417—213 3 Claims



Axial piston pump (or motor) wherein resultant thrust load of pistons acting on cam plate tends to move cam plate toward zero displacement position, and wherein a delivery pressure actuated control piston acting on cam plate with increasing moment arm tends to move cam plate toward maximum displacement position. For manual adjustment of displacement fluid pressure on control piston assists in movement of control piston to increase displacement. For automatic pressure compensation, control piston moment on cam plate exceeds resultant piston moment whereby upon reduction of fluid pressure in control cylinder (as by venting), the then dominating resultant piston moment moves cam plate toward zero displacement position.

DESIGNS

MAY 12, 1970

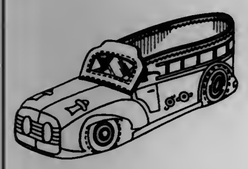
217,531
HEAD ORNAMENT
Jocelyn D. Miller, Scottsdale, Ariz., assignor to Paul M. Piscano and Tamara R. Piscano, both of Tarzana, Calif.
Filed Dec. 30, 1968, Ser. No. 15,155
Term of patent 14 years
Int. Cl. D2—*01*
U.S. Cl. D2—250



217,532
SLIPPER OR SIMILAR ARTICLE
Martin Sherman, Far Rockaway, N.Y.
(35 Clover Place, Brooklyn, N.Y. 11238)
Original design application Mar. 20, 1967, Ser. No. 6,302, now Patent No. 211,556, dated July 2, 1968. Divided and this application June 20, 1968, Ser. No. 17,143
Term of patent 7 years
Int. Cl. D2—*04*
U.S. Cl. D2—279



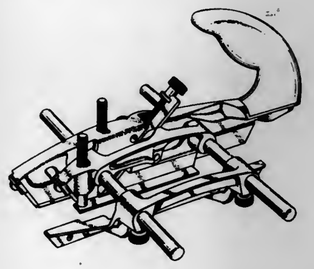
217,533
SLIPPER OR SIMILAR ARTICLE
Martin Sherman, Far Rockaway, N.Y.
(35 Clover Place, Brooklyn, N.Y. 11238)
Original design application Mar. 20, 1967, Ser. No. 6,302, now Patent No. 211,556, dated July 2, 1968. Divided and this application June 20, 1968, Ser. No. 17,144
Term of patent 7 years
Int. Cl. D2—*04*
U.S. Cl. D2—279



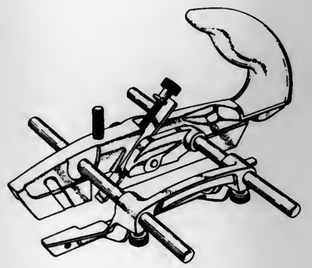
217,534
BUCKLE
Etienne Aigner, New York, N.Y., assignor to Villager Industries, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Sept. 18, 1968, Ser. No. 13,583
Term of patent 14 years
Int. Cl. D2—*08*
U.S. Cl. D2—427



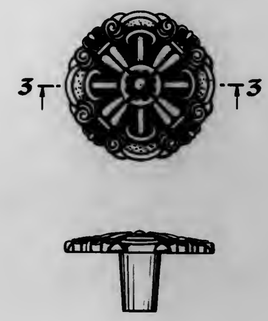
217,535
COMBINATION PLANE
Eugene O'Connell, Sheffield, England, assignor to C. & J. Hampton Limited, Sheffield, England
Filed May 28, 1969, Ser. No. 17,390
Claims priority, application Great Britain Nov. 30, 1968
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—101



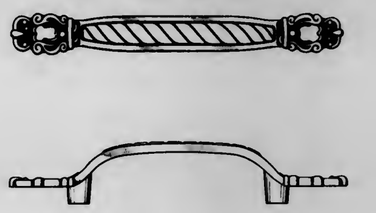
217,536
PLOUGH PLANE
Eugene O'Connell, Sheffield, England, assignor to C. & J. Hampton Limited, Sheffield, England
Filed May 28, 1969, Ser. No. 17,391
Claims priority, application Great Britain Nov. 30, 1968
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—101



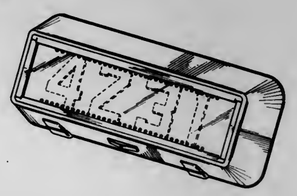
217,537
KNOB FOR DOORS, DRAWERS, AND THE LIKE
Donald Albert Winton, Pasadena, Calif., assignor to Hyer Hardware Mfg. Co., Anaheim, Calif., a corporation of California
Filed Apr. 7, 1969, Ser. No. 16,605
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—139



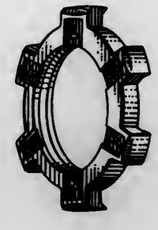
217,538
HANDLE FOR DRAWERS, DOORS AND THE LIKE
Donald Albert Winton, Pasadena, Calif., assignor to Hyer Hardware Mfg. Co., Anaheim, Calif., a corporation of California
Filed Apr. 7, 1969, Ser. No. 16,615
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—166



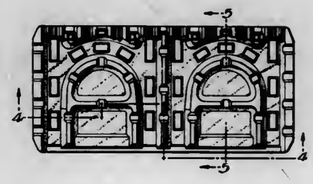
217,539
AN ILLUMINABLE HOUSE MARKER
Winfred D. Wren, % Wren, Inc., 1024 S. Kealing Ave., Indianapolis, Ind. 46203
Filed Apr. 1, 1969, Ser. No. 16,527
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—180



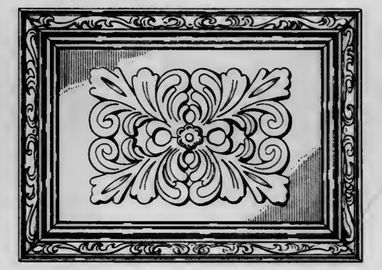
217,540
CONDUIT LOCKNUT
Grant J. Weise, Box 612, Star Rte. 1, Carson City, Nev. 89701
Filed Oct. 23, 1968, Ser. No. 14,122
Term of patent 7½ years
Int. Cl. D8—*04*
U.S. Cl. D8—274



217,541
PACKAGING TRAY FOR U-SHAPED BULBS
Henry Raymond Vigue, Waterville, Maine, assignor to Keyes Fibre Company, Waterville, Maine, a corporation of Maine
Filed June 4, 1969, Ser. No. 17,518
Term of patent 14 years
Int. Cl. D9—*99*
U.S. Cl. D9—187



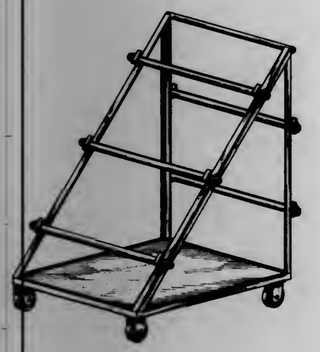
217,542
JEWELRY BOX
Marvin Wernick, Los Angeles, and Irving H. Plone, Playa Del Rey, Calif., assignors to Republic Corporation, Beverly Hills, Calif., a corporation of California
Filed Oct. 21, 1968, Ser. No. 14,096
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—238



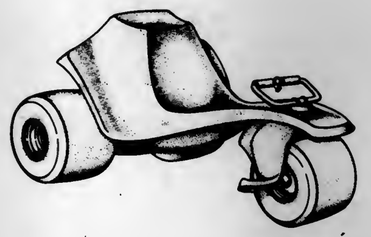
217,543
CAP FOR A CONTAINER
Vincenzo Pomodoro, Rome, Italy, assignor to Neotis S.p.A., Como, Italy, a corporation of Italy
Filed Dec. 6, 1968, Ser. No. 14,831
Claims priority, application Italy Oct. 1, 1968
Term of patent 7 years
Int. Cl. D9—*02*
U.S. Cl. D9—282



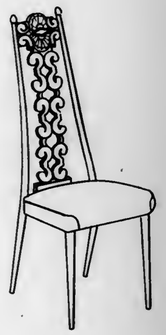
217,544
WIRE TRANSPORTER
Norman Green, 10106 Clark St., Philadelphia, Pa. 19116
Filed Oct. 24, 1968, Ser. No. 14,160
Term of patent 14 years
Int. Cl. D12—*02*
U.S. Cl. D14—3



217,545
MARGINAL TERRAIN VEHICLE
John A. Plessinger, Montgomery County, Ohio (1725 Wesleyan Road, Dayton, Ohio 45406), and Franklin Moore, Jr., Warren County, Ohio (902 McBurney Drive, Lebanon, Ohio 45036)
Filed Mar. 17, 1969, Ser. No. 16,263
Term of patent 14 years
Int. Cl. D12—*08, 11*
U.S. Cl. D14—3



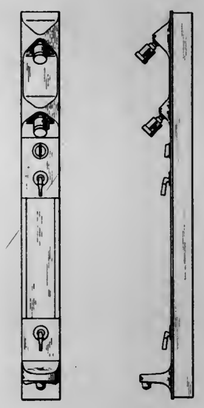
217,546
CHAIR
Robert E. Kjer Jakobsen, Compton, Calif., assignor to Schlumberger Limited (Schlumberger N.V.), New York, N.Y., a corporation of the Netherlands Antilles
Filed June 2, 1969, Ser. No. 17,438
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—01



217,547
STRAINER
Roy F. Broyhill, Dakota City, Nebr. 68731
Filed Aug. 6, 1969, Ser. No. 18,566
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—4



217,548
COMBINED BATHTUB SPOUT, SHOWERHEAD AND CONTROL APPARATUS
James Edward Niemann, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 26, 1969, Ser. No. 15,929
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—20



217,549
COMBINED SPOUT AND CONTROL PANEL
Jack N. Kaiser, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 23, 1969, Ser. No. 16,860
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—26



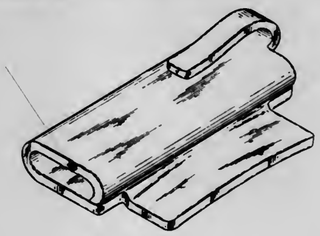
217,550
RADIATOR HOSE UNIT
Max I. Campbell, P.O. Box 1165, Topeka, Kans. 66601
Filed Feb. 14, 1969, Ser. No. 15,777
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—45



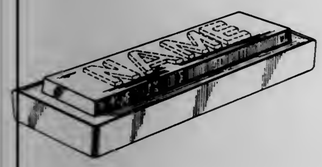
217,551
TOILET BOWL
Franklin Keith Manning, New Orleans, La., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 4, 1969, Ser. No. 16,034
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—67



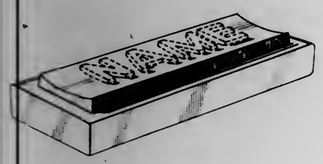
217,552
ORTHODONTIC BUCCAL TUBE OR SIMILAR ARTICLE
Brian W. Lee, 24 Mount Ida Ave., East Hawthorn, Victoria, Australia 3151
Filed Apr. 22, 1969, Ser. No. 16,846
Term of patent 7 years
Int. Cl. D24—*03*
U.S. Cl. D24—1



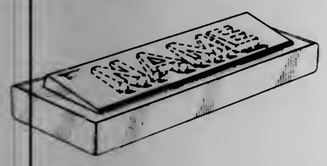
217,553
MULTIPLE VENT PLUG ASSEMBLY FOR STORAGE BATTERIES
Jerome Louis Smentek, Milwaukee, and John Bernard Mohr, Port Washington, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Oct. 9, 1968, Ser. No. 13,892
Term of patent 14 years
Int. Cl. D13—*02*
U.S. Cl. D26—6



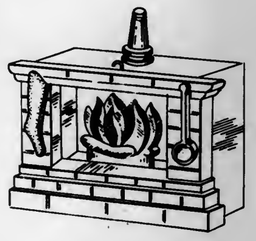
217,554
MULTIPLE VENT PLUG ASSEMBLY FOR STORAGE BATTERIES
John Bernard Mohr, Port Washington, and Jerome Louis Smentek, Milwaukee, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Oct. 9, 1968, Ser. No. 13,897
Term of patent 14 years
Int. Cl. D13—*02*
U.S. Cl. D26—6



217,555
MULTIPLE VENT PLUG ASSEMBLY FOR STORAGE BATTERIES
Jerome Louis Smentek, Milwaukee, and John Bernard Mohr, Port Washington, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed Oct. 9, 1968, Ser. No. 13,902
Term of patent 14 years
Int. Cl. D13—*02*
U.S. Cl. D26—6



217,556
CHRISTMAS TREE ORNAMENT
Kurt S. Adler, 1107 Broadway, Riverdale, N.Y. 10010
Filed Feb. 5, 1969, Ser. No. 15,638
Term of patent 3½ years
Int. Cl. D11—*05*
U.S. Cl. D29—1



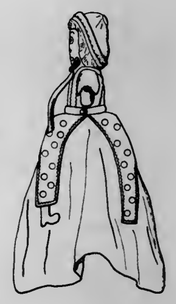
217,557
CHRISTMAS TREE ORNAMENT
Kurt S. Adler, 1107 Broadway, Riverdale, N.Y. 10010
Filed Feb. 5, 1969, Ser. No. 15,644
Term of patent 3½ years
Int. Cl. D11—*05*
U.S. Cl. D29—1



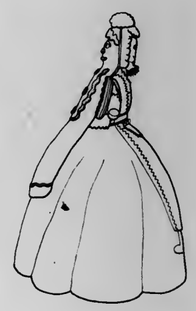
217,558
MODULAR CABINET
John J. Hamilton, Cincinnati, Ohio, and Charles E. Schroer, Columbus, Ind., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Dec. 26, 1968, Ser. No. 15,125
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—19



217,559
CONVERTIBLE DOLL
Flossie Schultz, Box 67, Arlington, S. Dak. 57212
Filed June 11, 1969, Ser. No. 17,630
Term of patent 7½ years
Int. Cl. D21—*02*
U.S. Cl. D34—4



217,560
CONVERTIBLE DOLL
Flossie Schultz, Box 67, Arlington, S. Dak. 57212
Filed June 11, 1969, Ser. No. 17,631
Term of patent 7½ years
Int. Cl. D21—*02*
U.S. Cl. D34—4



217,561
CONVERTIBLE DOLL
Flossie Schultz, Box 67, Arlington, S. Dak. 57212
Filed June 11, 1969, Ser. No. 17,632
Term of patent 7½ years
Int. Cl. D21—*02*
U.S. Cl. D34—4



217,562
CONVERTIBLE DOLL
Flossie Schultz, Box 67, Arlington, S. Dak. 57212
Filed June 11, 1969, Ser. No. 17,638
Term of patent 7½ years
Int. Cl. D21—*02*
U.S. Cl. D34—4



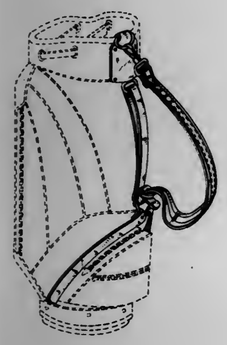
217,563
CONVERTIBLE DOLL
Flossie Schultz, Box 67, Arlington, S. Dak. 57212
Filed June 11, 1969, Ser. No. 17,639
Term of patent 7½ years
Int. Cl. D21—*02*
U.S. Cl. D34—4



217,564
CONVERTIBLE DOLL
Flossie Schultz, Box 67, Arlington, S. Dak. 57212
Filed June 11, 1969, Ser. No. 17,642
Term of patent 7½ years
Int. Cl. D21—*02*
U.S. Cl. D34—4



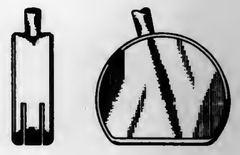
217,565
SLING HANDLE FOR GOLF BAG
Howard J. Renshaw, Yardley, Pa., assignor to Atlantic Products Corporation, Trenton, N.J., a corporation of Delaware
Filed May 31, 1968, Ser. No. 12,154
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



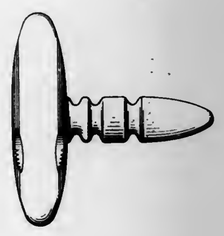
217,566
BOWLING GAME TABLE
John D. Vogel and John K. Miles, both % Arvin Industries, Inc., Columbus, Ind. 47201
Filed Feb. 20, 1969, Ser. No. 15,849
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



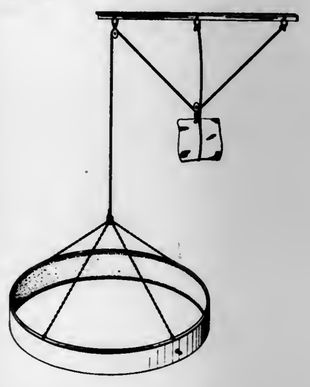
217,567
GOLF CLUB
Kay R. Williams, 1011 N. Holmes St., Indianapolis, Ind. 46222
Filed Mar. 14, 1969, Ser. No. 16,256
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



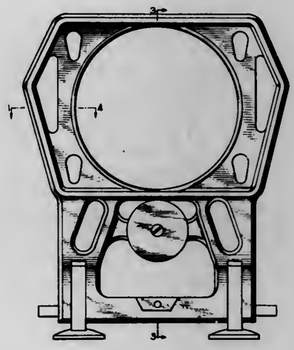
217,568
EXERCISE DEVICE
George C. Sun, 801 Cooper Landing Road, Cherry Hill, N.J. 08034
Original design application Mar. 5, 1968, Ser. No. 10,858. Divided and this application May 22, 1969, Ser. No. 17,283
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



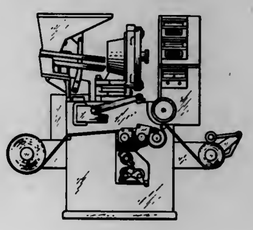
217,569
TIRE BEAD SPREADER
Robert A. McClure, 845 Arbor St., Wooster, Ohio 44691
Filed Jan. 13, 1969, Ser. No. 15,313
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D54—13



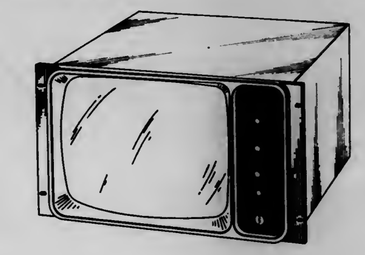
217,570
SUPPORT LEG FOR A WHEEL ALIGNER
John Roy Bateman, 5217 Hollywood Blvd., Hollywood, Calif. 90027
Filed Mar. 5, 1969, Ser. No. 16,055
Term of patent 14 years
Int. Cl. D15—*99*
U.S. Cl. D55—1



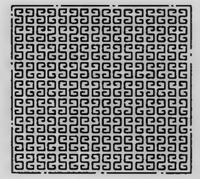
217,571
PACKING MACHINE
Joseph L. Arcudi, Elizabeth, and John W. Rathemacher, Navesink, N.J., assignors to Becton, Dickinson and Company, Rutherford, N.J., a corporation of New Jersey
Filed May 9, 1969, Ser. No. 17,096
Term of patent 14 years
Int. Cl. D15—*05*
U.S. Cl. D55—1



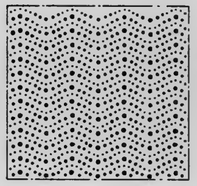
217,572
TELEVISION MONITOR
Donald N. James and Peter A. Nightingale, Boulder, Colo., assignors to Ball Brothers Research Corporation, Boulder, Colo., a corporation of Colorado
Filed July 1, 1968, Ser. No. 12,578
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D56—4



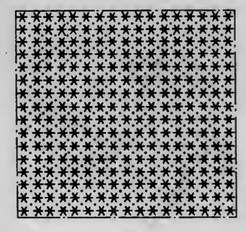
217,573
SAFETY PAPER OR SIMILAR ARTICLE
Carl Couve, Rolling Meadows, Ill., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Mar. 21, 1969, Ser. No. 16,362
Term of patent 14 years
Int. Cl. D19—*05*
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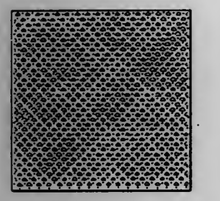
217,574
SAFETY PAPER OR SIMILAR ARTICLE
Carl Couve, Rolling Meadows, Ill., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Mar. 21, 1969, Ser. No. 16,363
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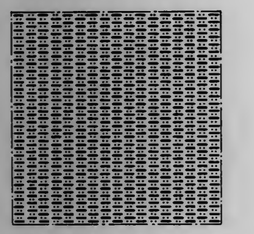
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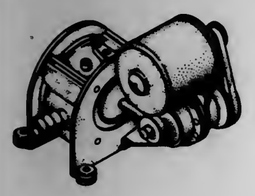
217,576
SAFETY PAPER OR SIMILAR ARTICLE
Carl Couve, Rolling Meadows, Ill., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Mar. 21, 1969, Ser. No. 16,368
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217,577
SAFETY PAPER OR SIMILAR ARTICLE
Carl Couve, Rolling Meadows, Ill., assignor, by mesne assignments, to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Mar. 21, 1969, Ser. No. 16,380
Term of patent 14 years
Int. Cl. D19—*05*
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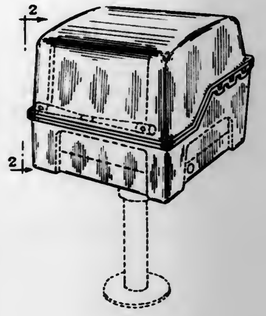
217,578
PUMP
Linus E. Russell, Springfield, Ohio, assignor to Peters and Russell, Inc., Springfield, Ohio, a corporation of Ohio
Filed June 5, 1969, Ser. No. 17,528
Term of patent 14 years
Int. Cl. D15—*02*
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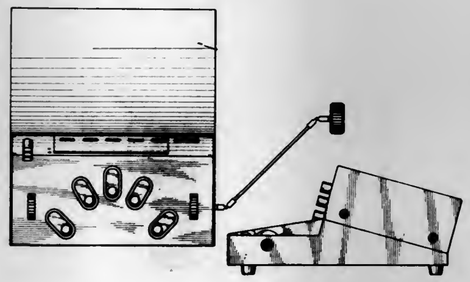
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Linus E. Russell, Springfield, Ohio, assignor to Peters and Russell, Inc., Springfield, Ohio, a corporation of Ohio
Filed June 5, 1969, Ser. No. 17,535
Term of patent 14 years
Int. Cl. D15—*02*
U.S. Cl. D65—1



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Walter Koziol, Russell, Ill., assignor to Charmglow Manufacturing Co., Antioch, Ill., a corporation of Illinois
Filed Sept. 3, 1968, Ser. No. 13,367
Term of patent 14 years
The portion of the term of the patent subsequent to Mar. 11, 1983 has been disclaimed
Int. Cl. D7—*04*
U.S. Cl. D81—10



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DIAGNOSTIC UNIT FOR ANALYZING LEUKEMIA
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Filed Apr. 4, 1968, Ser. No. 11,300
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—1



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TO WHOM

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Bauer, Victor John, and Safir, Sidney Robert, to American Cyanamid Company. Certain 4-(isoxazol-3 or 5-Yl)- pyridinium salts. 3,511,848, Cl. 260-296.

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De Lamater, Paul F., to Reliance Electric and Engineering Company, The. Elevator control having car call lockout of hall call stopping means. 3,511,344, Cl. 187-29.
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Dimroth, Peter, and Mayer, Kurt, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Monoazo dyes of the pyrazolone series. 3,511,828, Cl. 260-162.
Dinwoodie, Andrew Harper, and Fort, Godfrey, to United States of America, Navy, mesne. Difluoroaminomethyl trinitroethyl urea derivative. 3,511,878, Cl. 260-553.
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Feissel, Henri Gerard, and Gallet, Francois Charles, to Societe Industrielle Bull-General Electric (Societe Anonyme). Ferromagnetic multifilm memory elements. 3,512,143, Cl. 340-174.

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Fischer, Artur. Assembly kit. 3,510,979, Cl. 46-25.

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Fisher, James L., Klein, Fred T., Schroeder, John D., and Vogt, Calvin O., to Century Geophysical Corporation. Light beam oscillograph. 3,512,176, Cl. 346-109.

Fitch, Elliot Bryant, and Leyshon, David William. Process for filtering phosphate rock acidulation slurries. 3,511,602, Cl. 23-122.

Fitz, Philip John, Robinson, Trevor Howard, and Cameron, Alan William, to Marconi Company Limited, The. Pulse generators. 3,512,007, Cl. 307-88.

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Fleissner, Hans, to Vepa AG. Process and apparatus for the wet-treatment of liquid-permeable materials. 3,511,066, Cl. 68-18.

Fleissner, Heinz, to Vepa AG. Process and apparatus for heat-treating textile material lengths. 3,510,955, Cl. 34-23.

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Flick, Antonius A., to Hunter Douglas International Ltd. Device for correcting the stepwise supply of strip material. 3,511,425, Cl. 226-138.

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Folzenlogen, Robert Grover, and Martin, James Bruce, to Procter & Gamble Company, The. Mono- and diacyl glycerol hydrogen dicarboxylates and foodstuffs containing same. 3,511,670, Cl. 99-118.

Foote Mineral Company: *See—*
Smith, William Novis, Jr., 3,511,884.

Forano Limitee: *See—*
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Ford Meter Box Company, Inc., The: *See—*
Ford, Stanley W., and Stevens, Max L., 3,511,524.

Ford, Perry, Jr.: *See—*
Hansen, Harold Valentine, Youngberg, Charles Harold, and Ford, Perry, Jr. 3,511,522.

Ford, Stanley W., and Stevens, Max L., to Ford Meter Box Company, Inc., The. Meter setter. 3,511,524, Cl. 285-30.

Forkardt, Paul, KG: *See—*
Deuring, Karl, 3,511,514.

Formica Corporation: *See—*
Heeb, Albert Joseph, and Chalmers, Edward Langworthy, II, 3,511,748.

Forster, Hans-Joachim M., to Daimler-Benz Aktiengesellschaft. Installation for the control of automatic transmissions of motor vehicles. 3,511,115, Cl. 74-861.

Fort, Godfrey: *See—*
Dinwoodie, Andrew Harper, and Fort, Godfrey 3,511,878.

Fortier, Andre: *See—*
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Foster Grant Co., Inc.: *See—*
Barry, James H., Jr., Di Verdi, Joseph M., Temple, John P., and Petitto, Albert C., 3,511,191.

Foster, John T. Light transmitting and distributing device. 3,511,559, Cl. 350-258.

Foster Wheeler Corporation: *See—*
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Fowler, Allan R.,: *See—*
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Fowler, Reginald John, and Croot, Abraham William. Cutting device with safety guard. 3,510,943, Cl. 30-287.

Fox, George C. Lined swimming pool. 3,511,002, Cl. 52-146.

Fox, Homer M., and Ruehlen, Forrest N., to Phillips Petroleum Company. Electrochemical fluorination of organic compounds. 3,511,760, Cl. 204-59.

Frank, Stanley L., and Dobrosielski, Stephen S., to Westinghouse Electric Corporation. Combined indicating lamp and push-button switch unit. 3,511,955, Cl. 200-167.

Freber, Elmer C., to Marquette Tool and Die Company. Vehicular wheel assemblies. 3,511,518, Cl. 280-80.

Freeman, James H., Traynor, Edward J., and Ruffing, Charles R., to Westinghouse Electric Corporation. Methods for making flat electrical cables. 3,511,728, Cl. 156-52.

Friedling, Gerard, and Chuard, Marcel, to Technicair S.A. Connecting device for fastening together two thin plates in relative perpendicular positions. 3,511,525, Cl. 287-189.36

Fritschi, Hugo: *See—*
Futterer, Bodo, and Fritschi, Hugo 3,512,070.

Fritzberg, Edward L., and Jones, Selwyn, to Pillsbury Company, The. Pressure cooking apparatus. 3,511,169, Cl. 99-370.

Fuchs, Warren, to Treadwell Corporation, The. Method of removing carbon dioxide and water vapor from air. 3,511,595, Cl. 23-4.

Fuelmaster Manufacturing Company: *See—*
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Fuelmaster Produktie Maatschappij N.V.: *See—*
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Fuji Shashin Film Kabushiki Kaisha: *See—*
Nakazawa, Yoshiyuki, Ohi, Reiichi, Misu, Hiroshi, and Hinata, Masanao, 3,511,664.

Fujii, Osamu, to Hisaka Works, Ltd. Dye machine. 3,511,068, Cl. 68-177.

Fuks, Robert, and Viehe, Heinz G., to Union Carbide Corporation. Cyclobutene imines and allene amidines and preparation thereof. 3,511,879, Cl. 260-566.

Fukumura, Yoshiaki, to Toyo Rubber Industry Co., The. Method of modifying cellulose xanthate paper prior to in situ regeneration by embossing and product thereby. 3,511,751, Cl. 162-117.

Fuller, Leslie T. Semi-enclosing seal means for fifth wheel. 3,511,523. Cl. 280-433.

Fuller, Willard A., and Oswald, Harry R., to Hooker Chemical Corporation. Crystallization of alkali metal chlorate from an alkali metal chlorate-alkali metal chloride solution. 3,511,619, Cl. 23-302.

Fuqua, Norman L., to Westinghouse Electric Corporation. Vending machine mixing tray ventilation. 3,511,413, Cl. 222-129.1

Furrow, Clarence Lee, to Phillips Petroleum Company. Dyed modified acrylonitrile and methacrylonitrile polymers. 3,511,810, Cl. 260-63.

Fushiki, Isamu: *See—*
Kishida, Toshimi, Yoshioka, Masaaki, and Fushiki, Isamu 3,511,654.

Futterer, Bodo, and Fritschi, Hugo, to Gillette Company, The. A.C. - D.C. motor-driven apparatus. 3,512,070, Cl. 320-2.

Fyfe, Donald Ross, to Metal Box Company Limited, The. Can openers. 3,510,941, Cl. 30-15.5

Gubano, Jean-Paul, and Gerbier, Gerard Marcel, to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme). Electrochemical generator utilizing a lithium anode, copper sulfide cathode and non-aqueous electrolytes. 3,511,716, Cl. 136-100.

Gabor, Andrew, to Potter Instrument Company, Inc. Aerodynamic transducer displaced with respect to the center of tape wrap. 3,512,145, Cl. 340-174.1

Gaeddert, Melvin V., and Jordan, David J., to Hesston Corporation, Inc. Rotor having randomly spaced folding tines. 3,511,362, Cl. 198-211.

GAF Corporation: *See—*
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Fein, Marvin M., Jasinski, Victor K., and Barabas, Eugene S., 3,511,817.
Leibowitz, Marvin R., and Grosser, Frederick, 3,511,823.

Gaisser, August, and Weber, Willi. Impulse transmitter for telephone and telewriter installations. 3,511,938, Cl. 179-90.

Galbato, Anthony T., to TRW Inc. Flexible laminated bearing stabilized against buckling. 3,511,492, Cl. 267-1.

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Galloway, G. W., Company: *See—*
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Gallucci, Francis, and Hofmann, Gottfried, to United States Steel Corporation. Descaling apparatus. 3,511,250, Cl. 134-122.

Gambill, Charles C., to General Motors Corporation. Freezer warning system. 3,512,148, Cl. 340-228.

Gambs, Paul Frederic Marie. Optical system for ophthalmometers provided with stationary sighting marks. 3,511,561, Cl. 351-13.

Gann Apparate- und Maschinenbau -G.m.b.H.: *See—*
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Gar Wood Industries, Inc.: *See—*
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Garbuzov, Zalman Eremeevich: *See—*
Mikhailov, Pavel Mikhailovich, Smirnov, Alexandr Fedorovich, Babitsky, Abram Arkadievich, Primanchuk, Leonid Ivanovich, Molodtsov, Antonin Afanasievich, Garbuzov, Zalman Eremeevich, Timofeevna, Maria Nikolaevna, Astashkin, Anatoly Alexeevich, Mutushev, Gavriil Akhmetovich, and Arkhipov, Anatoly Fedorovich 3,510,970.

Garde, Lawrence, to Control Data Corporation. Surge current control. 3,512,047, Cl. 317-33.

Garfield, Eugene E., to Institute for Scientific Information. Character recognition selective copying and reproducing apparatus. 3,512,129, Cl. 340-146.3

Garrett Corporation, The: *See—*
Marley, David J., 3,511,544.

Garrett, Fred, Jr., to Armstrong Cork Company. Sag resistant fiberboard panel and method of making the same. 3,511,744, Cl. 161-125.

Garrett, Walter L., to Dow Chemical Company, The. Electrophotographic coatings. 3,511,648, Cl. 96-1.7

Garrison, Lowell E. Wallboard anchor nail. 3,511,128, Cl. 85-23.

Gas Council, The: *See—*
Humphries, Kelvin James, and Yarwood, Thomas Alan, 3,511,624.

Gates, Lauren W., and Hill, Fredrick L., to Blackwelder Manufacturing Company. Cucumber harvester. 3,511,038, Cl. 56-327.

Gates, Mildred P.,: *See—*
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Gawin, Adolph J., Porazinski, Robert F., and Strahan, Daryl J., to Bell & Howell Company. Reader-printer with plastic transport belt. 3,511,564, Cl. 355-3.

Geffner, Ted. Safety and arming mechanism for fuze. 3,511,183, Cl. 102-70.2

Geigy Chemical Corporation: *See—*
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Arnold, Winfried, and Morel, Charles J., 3,511,877.
Denss, Rolf, and Ryf, Hugo, 3,511,915.
Munch, Walter F., Jr., 3,511,846.
Rousselot, Felix, 3,511,419.
Sallmann, Alfred, 3,511,842.
Tscharner, Christopher J., 3,511,833.

Gelfand, Samuel, to Hooker Chemical Corporation. Novel fluorine containing compounds and process. 3,511,868, Cl. 260-463.

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General Electric Company: *See—*
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Harmon, Sherril A., Hovey, Ronald S., and White, Emery A., 3,512,136.
McFarland, George L., 3,510,958.
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General Foods Corporation: *See—*
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Vollink, Willard L., Scharschmidt, Rudolph K., and Kenyon, Ralph Edward, 3,511,668.

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Martin, Allen R., 3,512,011.

General Motors Corporation: *See—*
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Brown, Ralph R., 3,511,583.
Burrell, Frank C., 3,511,493.

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Dohmen, Hubert G., 3,511,610.
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Gunlock, Donald E., 3,511,535.
Larson, Robert L., and Stenklyft, Gerald H., 3,512,076.
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MacIver, Bernard A., and McKinnon, Matthew C., 3,512,052.
Miller, William K., Katz, Seymour, and Bach, Willard W., 3,511,819.
Musser, C. Walton, 3,511,079.
Raver, Louis J., and Konopa, Richard L., 3,512,075.
St. Laurent, Wilfred H., Jr., 3,512,021.
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General Research, Inc.: *See—*
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General Signal Corporation, The: *See—*
Miner, Irving O., 3,511,474.
Tipton, William C., Philibert, Robert A., and Sanger, David M., 3,512,065.

General Time Corporation: *See—*
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Gentex Corporation: *See—*
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Gentiluomo, Joseph A. Automatic ball dispensing and teeing machine. 3,511,507, Cl. 273-201.

Gentry, Charles B., to Granco Equipment, Inc. Furnace construction with roof section removal means. 3,511,483, Cl. 263-6.

George, Elton L. Animal work stanchions. 3,511,216, Cl. 119-147.

Gerber, Heinz Joseph, and Rich, Leonard G., to Gerber Scientific Instrument Company, The. Motor energizing system. 3,512,066, Cl. 318-138.

Gerber Scientific Instrument Company, The: *See—*
Gerber, Heinz Joseph, and Rich, Leonard G., 3,512,066.

Gerbier, Gerard Marcel: *See—*
Gabano, Jean-Paul, and Gerbier, Gerard Marcel 3,511,716.

Gerisch, Rudolph F. Article transporting system. 3,511,359, Cl. 198-126.

German, Dale F., and Kautz, Wilbert G., to Aro Corporation, The. Air line lubricator. 3,511,341, Cl. 184-55.

Gerritsen, Henrik J., and Greenaway, David L., to RCA Corporation. Motionless hologram imaging. 3,511,553, Cl. 350-3.5

Gerry, Ronald J.: *See—*
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Gerson, Horst. Bathing cap. 3,510,880, Cl. 2-68.

Gertzman, Arthur A.: *See—*
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Gesellschaft fuer Hydraulikzubehoer m.b.H.,: *See—*
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Gesellschaft fur Kernforschung m.b.H.: *See—*
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Vanreusel, Gerard Laurens, 3,511,160.
Vrancken, Marcel Nicolas, and Lassig, Wolfgang, 3,511,652.

Gibson, Daniel L.: *See—*
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Gilbert, Roswell W., to Dictaphone Corporation. Flywheel flutter filter. 3,512,022, Cl. 310-74.

Gillespie, Sidney L., to Woodward Governor Company. Load dividing control for multiple engine drive. 3,511,052, Cl. 60-97.

Gillette Company, The: *See—*
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Gillmore, Alfred Edward, to G. Q. Parachute Company, Limited. Quick release devices. 3,510,921, Cl. 24-205.17

Giner, Jose, to United Aircraft Corporation. Process of removing carbon dioxide from gas streams using fuel cell. 3,511,712, Cl. 136-86.

Giragosian, Pakrad A., to Raytheon Company. Controllable reentry vehicle. 3,511,453, Cl. 244-1.

Gish, Lyman C., to Packaging Corporation of America. Foldable receptacle and blank therefor. 3,511,432, Cl. 229-39.

Gisondi, Emanuel. Metal fastening device. 3,511,127, Cl. 85-11.

Giusti, Theodore L., Horn, Donald P., and Seifert, John A., to Corning Glass Works. Machine for automatically inspecting and packaging tubular articles. 3,511,371, Cl. 209-74.

Gladwin Industries, Inc.: *See—*
Quigley, Warren W., 3,511,941.
Quigley, Warren W., 3,511,942.

Glass, Henry L., and Schrenk, Walter J., to Dow Chemical Company, The. Method for extruding thermally degradable polymers. 3,511,903, Cl. 264-171.

Glikin, Paul Edgar, and Bishop, John Richard, to C.A.V. Limited. Liquid fuel injection nozzle units. 3,511,443, Cl. 239-533.

Glomb, John D.: *See—*
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Gobini, Mario, to Teodoro Carneilli & C.S.p.A. Compact motorcycle. 3,511,521, Cl. 280-270.

Godel, Siegfried, and Rosenzweig, William, to Fashion Development Corporation. Mechanism for and method of folding and creasing pieces of ribbon. 3,511,422, Cl. 223-37.

Goetz, John H.: *See—*
Golden, Michael E., Bosley, Denis V., Goetz, John H., Munday, James F., and Ryan, John W. 3,510,966.

Gold, Nicholas, to Polaroid Corporation. Photographic exposure and processing apparatus. 3,511,566, Cl. 355-67.

Golden, Michael E., Bosley, Denis V., Goetz, John H., Munday, James F., and Ryan, John W., to Mattel, Inc. Teaching machine toy having sequentially- arrangeable indicia means and response means. 3,510,966, Cl. 35-35.

Goldkuhle, Werner P.: *See—*
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Goni, Juan C., to Bureau de Recherches Geologiques et Minieres. Processes for extracting metals from rocks or ores. 3,511,645, Cl. 75-101.

Good, Arthur L., to Robertshaw Controls Company. Pneumatic control system and pneumatically operated actuator therefor or the like. 3,511,278, Cl. 137-624.14

Goode, George E., to Texas Instruments, Incorporated. Line sequential color display system. 3,511,924, Cl. 178-5.4

Goodrich, B. F., Company, The: *See—*
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Goodyear Aerospace Corporation: *See—*
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Gordon, Irving: *See—*
Baranauckas, Charles F., and Gordon, Irving 3,511,857.

Goregliad, Arsenius N. Heating and filtering apparatus for use with swimming pools. 3,511,378, Cl. 210-181.

Goto, Hajime. Speedy operative circuit protector. 3,512,111, Cl. 335-153.

Gotze, Christian, to Agfa-Gevaert Aktiengesellschaft. Photographic camera with illuminating arrangement. 3,511,144, Cl. 95-10.

Gould, Russell D., and Richter, John E. Method and apparatus for catching fruit. 3,511,039, Cl. 56-329.

Gower, Roger L. Head for weldless connectors. 3,511,527, Cl. 294-82.

G. Q. Parachute Company, Limited: *See—*
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Grace, Alan G., to Fowler, Allan R., mesne. Phase angle modulator. 3,512,109, Cl. 332-16.

Grace, W. R., & Co.: *See—*
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Marans, Nelson S., and Olfky, Stephen J., 3,511,764.

Graf, Max: *See—*
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Graham Door Company, : *See—*
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Graham, John R., Malek, Walter K., Comp, Robert H., and Substelny, Henry Z., to Graham Door Company, mesne. Door sections having unitized hardware. 3,511,301, Cl. 160-209.

Granco Equipment, Inc.: *See—*
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Grau, Gerard: *See—*
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Graves, Howard K. Musical instrument soundboard system. 3,511,125, Cl. 84-192.

Gravesteyn, Jacobus Cornelis: *See—*
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Gray, John, and Anderson, Gene W., to Liquitrol Systems, Inc. Control system for liquid pressure booster systems. 3,511,579, Cl. 417-6.

Gray, William T., Ross, Raymond W., and Williams, Albert J., Jr., to Leeds & Northrup Company. Analog centesimal recorders. 3,512,166, Cl. 346-23.

Green, Stanley E., to Smith Kline & French Laboratories. Laboratory reagent for assay of total bilirubin. 3,511,607, Cl. 23-230.

Greenaway, David L.: *See—*
Gerritsen, Henrik J., and Greenaway, David L. 3,511,553.

Greenberger, William, to Hopp Press Incorporated, The. Display literature dispenser. 3,511,386, Cl. 211-88.

Greene, George B. Automatic bar typewriters and the like having roll-cam type drive mechanisms. 3,511,352, Cl. 197-20.

Grems, Colis Robert, and Grems, John Douglas. Roof and wall construction. 3,511,008, Cl. 52-309.

Grems, John Douglas: *See—*
Grems, Colis Robert, and Grems, John Douglas 3,511,008.

Griebsch, Eugen: *See—*
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Grieve, Wayne Bruce, to Deere & Company. Engine balancer. 3,511,110, Cl. 74-604.

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Griset, Ernest J., Jr.: *See—*
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Griset, Ernest J., Jr., to Ethicon, Inc. Method for the manufacture of collagen tape. 3,511,904, Cl. 264-202.

Grisley, Daniel W., Jr., to Monsanto Company. Fungicidal composition and method containing diiodophenyl phosphoranes. 3,511,912, Cl. 424-221.

Grissom, John T., Koehler, Dale R., and Teschner, Bernard M. Bimetallic clinical thermometer. 3,511,095, Cl. 73-363.5

Grosser, Frederick: *See—*
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Groves, William G.: *See—*
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Grundig E.M.V., Elektro Mechanische Versuchsanstalt Inh.: *See—*
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Guenter, Richard G., to Hercules Incorporated. Apparatus and process for excavating with explosives. 3,511,538, Cl. 299-13.

Guernsey, J. D.: *See—*
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Guerrieri, Salvatore A. Flash evaporation with series arranged with solar heating zone. 3,511,756, Cl. 203-11.

Guglielmetti, Leonardo: *See—*
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Guild Molders, Inc.: *See—*
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Gulf Research & Development Company: *See—*
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Gundry, Joseph C.: *See—*
Blixt, Richard E., and Gundry, Joseph C. 3,512,091.

Gunlock, Donald E., to General Motors Corporation. Adjustable headrest support assembly. 3,511,535, Cl. 297-410.

Gunner, Christopher S. J.: *See—*
Lyster, John F., and Gunner, Christopher S. J. 3,511,398.

Gunst, Raymond, Aenishaenslin, Rudolf, Fasciati, Alfred, and Koller, Eugen Johann, to Ciba Limited. Process for dyeing or printing fibrous materials. 3,511,590, Cl. 8-18.

Gunther, Arnold: *See—*
Roberts, Edward S., Gunther, Arnold, and Rogacki, Casimir A. 3,511,027.

Gunther, Conrad J.: *See—*
Dzus, Theodore, and Gunther, Conrad J. 3,510,922.

Gunver Manufacturing Company, The: *See—*
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Guthke, Harald: *See—*
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Guthrie, Sheldon W. Tire traction device. 3,511,292, Cl. 152-225.

Haack, Erich, and Braun, Franz, to Boehringer, C. F., & Soehne GmbH. Process for the production of invert sugar solutions from molasses. 3,511,705, Cl. 127-41.

Haas, Howard C., and Buzzell, Harold O., to Polaroid Corporation. Laminations. 3,511,655, Cl. 96-29.

Hacking, Samuel. Presser foot for sewing machines. 3,511,198, Cl. 112-235.

Haentjens, Walter D. Mechanical seal for slurry pump. 3,511,185, Cl. 103-111.

Hagstrom, Nils Olov Vilhelm: *See—*
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Haite, Heinz, to Pose-Marre Edelstahlwerk G.m.b.H. Conveying roller for metallurgical furnaces. 3,511,482, Cl. 263-6.

Halff, Albert H., and Reid, Allen F. Process for removing aluminate from aqueous alkali metal hydroxide solutions. 3,511,606, Cl. 23-184.

Hall, Donivan L., Susor, William C., and Kuzara, James A., to Reliance Electric and Engineering Company, The, mesne. Elevator control for ascertaining the capability of cars to serve hall calls. 3,511,342, Cl. 187-29.

Hall, Herbert J., Brown, Robert F., and Robinson, Myron, to Research-Cottrell, Inc. Methods and apparatus for electrostatically cleaning highly compressed gases. 3,511,030, Cl. 55-129.

Hall, Hugh J., to Varian Associates. Gyromagnetic resonance spectrometer employing air pressure for ejecting samples from the magnet. 3,512,078, Cl. 324-0.5

Halleck, Frank E. Animal food products for reducing plasma cholesterol levels. 3,511,910, Cl. 424-180.

Haller, Rudolf, to Kern and Company, A.G. Automatic recorders for precision goniometers or length measuring instruments employing coarse and fine scales. 3,512,006, Cl. 250-231.

Halm Instrument Co., Inc.: *See—*
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Halstead, Floyd F.: *See—*
Ehrenfried, Albert D., Pierce, Norton T., Muger, Louis, and Halstead, Floyd F. 3,511,090.

Hamilton, Max E. Gyro stabilization apparatus. 3,511,454, Cl. 244-79.

Hamilton, Vern E., to McDonnell Douglas Corporation, mesne. Ambient light filter. 3,511,560, Cl. 350-276.

Hamner, Glen P. Integrated hydrofining, hydrodesulfurization and steam cracking process. 3,511,771, Cl. 208-89.

Hancock, Arnold L., to Walker Crosweller & Company Limited. Fluid mixing devices. 3,511,279, Cl. 137-637.4

Hankocraft Company: *See—*
Conlin, Peter, and Myklebust, Paal, 3,511,236.

Hanna, Daniel C. Apparatus for transporting vehicles. 3,511,187, Cl. 104-172.

Hansen, Harold Valentine, Youngberg, Charles Harold, and Ford, Perry, Jr., to Deere & Company. Hitch device for interconnecting two implements to a tractor. 3,511,522, Cl. 280-412.

Hansen, Harold Valentine, Youngberg, Charles Harold, and Oelschlaeger, George Frederick, to Deere & Company. Lift assist mechanism. 3,511,319, Cl. 172-662.

Hanson, Donald E.: *See—*
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Hanson, Emil J. Electrical conductivity tester for milk with movable electrode for temperature compensation. 3,512,080, Cl. 324-30.

Hanson, R. A., Company, Inc.: *See—*
Hanson, Richard W., 3,511,949.

Hanson, Richard W., to Hanson, R. A., Company, Inc. Control apparatus. 3,511,949, Cl. 200-52.

Haraden, Thomas, and deVos, Hendrik A. J., to Sylvania Electric Products, Inc. Movie light. 3,511,981, Cl. 240-1.3

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Harmer, David E., to Dow Chemical Company, The. Graft copolymer compositions of vinyl chloride polymers and styrene having improved impact strength and method. 3,511,896, Cl. 260-876.

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Harris, John Derek, to Lucas, Joseph, (Industries) Limited. Machine for use in assembling battery plate packs. 3,510,931, Cl. 29-204.

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Helm, David F., to McKay Company, The. Coated arc welding electrode for minimizing both porosity and variation in composition of the weld metal at the start of welding. 3,511,968, Cl. 219-146.
Helm, David F., to McKay Company, The. Coated arc welding electrode for minimizing porosity or for minimizing both porosity and variation in composition of the weld metal at the start of welding. 3,511,969, Cl. 219-146.
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Hilton, Albert Ray, to Texas Instruments, Incorporated. Germanium-selenium-zinc glass compositions. 3,511,673, Cl. 106-47.
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Jenkins, Henry H. Electrode and electrode joint. 3,512,034, Cl. 313-354.

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Jennetti, Anthony G., to Ohio State University Research Foundation, The. Third mode super-directive slot antenna. 3,512,161, Cl. 343-771.

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Johanski, James G., Jr., to Safeway Stores, Incorporated. Giant cheese block handling and cutting machine. 3,510,944, Cl. 31-23.

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Johnson, Curtis C., to University of Utah. Measurement of blood flow using coherent radiation and doppler effect. 3,511,227, Cl. 128-2.05

Johnson, Elmon D., and Crooks, Randol C., to Andersen Corporation. Method for chemically stabilizing and protecting elongate wood strips. 3,511,691, Cl. 117-72.

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Jones, Finis E. Tacos shell cooking unit. 3,511,172, Cl. 99-426.

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Jones, James R., to Wurlitzer Company, The. Storage and retrieval control apparatus and method. 3,511,351, Cl. 194-15.

Jones, John E., Kolpek, Robert A., and Rahenkamp, Robert A., to International Business Machines Corporation. Correlated recording, reproducing, printing, and composing apparatus. 3,512,137, Cl. 340-172.5

Jones, John E., and Rahenkamp, Robert A., to International Business Machines Corporation. Composing apparatus with table lookup mode. 3,512,132, Cl. 340-172.5

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Jonsson, Sven O. I., and Jonsson, Rune B., to Aktiebolaget Hagelsrums Mekaniska Verkstad. Reversible freewheel clutch mechanism having automatically acting pawl release means. 3,511,348, Cl. 192-43.1

Joo, Louis, and Kramer, Walter E., to Union Oil Company of California, mesne. Stabilized halogenated hydrocarbon toxicant compositions. 3,511,638, Cl. 71-109.

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Jung, Margarete, and Kroeger, Hanns H., to Varta Aktiengesellschaft. Method of directly converting the chemical energy of complex hydrides into electrical. 3,511,710, Cl. 136-86.

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Kesling, Peter C. Orthodontic appliance. 3,510,946, Cl. 32-14.

Kessler, Milton. Push-pull dispensing cap with double seal. 3,511,420, Cl. 222-525.

Kessler, Robert G., to Rap Industries Incorporated. Easy opening heat sealed package. 3,511,436, Cl. 229-66.

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Strasel, Raymond K., to Jacobsen Manufacturing Company. Articulate connection for a lawn mower on a tractor. 3,511,034, Cl. 56-7.
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AMP Inc.: *See—*
Sitz, Gilbert C. Re. 26,878.
Adams, Robert B., and C. B. Moore, to Moore Products Co. Flow control apparatus. Re. 26,876, 5–12–70, Cl. 137—81.5.
Alvarez, Francisco, J. B. Siddall, and A. Ruiz, to Syntex Corp. Process for the hydrolysis of cyclic acetals and ketals. Re. 26,877, 5–12–70, Cl. 260—397.4.
Calderon, Nissim, to The Goodyear Tire & Rubber Co. Preparation of macrocyclic compounds. Re. 26,875, 5–12–70, Cl. 260—666.
Goodyear Tire & Rubber Co., The: *See—*
Calderon, Nissim. Re. 26,875.
Moore, Coleman B.: *See—*
Adams, Robert B., and Moore. Re. 26,876.
Moore Products Co.: *See—*
Adams, Robert B., and Moore. Re. 26,876.
Ruiz, Augusto: *See—*
Alvarez, Francisco, Siddall, and Ruiz. Re. 26,877.
Schafer, Konrad. Apparatus for the treatment of textiles or fabrics or the washing of laundry. Re. 26,874, 5–12–70, Cl. 68—58.
Siddall, John B.: *See—*
Alvarez, Francisco, Siddall, and Ruiz. Re. 26,877.
Sitz, Gilbert C., by AMP Inc. Plugboard assembly. Re. 26,878, 5–12–70, Cl. 339—18.
Syntex Corp.: *See—*
Alvarez, Francisco, Siddall, and Ruiz. Re. 26,877.

LIST OF DESIGN PATENTEES

Adler, Kurt S. Christmas tree ornament. 217,556, 5–12–70, Cl. D29—1.
Adler, Kurt S. Christmas tree ornament. 217,557, 5–12–70, Cl. D29—1.
Aigner, Etienne, to Villager Industries, Inc. Buckle. 217,534, 5–12–70, Cl. D2—427.
American Standard Inc.: *See—*
Kaiser, Jack N. 217,549.
Manning, Franklin K. 217,551.
Niemann, James E. 217,548.
Arcudi, Joseph L., and J. W. Rathemacher, to Becton, Dickinson and Co. Packing machine. 217,571, 5–12–70, Cl. D55—1.4.
Atlantic Products Corp.: *See—*
Renshaw, Howard J. 217,565.
Ball Bros. Research Corp.: *See—*
James, Donald N., and Nightingale. 217,572.
Bateman, John R. Support leg for a wheel aligner. 217,570, 5–12–70, Cl. D55—1.
Broyhill, Roy F. Strainer. 217,547, 5–12–70, Cl. D23—4.
Campbell, Max I. Radiator hose unit. 217,550, 5–12–70, Cl. D23—45.
Charmglow Mfg. Co.: *See—*
Koziol, Walter. 217,580.
Couve, Carl, to The Mead Corp. Safety paper or similar article. 217,573, 5–12–70, Cl. D59—6.
Couve, Carl, to The Mead Corp. Safety paper or similar article. 217,574, 5–12–70, Cl. D59—6.
Couve, Carl, to The Mead Corp. Safety paper or similar article. 217,575, 5–12–70, Cl. D59—6.
Couve, Carl, to The Mead Corp. Safety paper or similar article. 217,576, 5–12–70, Cl. D59—6.
Couve, Carl, to The Mead Corp. Safety paper or similar article. 217,577, 5–12–70, Cl. D59—6.
Globe-Union Inc.: *See—*
Mohr, John B., and Smentek. 217,554.
Green, Norman. Wire transporter. 217,544, 5–12–70, Cl. D14—3.
Hamilton Cosco, Inc.: *See—*
Hamilton, John H., and Schroer. 217,558.
Hamilton, John H., and C. E. Schroer, to Hamilton Cosco, Inc. Modular cabinet. 217,558, 5–12–70, Cl. D33—19.
Hyer Hardware Mfg. Co.: *See—*
Winton, Donald A. 217,537.
Winton, Donald A. 217,588.
Jakobsen, Robert E. K., to Schlumberger Ltd. (Schlumberger N.V.). Chair. 217,546, 5–12–70, Cl. D15—1.
James, Donald N., and P. A. Nightingale, to Ball Bros. Research Corp. Television monitor. 217,572, 5–12–70, Cl. D56—4.
Kaiser, Jack N., to American Standard Inc. Combined spout and control panel. 217,549, 5–12–70, Cl. D23—26.
Keyes Fibre Co.: *See—*
Vigue, Henry R. 217,541.
Koziol, Walter, to Charmglow Mfg. Co. Barbecue grill type cooking apparatus. 217,580, 5–12–70, Cl. D81—10.
Lee, Brian W. Orthodontic buccal tube. 217,552, 5–12–70, Cl. D24—1.
Manning, Franklin K., to American Standard Inc. Toilet bowl. 217,551, 5–12–70, Cl. D23—67.
McClure, Robert A. Tire bead spreader. 217,569, 5–12–70, Cl. D54—18.
Mead Corp., The: *See—*
Couve, Carl. 217,573.
Couve, Carl. 217,574.
Couve, Carl. 217,575.
Couve, Carl. 217,576.
Couve, Carl. 217,577.
Miles, John K.: *See—*
Vogel, John D., and Miles. 217,566.
Miller, Jocelyn D. Head ornament. 217,531, 5–12–70, Cl. D2—250.
Mohr, John B.: *See—*
Smentek, Jerome L., and Mohr. 217,555.
Mohr, John B., and J. L. Smentek, to Globe-Union Inc. Multiple vent plug assembly for storage batteries. 217,554, 5–12–70, Cl. D26—6.
Moore, Franklin, Jr.: *See—*
Plessinger, John A., and Moore. 217,545.
Neotis S.p.A.: *See—*
Pomodoro, Vincenzo. 217,548.
Niemann, James E., to American Standard Inc. Combined bathtub spout, showerhead and control apparatus. 217,548, 5–12–70, Cl. D23—20.
Nightingale, Peter A.: *See—*
James, Donald N., and Nightingale. 217,572.
O'Connell, Eugene. Combination plane. 217,535, 5–12–70, Cl. D8—101.
O'Connell, Eugene. Plough plane. 217,536, 5–12–70, Cl. D8—101.

Peters and Russell, Inc.: *See*—
Russell, Linus E. 217,578.
Russell, Linus E. 217,579.
Plessinger, John A., and F. Moore, Jr. Marginal terrain vehicle. 217,545, 5–12–70, Cl. D14—3.
Plone, Irving H.: *See*—
Wernick, Marvin, and Plone. 217,542.
Pomodoro, Vincenzo, to Neotis S.p.A. Cap for a container. 217,548, 5–12–70, Cl. D9—282.
Rathemacher, John W.: *See*—
Arnuti, Joseph L., and Rathemacher. 217,571.
Renshaw, Howard J., to Atlantic Products Corp. Sling handle for golf bag. 217,565, 5–12–70, Cl. D34—5.
Russell, Linus E., to Peters and Russell, Inc. Pump. 217,578, 5–12–70, Cl. D85—1.
Russell, Linus E., to Peters and Russell, Inc. Pump. 217,579, 5–12–70, Cl. D85—1.
Schlumberger Ltd. (Schlumberger N.V.): *See*—
Jakobsen, Robert E. K. 217,546.
Schroer, Charles E.: *See*—
Hamilton, John H., and Schroer. 217,558.
Schultz, Flossie. Convertible doll. 217,559, 5–12–70, Cl. D34—4.
Schultz, Flossie. Convertible doll. 217,560, 5–12–70, Cl. D34—4.
Schultz, Flossie. Convertible doll. 217,561, 5–12–70, Cl. D34—4.
Schultz, Flossie. Convertible doll. 217,562, 5–12–70, Cl. D34—4.
Schultz, Flossie. Convertible doll. 217,563, 5–12–70, Cl. D34—4.
Schultz, Flossie. Convertible doll. 217,564, 5–12–70, Cl. D34—4.
Sherman, Martin. Slipper or similar article. 217,532, 5–12–70, Cl. D2—279.
Sherman, Martin. Slipper or similar article. 217,533, 5–12–70, Cl. D2—279.
Smentek, Jerome L.: *See*—
Mohr, John B., and Smentek. 217,554.
Smentek, Jerome L., and J. B. Mohr, to Globe-Union Inc. Multiple vent plug assembly for storage batteries. 217,553, 5–12–70, Cl. D26—6.
Smentek, Jerome L., and J. B. Mohr, to Globe-Union Inc. Multiple vent plug assembly for storage batteries. 217,555, 5–12–70, Cl. D26—6.
Sun, George C. Exercise device. 217,568, 5–12–70, Cl. D34—5.
Vicario, Guido. Diagnostic unit for analyzing leukemia. 217,581, 5–12–70, Cl. D83—1.
Vigue, Henry R., to Keyes Fibre Co. Packaging tray for U-shaped bulbs. 217,541, 5–12–70, Cl. D9—187.
Villager Industries, Inc.: *See*—
Aigner, Etienne. 217,534.
Vogel, John D., and J. K. Miles. Bowling game table. 217,566, 5–12–70, Cl. D34—5.
Weise, Grant J. Locknut conduit. 217,540, 5–12–70, Cl. D8—274.
Wernick, Marvin, and I. H. Plone, to Republic Corp. Jewelry box. 217,542, 5–12–70, Cl. D9—238.
Williams, Kay R. Golf club. 217,567, 5–12–70, Cl. D34—5.
Winton, Donald A., to Hyer Hardware Mfg. Co. Knob for doors, drawers and the like. 217,537, 5–12–70, Cl. D8—139.
Winton, Donald A., to Hyer Hardware Mfg. Co. Handle for drawers, doors and the like. 217,538, 5–12–70, Cl. D8—166.
Wren, Winfred D. Illuminable house marker. 217,539, 5–12–70, Cl. D8—180.

CLASSIFICATION OF PATENTS

ISSUED MAY 12, 1970

NOTE.—First number, class; second number, subclass; third number, patent number

2– 3	3,510,879	29–420.5	3,510,935	53–123	3,511,023	73–388	3,511,098	96–109	3,511,663	117–215	3,511,704
68	3,510,880	454	3,510,936	182	3,511,024	421.5	3,511,099	98– 1.5	3,511,161	118– 49	3,511,212
175	3,510,881	594	3,510,937	307	3,511,025	423	3,511,100	36	3,511,162	401	3,511,213
239	3,510,882	602	3,510,938	376	3,511,026	74– 5.7	3,511,101	40	3,511,163	637	3,511,214
3– 1	3,510,883	605	3,510,939	55– 44	3,511,027	60	3,511,102	99– 1	3,511,665	119– 53	3,511,215
4– 42	3,510,884	611	3,510,940	67	3,511,028	110	3,511,103	77.1	3,511,666	147	3,511,216
77	3,510,885	30– 15.5	3,510,941		3,511,029	388	3,511,104	78	3,511,667	122–406	3,511,217
5– 63	3,510,886	34.2	3,510,942	129	3,511,030	481	3,511,105	83	3,511,668	123–119	3,511,218
176	3,510,887	287	3,510,943	158	3,511,031	501	3,511,106	109	3,511,669	182	3,511,219
337	3,510,888	31– 23	3,510,944	56– 1	3,511,032	512	3,511,107	118	3,511,670	198	3,511,220
343	3,510,889	32– 14	3,510,946	7	3,511,033	529	3,511,108	199	3,511,671	124– 7	3,511,225
8– 18	3,511,590	22	3,510,945		3,511,034	560	3,511,109	257	3,511,164	20	3,511,221
116	3,511,591	32	3,510,947		3,511,035	604	3,511,110	278	3,511,165	126– 9	3,511,222
158	3,510,890	64	3,510,948	27	3,511,036	687	3,511,111	295	3,511,166	41	3,511,223
173	3,510,891	33– 27	3,510,949	130	3,511,037	757	3,511,112	343	3,511,167	59.5	3,511,224
9– 8	3,510,892	94	3,510,950	327	3,511,038	794	3,511,113	360	3,511,168	127– 41	3,511,705
11	3,510,893	143	3,510,951	329	3,511,039	801	3,511,114	370	3,511,169	58	3,511,226
307	3,510,894	170	3,510,952	370	3,511,040	861	3,511,115	402	3,511,170	128– 2.05	3,511,227
323	3,510,895	174	3,510,953	57– 34	3,511,041	866	3,511,116	421	3,511,171	.08	3,511,237
10–129	3,510,896	34– 22	3,510,954	58.89	3,511,042	876	3,511,117	426	3,511,172	25	3,511,228
12–123	3,510,897	23	3,510,955		3,511,043	75– .5	3,511,640	100– 7	3,511,173	52	3,511,229
13– 6	3,511,916	25	3,510,956	.91	3,511,044	12	3,511,641	43	3,511,174	79	3,511,230
15– 21	3,510,898	53	3,510,957		3,511,045	26	3,511,642	226	3,511,175	130	3,511,231
	3,510,899	60	3,510,958	60– 36	3,511,046	40	3,511,643	229	3,511,176	133	3,511,232
82	3,510,900	115	3,510,959		3,511,049		3,511,644	257	3,511,177	149	3,511,233
100	3,510,901	155	3,510,960	39.28	3,511,047	101	3,511,645	101–183	3,511,179	159	3,511,234
104.01	3,510,902	35– 9	3,510,961	54.5	3,511,048	123	3,511,646	352	3,511,180	173.1	3,511,235
256.5	3,510,903	18	3,510,962		3,511,050	129	3,511,647	369	3,511,181	187	3,511,236
319	3,510,904	19	3,510,963	73	3,511,051	170	3,511,639	450	3,511,178	214	3,511,238
345	3,510,905	22	3,510,964	97	3,511,052	77– 57	3,511,119	102– 70.2	3,511,182	218	3,511,239
16–128	3,510,906	25	3,510,965	220	3,511,054	68	3,511,120		3,511,183	276	3,511,240
17– 11	3,510,907	35	3,510,966	229	3,511,055	81–119	3,511,118	78	3,511,184	295	3,511,241
	3,510,908		3,510,967	61– 35	3,511,056	82– 19	3,511,121	104– 89	3,511,186	303	3,511,242
24	3,510,909	36– 30	3,510,968	46.5	3,511,057	83–155	3,511,122	172	3,511,187	305	3,511,243
52	3,510,910	37– 8	3,510,969	62– 9	3,511,058	482	3,511,123	105–280	3,511,188	335.5	3,511,244
18– 19	3,510,913	94	3,510,970	138	3,511,059	522	3,511,124	106– 47	3,511,672	535	3,511,245
26	3,510,911	38– 8	3,510,971	140	3,511,060	84– 1.01	3,511,917		3,511,673	131– 15	3,511,247
30	3,510,914	42	3,510,972	64– 32	3,511,061	.21	3,511,918	85	3,511,674	66	3,511,709
	3,510,915	40– 31	3,510,973	65– 4	3,511,625	192	3,511,125	280	3,511,675	132– 1	3,511,248
36	3,510,916	124.1	3,510,974	24	3,511,626	85– 8.3	3,511,126		3,511,676	89	3,511,249
42	3,510,912	129	3,510,975	85	3,511,627	11	3,511,127	107– 8	3,511,189	134– 23	3,511,706
19–263	3,510,917	132	3,510,976	107	3,511,628	23	3,511,128	14	3,511,190	27	3,511,707
21– 92	3,511,592	334	3,510,977	134	3,511,629	90– 14	3,511,129	108– 58	3,511,191	40	3,511,708
93	3,511,593	43– 17.1	3,510,978	160	3,511,630	91– 31	3,511,130	64	3,511,192	122	3,511,250
23– 2	3,511,594	44– 63	3,511,623	182	3,511,631	176	3,511,131	152	3,511,193	123	3,511,251
	3,511,596	46– 25	3,510,979	66– 81	3,511,062	375	3,511,132	110– 8	3,511,194	145	3,511,252
4	3,511,595	74	3,510,980	86	3,511,063	387	3,511,134	112– 79	3,511,195	136– 86	3,511,710
19	3,511,597	202	3,510,981	125	3,511,064	388	3,511,133	118	3,511,196		3,511,711
53	3,511,598	48–197	3,511,624	172	3,511,053	483	3,511,135	235	3,511,197		3,511,712
71	3,511,599	49– 30	3,510,982	68– 5	3,511,065	92–161	3,511,136		3,511,198		3,511,713
109	3,511,600	130	3,510,983	18	3,511,066	171	3,511,137		3,511,199		3,511,714
110	3,511,601	326	3,510,984	23.7	3,511,067	93– 51	3,511,138		3,511,200		3,511,715
122	3,511,602	386	3,510,986	58	Re.26,874		3,511,139	240	3,511,201	100	3,511,716
153	3,511,603	425	3,510,985	177	3,511,068		3,511,140	252	3,511,202	133	3,511,717
165	3,511,604	51–138	3,510,987	70– 1.5	3,511,069	95– 4.5	3,511,141	114– 56	3,511,203	137– 60	3,511,253
182	3,511,605	148	3,510,988	71– 86	3,511,632	10	3,511,142	163	3,511,204	67	3,511,254
184	3,511,606	170	3,510,989		3,511,633		3,511,143	201	3,511,205	81.5	Re.26,876
230	3,511,607	206	3,510,990		3,511,634		3,511,144	236	3,511,206		3,511,255
	3,511,611	209	3,510,993		3,511,636		3,511,145	115– 1	3,511,207		3,511,256
252	3,511,612	295	3,510,994	87	3,511,635	11	3,511,146	18	3,511,208		3,511,257
253	3,511,608	327	3,510,995	106	3,511,637		3,511,147	35	3,511,209		3,511,258
259	3,511,613	372	3,510,991	109	3,511,638		3,511,148	116–114	3,511,210	114	3,511,259
273	3,511,609	378	3,510,992	72–209	3,511,070	12	3,511,149	129	3,511,211	119	3,511,260
	3,511,610	52– 64	3,510,996	253	3,511,071	.5	3,511,150	117– 7	3,511,677	315	3,511,261
	3,511,614	79	3,510,997	326	3,511,072		3,511,151	33.5	3,511,678		3,511,262
283	3,511,615	86	3,510,998	384	3,511,073	13	3,511,152	37	3,511,679	355.17	3,511,263
284	3,511,616	99	3,510,999	389	3,511,074	31	3,511,153	43	3,511,680	.18	3,511,264
288	3,511,617	122	3,511,000	402	3,511,075		3,511,154	45	3,511,681	434	3,511,265
293	3,511,618	126	3,511,001	420	3,511,076	44	3,511,155	46	3,511,682	484.4	3,511,266
302	3,511,619	146	3,511,002	73– 1	3,511,077	45	3,511,156	47	3,511,683	486	3,511,267
338	3,511,620	198	3,511,003	7	3,511,078	53	3,511,157		3,511,684	487	3,511,268
355	3,511,621	270	3,511,004	9	3,511,079	57	3,511,158		3,511,685	498	3,511,269
24– 19	3,510,918	293	3,511,005	23.1	3,511,080	86	3,511,159	51	3,511,686	510	3,511,270
74	3,510,919	301	3,511,006	37.5	3,511,081	89	3,511,160	62	3,511,687	512.3	3,511,271
90	3,510,920	309	3,511,007	46	3,511,082	96– 1	3,511,649	67	3,511,688	544	3,511,272
205.17	3,510,921		3,511,008	61.1	3,511,083		3,511,650	70	3,511,689	557	3,511,273
221	3,510,922	311	3,511,009	64.1	3,511,084	.5	3,511,651	71	3,511,690	596.15	3,511,275
263	3,510,923	393	3,511,010	80	3,511,085	.7	3,511,648	72	3,511,691	.2	3,511,274
25–104.5	3,510,924	478	3,511,011	104	3,511,086	27	3,511,652	94	3,511,692	624.14	3,511,278
29– 25.15	3,510,925	667	3,511,012	119	3,511,087		3,511,653	102	3,511,693	.27	3,511,276
.19	3,510,926	53– 14	3,511,013		3,511,088	28	3,511,654	105.3	3,511,694	637.4	3,511,277
148.4	3,510,927	24	3,511,014	133	3,511,089	29	3,511,655	111	3,511,695		3,511,279
149.5	3,510,928	28	3,511,015	301	3,511,090		3,511,656		3,511,696	138– 30	3,511,280
157	3,510,929		3,511,016	343	3,511,091	50	3,511,657	126	3,511,697	103	3,511,281
.3	3,510,930	33	3,511,017	344	3,511,092	68	3,511,658	138.8	3,511,698	113	3,511,282
193	3,511,622	42	3,511,018	351	3,511,093	76	3,511,659	139.5	3,511,699	143	3,511,283
204	3,510,931	52	3,511,019	363.3	3,511,094	84	3,511,660	201	3,511,700	154	3,511,246
401	3,510,932	112	3,511,020	.5	3,511,095	86	3,511,661	206	3,511,701	139–122	3,511,284
417	3,510,933		3,511,021	371	3,511,096	94	3,511,662	212	3,511,702	187	3,511,285
419	3,510,934		3,511,022	379	3,511,097	104	3,511,664	213	3,511,703	145– 53	3,511,286

146–120	3,511,287	181– 42	3,511,336	215– 1	3,511,401	250– 93	3,511,995	260–397.3	3,511,860	297–454	3,511,537
148– 6.14	3,511,718	52	3,511,337	43	3,511,402	102	3,511,996	.4	RE.26,877	299– 13	3,511,538
11.5	3,511,719	182–121	3,511,338	44	3,511,403	106	3,511,997	.5	3,511,861	56	3,511,539
133	3,511,720	148	3,511,339	217– 31	3,511,404	199	3,511,998	429	3,511,862	300– 11	3,511,540
138	3,511,721	184– 1	3,511,340	219– 8.5	3,511,957	214	3,511,999	439	3,511,863	301– 37	3,511,541
175	3,511,722	55	3,511,341	10.55	3,511,958		3,512,000	448	3,511,864	303– 21	3,511,542
	3,511,723	187– 29	3,511,342		3,511,959	218	3,512,001	.2	3,511,865	62	3,511,543
187	3,511,724		3,511,343	73	3,511,960	222	3,512,002		3,511,866	307– 88	3,512,007
149– 19	3,511,725		3,511,344	83	3,511,961		3,512,003	455	3,511,867	216	3,512,009
43	3,511,726	188– 1	3,511,345	93	3,511,962	223	3,512,004	463	3,511,868	218	3,512,010
150– .5	3,511,288	71.9	3,511,346	120	3,511,963		3,512,005	465.2	3,511,869	228	3,512,011
151– 19	3,511,289	216	3,511,347	125	3,511,964	231	3,512,006	468	3,511,870	233	3,512,012
152–209	3,511,290	192– 7	3,511,920		3,511,965	251– 6	3,511,468		3,511,871		3,512,013
	3,511,291	43.1	3,511,348	131	3,511,966	7	3,511,469	471	3,511,872	252	3,512,014
225	3,511,292	56	3,511,349	146	3,511,967	121	3,511,470		3,511,873		3,512,015
330	3,511,293	193– 35	3,511,350		3,511,968	144	3,511,471	473.5	3,511,874	254	3,512,008
418	3,511,294	194– 15	3,511,351		3,511,969	285	3,511,472	479	3,511,875	300	3,512,016
427	3,511,295	195– 28	3,511,752	331	3,511,970		3,511,473	482	3,511,876	306	3,512,017
156– 17	3,511,727	62	3,511,753	449	3,511,971	305	3,511,474	490	3,511,877	320	3,512,018
52	3,511,728	66	3,511,754	501	3,511,972	333	3,511,475	553	3,511,878	308– 3	3,511,544
154	3,511,729		3,511,755	220– 2.1	3,511,405	252– 8.5	3,511,779	566	3,511,879	6	3,511,545
163	3,511,730	197– 20	3,511,352	26	3,511,406	32.7	3,511,780	604	3,511,880	9	3,511,546
230	3,511,731	133	3,511,353	44	3,511,407	36	3,511,781	607	3,511,881	310– 49	3,512,019
242	3,511,732		3,511,354	55	3,511,408	46.4	3,511,782	613	3,511,882	67	3,512,020
243	3,511,733	198– 20	3,511,355	221– 7	3,511,409	117	3,511,783	650	3,511,883		3,512,021
287	3,511,734	29	3,511,356	222– 45	3,511,410	148	3,511,784	665	3,511,884	74	3,512,022
516	3,511,735	31	3,511,357	52	3,511,411	301.4	3,511,785	666	RE.26,875	88	3,512,024
157– 1.24	3,511,296	119	3,511,358	58	3,511,412	521	3,511,786		3,511,885	154	3,512,025
159– 5	3,511,297	126	3,511,359	129.1	3,511,413	254–139	3,511,476	669	3,511,886	168	3,512,026
16	3,511,298	189	3,511,360	136	3,511,414	256– 65	3,511,477		3,511,887	312– 1	3,511,547
160– 1	3,511,299	202	3,511,361	146	3,511,415	259– 7	3,511,478	673.5	3,511,888	71	3,511,548
206	3,511,300	211	3,511,362	305	3,511,416	9	3,511,479	674	3,511,889	219	3,511,549
209	3,511,301	220	3,511,363	399	3,511,417	60	3,511,480	683	3,511,890	330	3,511,550
161– 15	3,511,736	200– 4	3,511,943	402.20	3,511,418	260– 2.5	3,511,787	.15	3,511,891	313– 77	3,512,023
38	3,511,737	17	3,511,944	490	3,511,419		3,511,788	858	3,511,893	108	3,512,027
43	3,511,738	31	3,511,945	525	3,511,420		3,511,789	875	3,511,894	109.5	3,512,028
57	3,511,739	35	3,511,946	559	3,511,421		3,511,790	876	3,511,895	161	3,512,029
67	3,511,740	42	3,511,947	223– 34	3,511,424		3,511,796		3,511,896	231	3,512,030
73	3,511,741	52	3,511,948	37	3,511,422	17.4	3,511,791	878	3,511,897	288	3,512,031
109	3,511,742		3,511,949	68	3,511,423	22	3,511,792	885	3,511,898	318	3,512,032
117	3,511,743	144	3,511,950	224– 42.1	3,512,082	23	3,511,793	261–118	3,511,481	346	3,512,033
125	3,511,744	157	3,511,951	226–138	3,511,425	.7	3,511,795	263– 6	3,511,482	354	3,512,034
142	3,511,745	166	3,511,952	145	3,511,426	28.5	3,511,797		3,511,483	315– 10	3,512,037
147	3,511,746		3,511,953	227– 1	3,511,427	29.6	3,511,798	21	3,511,484	12	3,512,038
150	3,511,747	167	3,511,954	229– 14	3,511,428		3,511,799		3,511,485	13	3,512,035
165	3,511,748		3,511,955	31	3,511,429	30.8	3,511,800	28	3,511,486	14	3,512,036
175	3,511,749	172	3,511,956	35	3,511,430		3,511,801	52	3,511,487	24	3,512,039
216	3,511,750	203– 11	3,511,756	37	3,511,431	33.6	3,511,794	264– 26	3,511,899	27	3,512,040
162–117	3,511,751	96	3,511,757	39	3,511,432	41	3,511,802	101	3,511,900	169	3,512,041
164– 24	3,511,302	204– 15	3,511,758	44	3,511,433	45.75	3,511,803	154	3,511,901	209	3,512,042
50	3,511,303	51	3,511,759	52	3,511,434	.85	3,511,804	163	3,511,902	317– 14	3,512,043
82	3,511,304	59	3,511,760	55	3,511,435		3,511,806	171	3,511,903	16	3,512,044
	3,511,305		3,511,761	66	3,511,436	.9	3,511,805	202	3,511,397	18	3,512,045
105	3,511,306		3,511,762	92.9	3,511,437	47	3,511,807		3,511,904	28	3,512,046
276	3,511,307	158	3,511,763	235– 61.11	3,511,973		3,511,808	210	3,511,905	33	3,512,047
165– 1	3,511,308	159.21	3,511,764		3,511,975		3,511,809	262	3,511,906	142	3,512,048
9	3,511,309	222	3,511,765		3,511,976	63	3,511,810	294	3,511,845	230	3,512,049
78	3,511,311	279	3,511,766	.6	3,511,974	75	3,511,811	266– 22	3,511,488	234	3,512,050
105	3,511,310	284	3,511,767	78	3,511,438		3,511,812	23	3,511,489		3,512,051
166– .5	3,511,312	321	3,511,768	92	3,511,977	77.5	3,511,813	36	3,511,490		3,512,052
293	3,511,314	206– 46	3,511,364	98	3,511,439		3,511,814	267– 1	3,511,491		3,512,053
295	3,511,313	56	3,511,365	175	3,511,978	78	3,511,815		3,511,492	235	3,512,054
	3,511,315	208– 39	3,511,769	183	3,511,979		3,511,819	47	3,511,493		3,512,055
172–126	3,511,316		3,511,770	193	3,511,980	.4	3,511,816	270– 52	3,511,494		3,512,056
212	3,511,317	89	3,511,771	239–129	3,511,440	.5	3,511,817	271– 26	3,511,495		3,512,057
240	3,511,318	112	3,511,772	265.29	3,511,441		3,511,818	37	3,511,496		3,512,058
662	3,511,319	139	3,511,773	533	3,511,442		3,511,820	75	3,511,497	249	3,512,059
173– 43	3,511,320	251	3,511,774		3,511,443	80.7	3,511,821	272– 33	3,511,498	318– 18	3,512,060
48	3,511,321	209– 12	3,511,366	240– 1.3	3,511,981	87.1	3,511,822	57	3,511,499		3,512,061
75	3,511,322	73	3,511,367	8.16	3,511,982	88.3	3,511,823	79	3,511,500		3,512,062
117	3,511,323		3,511,368	41.15	3,511,983	93.7	3,511,824	273– 34	3,511,501		3,512,063
131	3,511,325		3,511,369	44.1	3,511,984	97	3,511,825	73	3,511,502		3,512,064
174– 15	3,511,919		3,511,370		3,511,985	146	3,511,826	105	3,511,503	138	3,512,065
88	3,511,921	74	3,511,371	241– 32	3,511,444	151	3,511,827	134	3,511,504		3,512,066
137	3,511,922	111.5	3,511,372	61	3,511,445	162	3,511,828	161	3,511,505	227	3,512,067
175– 59	3,511,324	234	3,511,373	152	3,511,446	199	3,511,829	179	3,511,506	331	3,512,068
61	3,511,326	258	3,511,374	172	3,511,447	233.5	3,511,830	201	3,511,507	436	3,512,069
178– 4.1	3,511,923	454	3,511,375	242– 36	3,511,448	240	3,511,831	274– 4	3,511,508	320– 2	3,512,070
5.4	3,511,924	210– 31	3,511,775	55.19	3,511,449		3,511,832	9	3,511,509	5	3,512,071
	3,511,925	42	3,511,776	107.4	3,511,450		3,511,833	277– 27	3,511,510	61	3,512,072
6	3,511,926	46	3,511,778	200	3,511,451		3,511,834	41	3,511,511	321– 14	3,512,073
.5	3,511,927	49	3,511,777	244– 1	3,511,452	256	3,511,835	47	3,511,512	322– 20	3,512,074
	3,511,928	169	3,511,376		3,511,453	.4	3,511,836	82	3,511,513	28	3,512,075
.6	3,511,929	181	3,511,378	79	3,511,454		3,511,837	279–123	3,511,514		3,512,076
7.3	3,511,930	194	3,511,379	102	3,511,455	260	3,511,838	280– 5	3,511,515	323– 19	3,512,077
179– 1	3,511,931	198	3,511,377		3,511,456	268	3,511,839	11.35	3,511,516	324– .5	3,512,078
	3,511,932	202	3,511,380	137	3,511,457		3,511,840	16	3,511,517	16	3,512,079
5	3,511,933	321	3,511,381	142	3,511,458		3,511,841	80	3,511,518	30	3,512,080
6	3,511,934	489	3,511,382	155	3,511,459	288	3,511,842	150	3,511,519	37	3,512,081
	3,511,935	526	3,511,383	248– 4	3,511,460	291	3,511,843	219	3,511,520	57	3,512,083
15	3,511,936	211– 41	3,511,385	27.8	3,511,461	294.3	3,511,844	270	3,511,521	72.5	3,512,084
18	3,511,937	60	3,511,384	179	3,511,462	.7	3,511,846	412	3,511,522	83	3,512,085
90	3,511,938	88	3,511,386	343	3,511,463	295.5	3,511,847	433	3,511,523	98	3,512,086
	3,511,939	126	3,511,387	345.1	3,511,464	296	3,511,848	285– 30	3,511,524	325–320	3,512,087
100.2	3,511,940	212–144	3,511,388	479	3,511,465		3,511,849	287–189.36	3,511,525	361	3,512,088
146	3,511,941	214– 16.1	3,511,389	249– 57	3,511,466	299	3,511,850	292–216	3,511,526	363	3,512,089
	3,511,942	21	3,511,390	118	3,511,467	307	3,511,851	294– 82	3,511,527	442	3,512,090
180– 6.7	3,511,327	36	3,511,391	250– 41.9	3,511,986	326	3,511,852	99	3,511,528	446	3,512,091
73	3,511,332	38	3,511,392	42	3,511,987	327	3,511,853	296– 23	3,511,529	328– 14	3,512,092
101	3,511,328	85	3,511,393	49.5	3,511,988	332.3	3,511,854	146	3,511,530	137	3,512,094
105	3,511,329	90	3,511,394	51.5	3,511,989	343.2	3,511,856	297–153	3,511,531	139	3,512,093
118	3,511,330	152	3,511,395	68	3,511,990		3,511,892	159	3,511,532	329–117	3,512,095
127	3,511,331		3,511,396	83	3,511,991	.9	3,511,855	337	3,511,533	330– 11	3,512,097
181– .5	3,511,333	394	3,511,398		3,511,992	347.8	3,511,857	373	3,511,534	25	3,512,098
	3,511,334	520	3,511,399		3,511,993	349	3,511,858	410	3,511,535	29	3,512,096
33	3,511,335	621	3,511,400	.1	3,511,994		3,511,859	440	3,511,536	35	3,512,099

330– 38	3,512,100	339–198	3,512,121	340–174	3,512,143	346– 43	3,512,157	350–258	3,511,559	417– 6	3,511,579
69	3,512,101	273	3,512,122	.1	3,512,144	74	3,512,168	276	3,511,560	48	3,511,580
107	3,512,102	276	3,512,123		3,512,145		3,512,169	351– 13	3,511,561	213	3,512,178
331– 2	3,512,103	340– 3	3,512,124		3,512,146		3,512,170	352– 92	3,511,562	310	3,511,581
94.5	3,512,104	5	3,512,125	213.1	3,512,147		3,512,171	353– 38	3,511,563	387	3,511,582
96	3,512,105	8	3,512,126	228	3,512,148	75	3,512,172	355– 3	3,511,564	412	3,511,583
111	3,512,106	15.5	3,512,127	253	3,512,149		3,512,173	56	3,511,565	418– 61	3,511,584
116	3,512,107	27	3,512,128	347	3,512,150	76	3,512,158	67	3,511,566	424– 78	3,511,907
332– 16	3,512,109	146.3	3,512,129		3,512,151		3,512,174	132	3,511,567	88	3,511,908
19	3,512,108	149	3,512,130		3,512,152	82	3,512,175	356– 5	3,511,568	115	3,511,909
333– 10	3,512,110	172.5	3,512,131	366	3,512,153	86	3,512,159	28	3,511,569	180	3,511,910
335–153	3,512,111		3,512,132	343– 6.8	3,512,154	109	3,512,176	36	3,511,570	211	3,511,911
337– 70	3,512,112		3,512,133	8	3,512,155	140	3,512,177	71	3,511,571	221	3,511,912
338–163	3,512,113		3,512,134	16	3,512,156	350– 3.5	3,511,552	106	3,511,572	243	3,511,913
241	3,512,114		3,512,135	200	3,512,160		3,511,553	208	3,511,573	263	3,511,914
285	3,512,115		3,512,136	702	3,512,162	7	3,511,551	226	3,511,574	267	3,511,915
339– 12	3,512,116		3,512,137	771	3,512,161	12	3,511,554	401– 78	3,511,575	431– 88	3,511,585
18	RE.26,878		3,512,138	346– 1	3,512,163	117	3,511,555	415– 27	3,511,576	93	3,511,586
40	3,512,117		3,512,139		3,512,164	157	3,511,556	131	3,511,185	160	3,511,587
60	3,512,118	173	3,512,140	7	3,512,165	181	3,511,557	137	3,511,577	264	3,511,588
90	3,512,119	174	3,512,141	23	3,512,166	232	3,511,558	416–178	3,511,578	350	3,511,589
99	3,512,120		3,512,142	33	3,512,167						

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	217,533	238	217,542	67	217,551		217,560		217,568		217,576
427	217,534	282	217,543	D24– 1	217,552		217,561	D54– 13	217,569		217,577
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	217,536		217,545		217,554		217,563		217,571		217,579
139	217,537	D15– 1	217,546		217,555		217,564	D56– 4	217,572	D81– 10	217,580
166	217,538	D23– 4	217,547	D29– 1	217,556	5	217,565	D59– 6	217,573	D83– 1	217,581
180	217,539	20	217,548		217,557						

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Design Patents

4 : 217,531	17 : 217,573	18 : 217,567	34 : 217,568	39 : 217,558	46 : 217,561
6 : 217,537	217,574	20 : 217,550	217,571	217,569	217,562
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Defensive Publications Applications

(Notice of Dec. 16, 1969, 869 O.G. 687)

10 : T874,001	10 : T874,004	47 : T874,002	47 : T874,003		

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

May 12, 1970 Volume 874 Number 2

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 169,494 (DE LUXE), Sturm & Scheinberg, Inc., Arm bands, garters; **Reg. No. 544,719**, same, Ladies' sanitary belts and men's athletic supporters; **Reg. No. 773,255**, same, Ladies' and men's garters, boys' and men's suspenders, head bands, shoulder straps for brassieres and slips, components for the repair of girdles and brassieres, **filed** Feb. 13, 1968, D.C., S.D.N.Y., Doc. 68–C–604, *De Luxe Girdlecraft Co., Inc. et al.* v. *Edco Surgical Supply Co., Inc.* Stipulation and order of discontinuance of action and counterclaim with prejudice, Feb. 10, 1970.

Reg. No. 886,919 (TELESIGN), Naxon Telesign Corp., Gaseous-tube and filament lamp electric signs, electric sign flashing and control devices, and/or equipment for the above, **filed** Aug. 14, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1410, *Naxon Telesign Corp.* v. *Tel-A-Sign Inc., Scopitone, Inc.* By agreement order, dismissed with prejudice, Feb. 27, 1970.

Reg. No. 544,719. (See Reg. No. 169,494.)

Reg. No. 644,877 (KELLY GIRLS), Russell Kelly Office Service, Inc., Secretarial, clerical, and business machine services and operators for bookkeeping machines and employment services involving the furnishing of temporary office help; **Reg. No. 736,554**, same, Kelly Girl Service Inc., Secretarial and clerical services, operators for bookkeeping and other business office machines and employment services involving the furnishing of temporary office help, **filed** Feb. 11, 1970, D.C., W.D. Okla. (Oklahoma City), Doc. 70–75–C, *Kelly Services, Inc.* v. *Grace E. Kelly, doing business as Kelly Secretarial Service.*

Reg. No. 727,341 (MR. TRAVEL AND DESIGN), Mr. Travel Inc., Travel agency services, including arranging travel transportation, travel accommodations, vacation tours, and hotel accommodations, **filed** Oct. 16, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–2068–FW, *Mr. Travel* v. *Leonard H. Vander Bie, Woody L. Nelson and Mr. Travel.* Consent decree, defendants L. H. Vander Bie and Mr. Travel permanently enjoined and restrained from further use of plaintiff's trademark and further ordered that defendants destroy all labels, etc. bearing plaintiff's trademark, Jan. 9, 1970.

Reg. No. 736,554. (See Reg. No. 644,877.)

Reg. No. 773,225. (See Reg. No. 169,494.)

Reg. No. 806,974 (MISS U.S.A.), Miss Universe, Inc., Promoting the sale of goods and services of others through the medium of beauty contest conducted on a national and regional basis; **Reg. No. 806,975** (MISS UNITED STATES OF AMERICA), same, **filed** Feb. 17, 1970, D.C., S.D.N.Y., Doc. 70–C–657, *Miss Universe Inc.* v. *National Broadcasting Co., etc. et al.*

Reg. No. 806,975. (See Reg. No. 806,974.)

Reg. No. 836,079 (JOLLY TROLL), Jolly Troll, Inc., Restaurant services; **Reg. No. 855,696** (JOLLY TROLL AND DE-

CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	21,090
Date of oldest new application	January 24, 1969
Date of oldest amended application (filing date)	February 21, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4-4-69	11-9-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	1-24-69	10-20-66
(III) C. R. FOWLER, Classes 19, 21, 22, 29, 31, 34, 35, 36	9-4-69	2-21-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 26, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	3-21-69	11-15-66
Renewals (All Classes)	2-5-70	----------
Sec. 12(c) Publications (All Classes)	2-12-70	----------

Applications filed during the month of March 1970—2,908

Registrations Issued ---------- 415—No. 890,711 to No. 891,125
Renewals Issued ---------- 140

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

SIGN), same, filed Feb. 10, 1970, D.C., W.D. Wis. (Madison), Doc. 70–C–40, *Jolly Troll, Inc.* v. *Dafsco Ltd. and David A. Fjellman and Jean Fjellman.*

Reg. No. 841,173 (ARROWCOPTER), Basic Products Development Company, Aerial toys, filed Feb. 18, 1970, D.C., N.D. Calif. (San Francisco), Doc. C–70–373–OJC, *Basic Products Development Co.* v. *NG Tin Poon, Robert C. Chao.*

Reg. No. 849,828 (MUSART), Discos Musart, S.A., Phonograph records, filed Feb. 7, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–241–CC, *Discos Musart, S.A.* v. *Mus-Art Corporation of America.* Stipulation and order dismissing complaint and counterclaims with prejudice, Feb. 19, 1970.

Reg. No. 855,698. (See Reg. No. 836,079.)

Reg. No. 862,013 (BRIDES SHOWCASE), Brides Showcase Internatinoal, Inc., Bridal gowns, filed Feb. 19, 1970, D.C.N.J. (Newark), Doc. C–204–70, *Brides Showcase International Inc.* v. *Brides Showcase International.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 270,308. Ultra Carbon Corporation, Bay City, Mich. Filed May 1, 1967.

"F"

Class 26—Measuring and Scientific Appliances

For Laboratory Equipment, Comprising Containers Made of Purified Graphite Used for or in Connection With Melting, Casting or Refining Materials Such as Metals, Ceramics, and Chemicals—Namely, Combustion Boats, Funnels, and Crucibles for Use in Spectroscopic Analysis Apparatus; and for Containers for the Transport of Radioactive Materials (Int. Cl. 9).

First use Apr. 7, 1967.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Refractory Containers Made of Purified Graphite for Use in Connection With Melting, Casting or Refining Materials Such as Metals, Ceramics and Chemicals—Namely, Crucibles and Combustion Boats (Int. Cl. 9).

First use Apr. 10, 1967.

SN 292,316. M. P. Odell Company, Westlake, Ohio. Filed Mar. 4, 1968.

SAN-DEL

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For High Pressure Liquid Dispensing Unit for Solution Cleaning Technical Apparatus Such as: Electronic and Electrical Equipment, Office Machinery, Medical Equipment and Instruments, Mechanical Mechanisms, Fluid Handling and Control Devices, and Nuclear Equipment (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Drying Oven for Solution Cleaned Technical Apparatus (Int. Cl. 11).

Class 52—Detergents and Soaps

For Chemical Cleaner Solution for Cleaning Technical Apparatus (Int. Cl. 3).

First use on or prior to Dec. 8, 1967.

SN 298,784. The Anaconda Company, New York, N.Y. Filed May 22, 1968.

ANACONDA

Owner of Reg. Nos. 115,138, 790,206, and others.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Pole Line Hardware (Int. Cl. 6).

First use November 1966.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Goods—Namely, Electric Conductors Including Bare and Insulated Rod, Wires, Strand, Cables, Ribbon and Strip for Electrical Coils, Power Transmission and Distribution, Communications and Other Purposes, Electrical Bus Bars and Tubes, Electrical Coils, Electrical Insulated Sheet and Tape; Radio, Television and Telephone Communications Equipment, Namely, Coaxial Cable Transmission Equipment and Wire Line Multiplex Transmission Equipment (Int. Cl. 9).

First use May 1, 1922.

SN 300,175. Dana Corporation, Toledo, Ohio. Filed June 11, 1968.

Spicer

Owner of Reg. Nos. 696,376, 769,554, and others.

Class 19—Vehicles

For Non-Drive Axles and Parts Thereof (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Universal Joints, Drive Axles, Drive Shafts, Clutches, and Parts Thereof (Int. Cl. 12).

First use Feb. 28, 1967.

SN 308,247. Park-Ohio Industries, Incorporated, Cleveland, Ohio. Filed Sept. 26, 1968.

TOCCOSTAT

Owner of Reg. Nos. 387,810, 765,394, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Static Electrical High-Frequency Power Source for Inductively Heat-Treated Electrically Conductive Materials (Int. Cl. 9).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Induction and Flame Heating Units for Annealing, Hardening and Heat Treating of Various Materials (Int. Cl. 11).

First use Oct. 16, 1967.

SN 312,508. Task Corporation, Anaheim, Calif. Filed Nov. 18, 1968.

TASK

Class 100—Miscellaneous

For Engineering Services Relating to the Analysis and Design of Mechanical and Electrical Components and Systems for Aircraft and Missiles (Int. Cl. 42).

First use November 1953.

Class 103—Construction and Repair

For Maintenance and Repair Services for Mechanical and Electrical Components of Aircraft (Int. Cl. 37).
First use June 1959.

SN 318,613. Perfection Spring & Stamping Corp., Mount Prospect, Ill. Filed Feb. 7, 1969.



The mark is a design of the letters "PSS."

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Extension Springs, Compression Springs, and Torsion Springs (Int. Cl. 6).
First use no later than September 1965.

Class 14—Metals and Metal Castings and Forgings

For Semifinished Metal Forms, Stampings and Wire Forms for Use in the Industrial Arts (Int. Cl. 6).
First use at least as early as Sept. 19, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

For Open Wound Resistors (Int. Cl. 9).
First use no later than September 1965.

Class 103—Construction and Repair

For Manufacture of Extension, Compression and Torsion Springs, Metal Flat Forms, Stampings and Wire Forms, to the Specification and/or Order of Others (Int. Cl. 37).
First use at least as early as Sept. 19, 1965.

SN 320,630. MSL Industries, Inc., Chicago, Ill. Filed Mar. 3, 1969.

MSL

Owner of Reg. Nos. 832,055, 841,853, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Motors, Household Fans, and Motor and Transformer Laminations (Int. Cls. 7 and 11).
First use Nov. 11, 1968.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Electric Fans and Blowers for Commercial or Industrial Use (Int. Cl. 11).
First use December 1968.

SN 322,270. Durafab Disposables, Inc., Cleburne, Tex. Filed Mar. 20, 1969.

DURAFAB

Class 29—Brooms, Brushes, and Dusters

For Disposable Fabric Wipes and Cloth Wipes (Int. Cl. 21).

Class 37—Paper and Stationery

For Paper Wipes (Int. Cl. 16).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Bed Covers (Int. Cl. 24).

Class 44—Dental, Medical, and Surgical Appliances

For Hospital Drapes (Int. Cl. 24).
First use Dec. 31, 1968.

SN 324,111. Gas Processors, Inc., Brea, Calif. Filed Apr. 10, 1969.

GAS PROCESSORS INC.

For the Purposes of Registration only, no claim is made to the words "Gas," "Processors," or "Inc." apart from the mark as shown, but applicant waives none of its common law rights therein. The drawing is lined for the color red.

Class 2—Receptacles

For Pressure Vessels for the Storage of Compressed Gases and Liquids Under Pressure (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Packaged Compressors (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Steam Generators, Packaged Plants for Processing Natural Gas Streams To Recover Natural Gasoline, and Heater-Incinerators for Purification of Industrial Gases (Int. Cl. 7).

First use at least as early as 1960.

SN 325,523. Telesciences, Inc., Moorestown, N.J. Filed Apr. 25, 1969.

TELESCIENCES

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Switching Apparatus (Int. Cl. 9).
First use Apr. 16, 1969.

Class 26—Measuring and Scientific Appliances

For Telecommunications Equipment—Namely, Automatic Electronic Circuit Testing Apparatus (Int. Cl. 9).
First use Apr. 11, 1969.

SN 325,536. Sperry Rand Corporation, New York, N.Y. Filed Apr. 25, 1969.

SPERRY RAND

Owner of Reg. Nos. 861,350, 872,844, 872,911, and others.

Class 11—Inks and Inking Materials

For Carbon Paper; Inked Ribbons for Typewriters and Other Writing or Printing Machines; and Inking Materials for Electrostatic Copiers—Namely, Toners and Dispersants (Int. Cl. 16).
First use Oct. 23, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrostatic Copiers, and Parts Thereof (Int. Cl. 16).
First use Feb. 1, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Typewriters, Mechanized Apparatus for Storing and Retrieving Containers and Other Articles, Copy Holders for Typewriters, and Parts Thereof (Int. Cl. 16).
First use Oct. 20, 1967.

Class 25—Locks and Safes

For Fireproof and Burglar-Proof Safes, Files, Boxes, Chests, Drawers, and Parts Thereof (Int. Cl. 6).
First use Dec. 1, 1968.

Class 26—Measuring and Scientific Appliances

For Adding Machines, Cash Registers, Calculating Machines, and Parts Thereof; Microfilming Equipment—Namely, Cameras, Film Developing Machines and Readers, and Parts Thereof (Int. Cl. 9).
First use May 1, 1968.

Class 32—Furniture and Upholstery

For File Cabinets and Racks; Record Index and Filing Systems Comprising: Cabinets, Cases, Trays, Boxes, Desks, Tables, Drawers, Shelves, Stands, Holders, and Parts Thereof for Maintaining Records in Some Prescribed Order and Arrangement; Stools, Constituting Office, Library, and Factory Furniture; and Check and Paper Sorters—Namely, a Plurality of Bins (Int. Cl. 20).
First use Dec. 1, 1968.

Class 37—Paper and Stationery

For Blank and Partially Printed Cards, Sheets, Forms, Inserts, Strips, and Labels; Index Tabs, Index Tab Signals for Files and Charts and Holders Therefor, Folders, Card Sheaths and Guides; Cards for Mounting and Indexing Film Strips; Paper Fasteners; File Folders; Copier Paper; and Pressure Sensitive Blank Labels (Int. Cl. 16).
First use Oct. 23, 1967.

Class 38—Prints and Publications

For Magazines; House Organs; Service Manuals; and Product Brochures (Int. Cl. 16).
First use June 30, 1967.

SN 325,537. Sperry Rand Corporation, New York, N.Y. Filed Apr. 25, 1969.

SPERRY RAND

Owner of Reg. Nos. 861,348, 872,842, 838,588, and others.

Class 11—Inks and Inking Materials

For Carbon Paper; Inked Ribbons for Typewriters and Other Writing or Printing Machines; and Inking Materials for Electrostatic Copiers—Namely, Toners and Dispersants (Int. Cl. 16).
First use Oct. 23, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrostatic Copiers, and Parts Thereof (Int. Cl. 16).
First use Feb. 1, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Typewriters, Mechanized Apparatus for Storing and Retrieving Containers and Other Articles, Copy Holders for Typewriters, and Parts Thereof (Int. Cl. 16).
First use Oct. 20, 1967.

Class 25—Locks and Safes

For Fireproof and Burglar-Proof Safes, Files, Boxes, Chests, Drawers, and Parts Thereof (Int. Cl. 6).
First use Dec. 1, 1968.

Class 26—Measuring and Scientific Appliances

For Adding Machines, Cash Registers, Calculating Machines, and Parts Thereof; Microfilming Equipment—Namely, Cameras, Film Developing Machines and Readers, and Parts Thereof (Int. Cl. 9).
First use May 1, 1968.

Class 32—Furniture and Upholstery

For File Cabinets and Racks; Record Index and Filing Systems Comprising: Cabinets, Cases, Trays, Boxes, Desks, Tables, Drawers, Shelves, Stands, Holders, and Parts Thereof for Maintaining Records in Some Prescribed Order and Arrangement; Stools, Constituting Office, Library, and Factory Furniture; and Check and Paper Sorters—Namely, a Plurality of Bins (Int. Cl. 20).
First use Dec. 1, 1968.

Class 37—Paper and Stationery

For Blank and Partially Printed Cards, Sheets, Forms, Inserts, Strips, and Labels, Index Tabs, Index Tab Signals for Files and Charts and Holders Therefor, Folders, Card Sheaths and Guides; Cards for Mounting and Indexing Film Strips; Paper Fasteners; File Folders; Copier Paper; and Pressure Sensitive Blank Labels (Int. Cl. 16).
First use Oct. 23, 1967.

Class 38—Prints and Publications

For Magazines; House Organs; Service Manuals; and Product Brochures (Int. Cl. 16).
First use June 30, 1967.

SN 325,645. Sperry Rand Corporation, New York, N.Y. Filed Apr. 28, 1969.

SPERRY RAND

Owner of Reg. Nos. 861,849, 872,843, 878,586, and others.

Class 11—Inks and Inking Materials

For Carbon Paper; Inked Ribbons for Typewriters and Other Writing or Printing Machines; and Inking Materials for Electrostatic Copiers—Namely, Toners and Dispersants (Int. Cl. 16).
First use Oct. 23, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrostatic Copiers, and Parts Thereof (Int. Cl. 16).
First use Feb. 1, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Typewriters, Mechanized Apparatus for Storing and Retrieving Containers and Other Articles, Copy Holders for Typewriters, and Parts Thereof (Int. Cl. 16).
First use Oct. 20, 1967.

Class 25—Locks and Safes

For Fireproof and Burglar-Proof Safes, Files, Boxes, Chests, Drawers, and Parts Thereof (Int. Cl. 6).
First use Dec. 1, 1968.

Class 26—Measuring and Scientific Appliances

For Adding Machines, Cash Registers, Calculating Machines, and Parts Thereof; Microfilming Equipment—Namely, Cameras, Film Developing Machines and Readers, and Parts Thereof (Int. Cl. 9).
First use May 1, 1968.

Class 32—Furniture and Upholstery

For File Cabinets and Racks; Record Index and Filing Systems Comprising: Cabinets, Cases, Trays, Boxes, Desks, Tables, Drawers, Shelves, Stands, Holders, and Parts Thereof for Maintaining Records in Some Prescribed Order and Arrangement; Stools, Constituting Office, Library, and Factory Furniture; and Check and Paper Sorters—Namely, a Plurality of Bins (Int. Cl. 20).
First use Dec. 1, 1968.

Class 37—Paper and Stationery

For Blank and Partially Printed Cards, Sheets, Forms, Inserts, Strips, and Labels, Index Tabs, Index Tab Signals for Files and Charts and Holders Therefor, Folders, Card Sheaths and Guides; Cards for Mounting and Indexing Film Strips; Paper Fasteners; File Folders; Copier Paper; and Pressure Sensitive Blank Labels (Int. Cl. 16).
First use Oct. 23, 1967.

Class 38—Prints and Publications

For Magazines; House Organs; Service Manuals; and Product Brochures (Int. Cl. 16).
First use June 30, 1967.

SN 326,025. Little Red Hen Country Chicken, Inc., Chicago, Ill., assignee, by mesne assignment, of Little Red Hen Country Chicken, Inc., Northbrook, Ill. Filed May 1, 1969.



Owner of Reg. No. 845,174.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Pressure Cookers for Commercial Use (Int. Cl. 11).
First use at least as early as January 1965.

Class 46—Foods and Ingredients of Foods

For Fried Chicken, Seasoning Mixes for Barbeque Chicken, and Ribs; Honey; Salt; Sugar; and Barbeque Sauce (Int. Cls. 29 and 30).
First use at least as early as April 1964.

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).
First use at least as early as November 1963.

Class 101—Advertising and Business

For Consulting, Planning, Designing, and Management Services in Connection With Establishing and Operating Food Service Businesses (Int. Cl. 35).
First use prior to Mar. 29, 1965.

SN 326,583. Sperry Rand Corporation, New York, N.Y. Filed May 7, 1969.

SPERRY RAND

Owner of Reg. Nos. 861,850, 878,587, and others.

Class 5—Adhesives

For Library Paste; Liquid Plastic for Book Repair; Contact Cement, and Glue (Int. Cl. 1).

Class 11—Inks and Inking Materials

For Ink Pads and Ink Therefor (Int. Cl. 16).

Class 14—Metals and Metal Castings and Forgings

For Gold Leaf (Int. Cl. 2).

Class 16—Protective and Decorative Coatings

For Lacquer, Lacquer Thinner, and Furniture Finish—Namely, Stains and Varnishes (Int. Cl. 2).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Gluing Machines of the Counter or Desk Type; Pencil Sharpeners; Electric Hand Operated Erasing Machines; Numbering Machines; and Rubber Hand Stamps (Int. Cl. 16).

Class 29—Brooms, Brushes, and Dusters

For Gluing and Paint Brushes (Int. Cl. 16).

Class 32—Furniture and Upholstery

For Book Cases; Book Supports; Shelving; Cupboards; Cabinets; Lockers; Stands for Supporting Articles Such as Books, Coats, Hats, etc.; Desks; Carrels; Chairs; and Museum Exhibit Cases (Int. Cl. 20).

Class 37—Paper and Stationery

For Periodical and Pamphlet Binders; Charts; Record Books; Binders for Holding New Newspapers; Loose Leaf Binders; Book Mending Kits; Blank and Partially Printed Labels and Label Holders for Receiving and Displaying Labels; Celluloid Pockets and Protectors; Erasers; Binder Rings; and Library Record Cards and Forms (Int. Cl. 16).

First use Oct. 20, 1967.

SN 331,800. Photo Media Ltd., New York, N.Y. Filed July 7, 1969.

PHOTO MEDIA

Class 38—Prints and Publications

For Motion Picture Films, Film Strips, Photographs, Transparencies, and Color Separations (Int. Cl. 9).
First use Dec. 1, 1967.

Class 100—Miscellaneous

For Photographing, Editing, Producing and Distributing Film Strips, Motion Pictures, and Photographs (Int. Cl. 42).
First use Dec. 1, 1967.

Class 107—Education and Entertainment

For Production, Distribution and Exhibition of Motion Picture Films, Film Strips, Photographs, and Video Tapes (Int. Cl. 41).
First use Feb. 8, 1968.

SN 335,814. Ickes-Braun Glasshouses, Inc., Aptakisic, Ill. Filed Aug. 21, 1969.

COPE

Class 1—Raw or Partly Prepared Materials

For Artificial Soil in Which Plants Are Nurtured (Int. Cl. 1).
First use Mar. 11, 1968.

Class 38—Prints and Publications

For Magazines Published From Time to Time at Irregular Intervals (Int. Cl. 16).
First use Aug. 26, 1968.

SN 339,066. Morse Electro Products Corp., Ozone Park, N.Y. Filed Sept. 29, 1969.

transphonic

Class 21—Electrical Apparatus, Machines, and Supplies

For Combinations of Stereo Phonographs and Radios (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Stereo Phonographs (Int. Cl. 9).

First use as early as Oct. 7, 1966.

SN 342,575. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

QUIET HAVEN

Class 51—Cosmetics and Toilet Preparations

For Dusting Powder and Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Oct. 1, 1969.

SN 342,576. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

TRANQUILITY

Owner of Reg. Nos. 868,767 and 868,786.

Class 51—Cosmetics and Toilet Preparations

For Cologne and Dusting Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Aug. 27, 1969.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 319,863. Furane Plastics, Incorporated, Los Angeles, Calif. Filed Feb. 24, 1969.

ADLOCK

For Synthetic Resin Impregnating Compositions for Laminated Structures (Int. Cl. 1).
First use at least as early as Jan. 15, 1964.

SN 324,316. Tri-Point Industries, Inc., Commack, N.Y. Filed Apr. 11, 1969.

TRILON GASKO-SHEET

For Gasketing Material, Made of Polytetrafluoroethylene, Sold in Sheet Form for Use in the Manufacture of Gaskets (Int. Cl. 17).
First use Oct. 22, 1968.

SN 329,657. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed June 11, 1969.

3M

Owner of Reg. Nos. 752,246 and 752,621.
For Three-Dimensional Plastic Sections, Sold for Further Manufacture in the Industrial Arts (Int. Cl. 17).
First use Mar. 17, 1969.

SN 329,658. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed June 11, 1969.

MATINA

For Three-Dimensional Plastic Sections, Sold for Further Manufacture in the Industrial Arts (Int. Cl. 17).
First use Mar. 17, 1969.

SN 333,654. Ashland Oil & Refining Company, Ashland, Ky. Filed July 28, 1969.

GREEN BOND

For Bonding Material, Such as Bentonite, for Molding Sand and Core or Refuse Sand (Int. Cl. 1).
First use July 1, 1926.

SN 334,109. Owens-Corning Fiberglas Corporation, Toledo, Ohio. Filed July 31, 1969.

RICS

For Bundles of Glass Fiber, Chopped Strands Impregnated With a Latex Suitable for Reinforcing Rubber (Int. Cl. 21).
First use June 2, 1969.

SN 335,230. Johns-Manville Corporation, New York, N.Y. Filed Aug. 13, 1969.

7 HILLS

Owner of Reg. No. 724,642.
For Perlite Ore (Int. Cl. 6).
First use Nov. 10, 1958.

SN 335,231. Johns-Manville Corporation, New York, N.Y. Filed Aug. 18, 1969.

FESCO-JEL

For Bentonite (Int. Cl. 1).
First use at least as early as 1950.

SN 335,243. Manasse-Block Tanning Company, Berkeley, Calif. Filed Aug. 13, 1969.

CHEYENNE RAWHIDE

The word "Rawhide" is disclaimed apart from the mark as shown.
For Upper Shoe Side Leather (Int. Cl. 18).
First use 1960.

SN 348,069. Atlantic Forest Products Limited, Toronto, Ontario, Canada. Filed Jan. 8, 1970.

CANUCK

Owner of Canadian Reg. No. 166,551, dated Nov. 28, 1969.
For Charcoal Briquets (Int. Cl. 4).

Class 2—Receptacles

SN 317,983. Tucker Manufacturing Corporation, Leominster, Mass. Filed Jan. 30, 1969.



The drawing is lined for the color red, but no claim to color is made.
For Plastic Housewares—Namely, Laundry Baskets, Pails, Waste Containers, Hampers, Baby Bathtubs, Cooler Chests, Trash Cans, Watering Cans, Charcoal Carriers, Cups, Plates, Insulated Jugs, Ice Buckets, Decanters, Pitchers, Tumblers, Bins, Cutlery and Utility Trays, Dust Pans, Cut Crystal Cake Trays and Covers, Tissue Boxes, Pans, Tubs, and Basins (Int. Cl. 21).
First use at least as early as July 1968, on wastebaskets.

SN 324,088. Pemar Engineering, Inc., Hialeah, Fla. Filed Apr. 9, 1969.

PEMAR

For Grain Storage Tanks and Silos (Int. Cl. 6).
First use 1964.

SN 334,776. Lincoln Metal Products Corporation, Brooklyn, N.Y. Filed Aug. 8, 1969.

DOTTED SWISS

For Housewares—Namely, Canister Sets (Int. Cl. 21).
First use Aug. 4, 1969.

SN 334,777. Lincoln Metal Products Corporation, Brooklyn, N.Y. Filed Aug. 8, 1969.

THE MOOD SERIES

For Housewares—Namely, Canister Sets (Int. Cl. 21).
First use Aug. 4, 1969.

SN 335,173. Lincoln Metal Products Corporation, Brooklyn, N.Y. Filed Aug. 13, 1969.

CHAMPIGNON

"Champignon" is the French translation of the word "mushroom."
For Housewares—Namely, Canister Sets (Int. Cl. 21).
First use Aug. 7, 1969.

SN 340,784. Ethyl Corporation, Richmond, Va. Filed Oct. 15, 1969.



For Plastic Bags (Int. Cl. 20).
First use July 16, 1969.

SN 341,814. Frances R. and Arthur E. Hartshorn, d.b.a. Edfran Mfg. Co. and Edfran Manufacturing Co., Portland, Oreg. Filed Oct. 27, 1969.

STACK-AWAY

For Hanging Type Storage Container (Int. Cl. 21).
First use Feb. 28, 1968.

SN 344,320. Bird Plastics, Inc., Salt Lake City, Utah. Filed Nov. 24, 1969.

POST LOCK

For Egg Cartons (Int Cl. 20).
First use Oct. 14, 1969.

SN 344,686. Crystal-X Corporation, Darby, Pa. Filed Nov. 26, 1969.

CRYSTAL-TUF

For Plastic Bags (Int. Cl. 20).
First use Aug. 7, 1969.

SN 345,125. American Forest Products Corporation, San Francisco, Calif. Filed Dec. 3, 1969.



For Corrugated Shipping Containers (Int. Cl. 16).
First use Aug. 17, 1969.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 311,258. Giuseppe Siletti di Romeo Siletti, Milan, Italy. Filed Nov. 4, 1968.



Owner of Italian Reg. No. 144,721, dated July 16, 1959.
For Bags and Purses, Suitcases and Trunks, and Clasps (for Bags) (Int. Cl. 18).
First use July 1959; in commerce December 1960.

Class 4—Abrasives and Polishing Materials

SN 304,420. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Aug. 5, 1968.

ENTHUSE

For Buffable Floor Wax and Similar Synthetic Wax-Like Floor Polishes (Int. Cl. 3).
First use July 9, 1968.

SN 339,233. The Schlegel Manufacturing Company, Rochester, N.Y. Filed Sept. 29, 1969.

SCHLEGEL #5

Owner of Reg. No. 688,555.
For Polishing Disks or Buffs (Int. Cl. 7).
First use at least as early as Feb. 1, 1963.

Class 5—Adhesives

SN 344,173. Polymer Industries, Inc., Springdale, Conn. Filed Nov. 20, 1969.

UNOFLEX

For Adhesive for Use in Laminations Used in Packaging of Foods (Int. Cl. 1).
First use May 28, 1969.

Class 6—Chemicals and Chemical Compositions

SN 314,326. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Dec. 12, 1968.

CARBORAFFIN

Owner of German Reg. No 650,130, dated Oct. 23, 1952.
For Activated Carbon for Use in Purifying and Decolorizing of Liquids, and Catalysts for Technical Purposes (Int. Cl. 1).

SN 316,090. Federal Chemical Company, Incorporated, d.b.a. Indy Chemical Company, Indianapolis, Ind. Filed Jan. 8, 1969.



The drawing is lined for the color orange.
For Chemical Compositions—Namely, Insecticides, Herbicides, and Rodenticides (Int. Cl. 5).
First use Nov. 19, 1968.

SN 316,467. Red Spot Paint and Varnish Co., Inc., Evansville, Ind. Filed Jan. 13, 1969.

PLASTIPREP

For Solvent Preparation Applied to Plastic Parts To Increase Their Electrostatic Conductivity (Int. Cl. 1).
First use Aug. 1, 1968.

SN 321,208. The Flintkote Company, White Plains, N.Y. Filed Mar. 10, 1969.

GRAND CANYON

Owner of Reg. Nos. 603,816 and 604,691.
For Pulverized Quicklime, Hydrated Lime and Crushed Lime for General Industrial Uses (Int. Cl. 1).
First use Apr. 3, 1912.

SN 323,716. Jesse E. Martin, El Paso, Tex. Filed Apr. 4, 1969.

N.A.F.

Nature's Air Fresh

No claim is made to the words "Air Fresh" apart from the mark without waiving any common law rights therein.
For All-Purpose Liquid Deodorant for Industrial, Animal, and Household Use (Int. Cl. 5).
First use Mar. 14, 1698.

SN 325,158. Fred B. Block, d.b.a. The Olfactory, Santa Monica, Calif. Filed Apr. 22, 1969.

THE OLFACTORY

For Incense (Int. Cl. 3).
First use Mar. 22, 1968.

SN 330,474. The Brooks Oil Company, Cleveland, Ohio. Filed June 19, 1969.

BROOKS

Owner of Reg. Nos. 256,600 and 258,590.
For Chemical Compounds for the Internal Treatment of Steam Boilers as Water Softeners and pH Inhibitors To Be Added to Boiler Water (Int. Cl. 1).
First use 1913.

SN 345,756. Hercules Incorporated, Wilmington, Del. Filed Dec. 10, 1969.

SKYLITE

For Synthetic Polyelectrolyte (Int. Cl. 1).
First use Nov. 18, 1969.

SN 345,898. Liquid Carbonic Corporation, Chicago, Ill. Filed Dec. 11, 1969.

LCCO

For Industrial Gases—Namely, Carbon Dioxide, Oxygen, Nitrogen, Acetylene, Argon, Air, Helium, Hydrogen Propane, Deuterium, Nitrous Oxide, Oxygen-Argon Combination, Oxygen-Carbon Dioxide Combination, Helium-Argon Combination, and Hydrogen-Nitrogen Combination; and Industrial Liquids—Namely, Carbon Dioxide, Oxygen, Argon, Nitrogen, Hydrogen, and Nitrous Oxide (Int. Cl. 1).
First use in or about 1914 on carbon dioxide gas.

SN 346,177. Lever Brothers Company, New York, N.Y. Filed Dec. 15, 1969.

OPEN HOUSE

For Multi-Purpose Household Disinfectant (Int. Cl. 5).
First use Dec. 1, 1969.

SN 347,009. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Dec. 23, 1969.

CRONAFLEX

Owner of Reg. Nos. 608,302, 820,987 and others.
For Photographic Chemicals (Int. Cl. 1).
First use Aug. 22, 1969.

Class 9—Explosives, Firearms, Equipments, and Projectiles

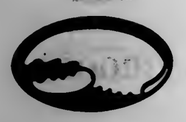
SN 316,227. Michaels of Oregon Co., Portland, Oreg. Filed Jan. 9, 1969.

SNAZZY

For Gun Ramps (Int. Cl. 13).
First use Apr. 1, 1958.

Class 10—Fertilizers

SN 335,318. Brandt Chem. Co., Inc., Pleasant Plains, Ill. Filed Aug. 14, 1969.



For Fertilizers (Int. Cl. 1).
First use on or before Dec. 18, 1968.

Class 12—Construction Materials

SN 304,904. Dixisteel Buildings, Inc., Atlanta, Ga. Filed Aug. 12, 1968.

DIXI-DEEP-RIB

Owner of Reg. No. 719,116.
For Metal and Plastic Panels Used in Building Construction (Int. Cls. 6 and 19).
First use Dec. 14, 1967.

SN 308,585. Hoboken Paints, Inc., Lodi, N.J. Filed Oct. 3, 1968.

Magic Top

For Asphaltic Surfacing Material for Concrete, Black Top, and Paved Surfaces (Int. Cl. 19).
First use Mar. 29, 1967.

SN 310,561. The Great Western Sugar Company, Denver, Colo. Filed Oct. 25, 1968.

"WHITEKOTE"

Owner of Reg. No. 91,979.
For Lime (Int. Cl. 19).
First use Oct. 30, 1912.

SN 316,829. Ranco Industrial Products Corporation, Cleveland, Ohio. Filed Jan. 16, 1969.

TRANSPELLO

For Clear Silicone Coating for Water-Proofing Concrete, Cinder-Block, Brick, and Other Masonry (Int. Cl. 1).
First use on or about Apr. 20, 1951.

SN 335,127. Fiberglass Resources Corporation, Farmingdale, N.Y. Filed Aug. 12, 1969.



For Resin Bonded Fiber Glass Pipe Joint Kit and Components Thereof—Namely, Glass Cloth, Resins, Hardener, and Solvent (Int. Cl. 17).
First use Oct. 28, 1968.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 303,198. Rotork Controls Limited, Bath, Somerset, England, by change of name from Rotork Engineering Company Limited, Bath, Somerset, England. Filed July 19, 1968.

SYNCROPAK

Priority claimed under Sec. 44(d) on British Reg. No. B920,032, dated Jan. 22, 1968.
For Actuating Device for Operating a Valve Positioned in a Fluid Line (Int. Cl. 7).

SN 314,120. Western Drinking Fountains, Inc., Fremont, Calif. Filed Dec. 10, 1968.



For Plumbing Equipment and Fittings Therefor, Particularly Drinking Fountains, Cuspidors, Water Stations, Emergency Wash Fountains, Emergency Showers, Emergency Shower and Wash Stations, Faucets, Glass Fillers, Valves, Controls, and Shower Heads (Int. Cl. 11).
First use on or before Oct. 10, 1968.

SN 314,376. Waldman Corporation, Parsippany, N.J. Filed Dec. 12, 1968.



Owner of Reg. No. 830,171.
For Hardware, Including Connector Pins, Shafts, Bushings, Screws, Nuts, Stop Pins, Plungers, and Heat Sinks (Int. Cl. 6).
First use Oct. 21, 1968.

SN 315,661. Dunham-Bush, Inc., West Hartford, Conn. Filed Dec. 30, 1968.



Owner of Reg. Nos. 771,880 and 779,813.
For Steam and Hot Water Specialties—Namely, Traps and Valves (Int. Cl. 7).
First use April 1966, spring of 1965 in a different form.

SN 319,001. Universal Tool & Die Co., Milwaukee, Wis. Filed Feb. 12, 1969.



For All-Metal Fences (Int. Cl. 6).
First use Jan. 30, 1969.

SN 319,136. Columbus McKinnon Corporation, Tonawanda, N.Y. Filed Feb. 14, 1969.



For Chains for Various Industrial Purposes (Int. Cl. 6).
First use on or about Sept. 13, 1968.

SN 321,072. PEM Corporation, Tyler, Tex. Filed Mar. 7, 1969.

Flex-a-Seal

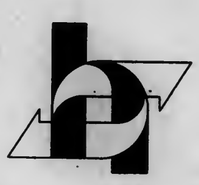
For Valves (Int. Cl. 6).
First use Oct. 12, 1968.

SN 322,079. The Midland Metal Spinning Company Limited, Wombourn, Wolverhampton, England. Filed Mar. 18, 1969.

TOWER

Owner of British Reg. No. 853,668, dated Sept. 4, 1963.
For Domestic Utensils and Containers—Namely, Stewpans, Omelette Pans, Fryjans, Milk Pans, Casseroles, Cake Tins, Baking Pans and Baking Sheets, Fish Friers, Teasets, Teapots, Jugs, Basins, Percolators, Kettles, Egg Poachers, Pressure Cookers; and Parts for These Goods (Int. Cl. 21).

SN 322,592. Hoffman Specialty Mfg. Corp., Indianapolis, Ind. Filed Mar. 24, 1969.



For Air Valves for Heating Systems (Int. Cl. 11).
First use on or about Jan. 24, 1969.

SN 327,519. Stylecraft Hardware, Inc., Bellaire, Tex. Filed May 16, 1969.

Stylecraft

For Decorative Hardware, Lavatory and Bath Sets and Lavatory Accessories (Int. Cls. 6 and 11).
First use about Sept. 18, 1968.

SN 329,280. Jay R. Smith Mfg. Co., Piscataway, N.J. Filed June 5, 1969.

"ADJUS-TO-WALL"

For Fixture Support for Off-the-Wall Water Closets (Int. Cl. 6).
First use on or about Mar. 1, 1969.

SN 331,758. Kar Products of the Greater Southwest, Inc., Dallas, Tex. Filed July 3, 1969.

KARTRON INDUSTRIAL

Applicant disclaims "Industrial" apart from the mark as shown.
For Bolts, Nuts, Screws, Washers, Cotter Pins, Clips, Speed Nuts, Lock Nuts, Retainers, Studs, Expansion Bolts, Anchor Bolts, Toggle Bolts, Lock Washers, Copper Tubing, Steel Tubing, Grease Fittings, Brass Fittings, Clevis, Hooks, Coldshuts, Missing Links, Hydraulic Fittings (High, Medium and Low Pressure) (Int. Cl. 6).
First use Sept. 1, 1963.

SN 340,488. American Standard, Inc., New York, N.Y. Filed Oct. 13, 1969.

COLONY

For Bath and Shower Combination, Spouts, Valves, Plumbing Fittings (Int. Cl. 11).
First use on or about July 11, 1959.

SN 340,489. American Standard, Inc., New York, N.Y. Filed Oct. 13, 1969.

HERITAGE

For Bath and Shower Combination, Spouts, Valves, Trim, Faucet and Plumbing Fittings (Int. Cl. 11).
First use on or about Aug. 3, 1959.

SN 342,235. Crane Co., New York, N.Y. Filed Oct. 31, 1969.

NEUVOGUE

For Bathtubs (Int. Cl. 11).
First use June 15, 1936.

SN 342,746. Kennedy Valve Mfg. Co., Inc., Elmira, N.Y. Filed Nov. 5, 1969.

KENNEDY

For Valves, Fire Hydrants, Indicator Posts, Parts and Accessories for the Foregoing, and Tapping Sleeves (Int. Cl. 11).
First use at least as early as July 1, 1916.

SN 348,737. Lincoln Metal Products Corporation, Brooklyn, N.Y. Filed Jan. 16, 1970.

BEAUTYWARE

Owner of Reg. No. 876,291.
For Housewares—Namely, Pots and Pans (Int. Cl. 21).
First use Dec. 30, 1969.

Class 14—Metals and Metal Castings and Forgings

SN 281,933. Baldt Corporation, New York, N.Y., assignee of Universal Marion Corporation, Chester, Pa. Filed Oct. 5, 1967.

LWT

For Anchors (Int. Cl. 6).
First use at least as early as 1954.

SN 342,036. Foote Mineral Co., Exton, Pa. Filed Oct. 29, 1969.

CALSIFER

Owner of Reg. No. 350,787.
For Ferro Alloys Containing Calcium and Silicon (Int. Cl. 6).
First use July 24, 1962.

Class 15—Oils and Greases

SN 328,596. J. A. Sexauer Mfg. Co., Inc., White Plains, N.Y. Filed May 28, 1969.

SEXAUER PRODUCTS

The word "Products" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 375,977, 861,261, and others.
For Faucet and Valve Stem Lubricating Grease and Liquid Penetrating Oil Nut Loosener (Int. Cl. 4).
First use during 1966; 1921, as to "Sexauer."

Class 16—Protective and Decorative Coatings

SN 319,083. Star Bronze Company, Alliance, Ohio. Filed Feb. 13, 1969.

Zip-Guard

For Urethane Wood Finish (Int. Cl. 2).
First use 1962.

Class 17—Tobacco Products

SN 317,818. P. J. Carroll & Company Limited, Dublin, Ireland. Filed Jan. 29, 1969.

ARD RI

The mark is Gallic with the word "Ard" meaning "high" and the word "Ri" meaning "king." Applicant makes no claim to the word "Ri" apart from the mark as shown.
For Cigarettes (Int. Cl. 34).
First use Nov. 5, 1968; in commerce Nov. 5, 1968.

SN 319,576. Bradberry Briar Pipe Corporation, New York, N.Y. Filed Feb. 19, 1969.

BRADBERRY

Owner of Reg. No. 701,137.
For Smoking Tobacco (Int. Cl. 34).
First use Dec. 7, 1967.

SN 326,599. Scott Tobacco Company, Bowling Green, Ky. Filed May 7, 1969.

CLOVER BLOOM

For Chewing Tobacco (Int. Cl. 34).
First use at least as early as 1921.

SN 328,262. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed May 26, 1969.

MYSTÈRE

For Cigars (Int. Cl. 34).
First use Feb. 11, 1969.

SN 331,120. Loup-de-Mer Corp., New York, N.Y. Filed June 27, 1969.

LOUP DE MER

The mark is in the French language and its English equivalent is "sea wolf."
For Smoking Tobacco (Int. Cl. 34).
First use May 23, 1969.

SN 331,121. Loup-de-Mer Corp., New York, N.Y. Filed June 27, 1969.



The word portion of the mark is in the French language and its English equivalent is "sea wolf."
For Smoking Tobacco (Int. Cl. 34).
First use May 23, 1969.

Class 18—Medicines and Pharmaceutical Preparations

SN 309,021. Biotest Serum-Institut G.m.b.H., Frankfurt am Main-Niederrad, Germany. Filed Oct. 7, 1968.

GELIFUNDOL

Owner of German Reg. No. 753,220, dated Aug. 8, 1959.
For Gelatine and Gelatine Derivative Solutions for Intravenous Administration (Int. Cl. 5).

SN 319,150. Endo Laboratories, Inc. (Delaware corporation), Garden City, N.Y., assignee of Endo Laboratories, Inc. (New York corporation), Garden City, N.Y. Filed Feb. 14, 1969.

GASTRILS

For Medicinal Antacid Preparation (Int. Cl. 5).
First use on or about Aug. 15, 1968.

SN 321,174. Betan Company, Inc., Knoxville, Tenn. Filed Mar. 10, 1969.

FE-BRONE

For Antianemia Tablets (Int. Cl. 5).
First use at least as early as January 1969.

SN 331,835. Parke, Davis & Company, Detroit, Mich. Filed July 7, 1969.

HANSOLAR

For Antibacterial Preparation (Int. Cl. 5).
First use on or before June 24, 1969.

SN 331,921. Metro Med, Inc., Houston, Tex. Filed July 7, 1969.

METROGESIC

For Tablets To Be Used as a Muscle Relaxant and Analgesic (Int. Cl. 5).
First use February 1954.

SN 347,070. Syntex Laboratories, Inc., Palo Alto, Calif. Filed Dec. 24, 1969.

AARANE

Owner of Reg. No. 843,990.
For Medication for the Treatment of Respiratory Diseases, Particularly Those Characterized by Bronchospasm, and for Treatment of Allergic Disorders (Int. Cl. 5).
First use Nov. 19, 1969.

SN 347,552. Johnson & Johnson, New Brunswick, N.J. Filed Jan. 2, 1970.

INTERSEPT

For Acne Preparation (Int. Cl. 5).
First use Nov. 25, 1969.

SN 347,553. Johnson & Johnson, New Brunswick, N.J. Filed Jan. 2, 1970.

RETINAC

For Acne Preparation (Int. Cl. 5).
First use Nov. 25, 1969.

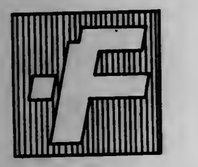
Class 19—Vehicles

SN 309,590. Larson Industries, Inc., St. Paul, Minn. Filed Oct. 14, 1968.

LGC
LIFE GUARD CONSTRUCTION

Without waiver or abandonment of any common law rights, applicant disclaims the word "Construction" apart from the mark as a whole.
For Boats (Int. Cl. 12).
First use Oct. 7, 1968.

SN 315,076. Georg Fritzmeier KG., Grobhelfendorf, near Munich, Germany. Filed Dec. 23, 1968.



The drawing is lined for the color red. Owner of German Reg. Nos. 818,106 and 819,670, dated Feb. 4, 1966, and 819,671, dated Mar. 2, 1966.
For Hoods, Seats, and Drivers' Cabs, All for Vehicles; Said Cabs Incorporating an Anti-Roll Frame for the Protection of Drivers (Int. Cl. 12).

SN 315,656. Touropa G.m.b.H. & Co. KG, Munich, Germany. Filed Nov. 20, 1968.

TOUROPA

Owner of German Reg. No. 700,219, dated July 1, 1954.
For Buses, Railroad Coaches, and Sleeping Cars (Int. Cl. 12).

SN 321,355. Greene's Material Handling Equipment & Supply Inc., South El Monte, Calif. Filed Jan. 6, 1969.

LINDER - LENE

For Plastic Wheels for Material Handling Equipment (Int. Cl. 12).
First use Jan. 8, 1968.

SN 322,288. Globestar Industries, Inc., Elkhart, Ind. Filed Mar. 20, 1969.



For Pick-Up Campers and Travel Trailers (Int. Cl. 12).
First use July 25, 1966.

SN 323,460. Lott's Marine Interiors, Inc., Miami, Fla. Filed Apr. 2, 1969.

Peek-a-Boo Dink

No claim of exclusive right is made to the word "Dink" for the goods recited.
For Boat With Transparent Bottom (Int. Cl. 12).
First use Jan. 30, 1969.

SN 323,476. Rudi Schoppenthau, Atlanta, Ga. Filed Apr. 2, 1969.

RAIDER

For Formula Racing Cars (Int. Cl. 12).
First use Mar. 15, 1968.

SN 325,638. White Motor Corporation, Cleveland, Ohio. Filed Apr. 25, 1969.

WHITE CONSTRUCKTOR

Owner of Reg. No. 762,204 and others.
For Motor Trucks and Parts Therefor (Int. Cl. 12).
First use on or before Feb. 17, 1969.

SN 326,070. Caveman Campers, Inc., Grants Pass, Oreg. Filed May 1, 1969.

CAVEMAN CAMPER

The word "Camper" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 748,684, 767,035 and others.
For Motor Home and Chassis Mount Campers (Int. Cl. 12).
First use Jan. 10, 1969.

SN 326,080. Victor N. Davies, Leigh-on-Sea, Essex, England. Filed May 1, 1969.

WAGTAIL

Owner of British Reg. No. 885,169, dated Oct. 5, 1965.
For Boats and Structural Parts Thereof (Int. Cl. 12).

SN 327,365. Cushionflight Corporation, Sunnymead, Calif. Filed May 15, 1969.



The drawing is lined for the colors red and blue, the colors red, white, and blue being claimed.
For Air Driven Vehicles Designed To Move on a Cushion of Air Over Land and Water, and Parts Thereof (Int. Cl. 12).
First use Dec. 15, 1966.

SN 329,468. Gulfstream Boats, Inc., Salt Lake City, Utah. Filed June 9, 1969.

Gulfstream

For Boats (Int. Cl. 12).
First use Oct. 1, 1963.

SN 330,194. Pullman Incorporated, Chicago, Ill. Filed June 6, 1969.

WAFFLE SIDE

For Railway Freight Cars (Int. Cl. 12).
First use Dec. 8, 1966.

SN 334,110. Pan American World Airways, Inc., New York, N.Y. Filed July 31, 1969.

FALCON

Owner of Reg. Nos. 203,691 and 874,915.
For Aircraft (Int. Cl. 12).
First use June 2, 1969.

SN 335,779. Skyline Corporation, Elkhart, Ind. Filed Aug. 20, 1969.

ALJO

For Travel Trailers (Int. Cl. 12).
First use Mar. 24, 1955.

SN 336,261. International Mfg. Co., Inc., Benicia, Calif. Filed Aug. 14, 1969.

SLOT MAG

Applicant disclaims the word "Mag" apart from the mark as shown.
For Automobile Wheels (Int. Cl. 12).
First use Dec. 13, 1968.

SN 342,584. Avco Corporation, Tulsa, Okla. Filed Nov. 4, 1969.

AVCO

Owner of Reg. Nos. 831,412, 875,908, and others.
For Self-Propelled and Pull-Type Vehicles—Namely, Motor Homes, Mobile Homes, Travel Trailers, and Camping Trailers (Int. Cl. 12).
First use Aug. 18, 1969.

SN 344,720. Kings-Craft Corporation, Louisville, Ky. Filed Nov. 26, 1969.

KINGS CRAFT

Applicant disclaims the word "Craft" apart from the mark as shown. Owner of Reg. No. 536,987.
For House Boats (Int. Cl. 12).
First use Sept. 23, 1969.

SN 348,388. Fairchild Hiller Corporation, Germantown, Md. Filed Jan. 13, 1970.

CARGONAUT

For Aircraft and Parts Therefor (Int. Cl. 12).
First use Jan. 9, 1970.

SN 348,389. Fairchild Hiller Corporation., Germantown, Md. Filed Jan. 13, 1970.

FH-227

Owner of Reg. Nos. 559,860, 865,648 and others.
For Aircraft and Parts Therefor (Int. Cl. 12).
First use on or about Apr. 29, 1966.

SN 348,562. Monitor Coach Company, Inc., Wakarusa, Ind. Filed Jan. 14, 1970.

MONITOR

Owner of Reg. No. 855,887.
For Motor Homes (Int. Cl. 12).
First use Dec. 15, 1969.

SN 349,088. Schwinn Bicycle Company, Chicago, Ill. Filed Jan. 20, 1970.

COTTON PICKER

For Bicycles (Int. Cl. 12).
First use Dec. 22, 1969.

SN 349,218. Schwinn Bicycle Company, Chicago, Ill. Filed Jan. 21, 1970.

SUBURBAN

For Bicycles (Int. Cl. 12).
First use Dec. 22, 1969.

SN 349,955. De Rose Industries, Inc., Indianapolis, Ind. Filed Jan. 29, 1970.

FUTURA

For Mobile Homes and Travel Trailers (Int. Cl. 12).
First use in or about October 1967.

Class 20 — Linoleum and Oiled Cloth

SN 342,714. Armstrong Cork Company, Lancaster, Pa. Filed Nov. 5, 1969.

CASTILIAN

For Resilient Hard Surface Type Covering for Floors, Walls, and Other Surfaces (Int. Cl. 27).
First use Sept. 7, 1967.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 314,989. T. G. & Y. Stores Company, Oklahoma City, Okla. Filed Dec. 20, 1968.

GOLDEN T

Owner of Reg. Nos. 849,417, 876,305 and others.
For Electric Irons and Electric Toasters (Int. Cls. 9 and 11).
First use May 10, 1968.

SN 315,304. Crane Packing Company, Morton Grove, Ill. Filed Dec. 27, 1968.

SEAL-SITTER

For Adjustable Pressure Switch and Alarm To Shut Off Operation, or Actuate an Audible or Visual Alarm When a Pressure Drop Occurs in a Fluid System (Int. Cl. 9).
First use Dec. 4, 1968.

SN 316,662. H. Levitt, d.b.a. Levitt Ventures, San Francisco, Calif. Filed Jan. 15, 1969.

MINI TELL.

For Vending and Advertising Devices—Namely, Broadcast Transmitters and Receivers Working in Conjunction With Tape Players for Transmitting Advertising and Other Messages (Int. Cl. 9).
First use on or about Dec. 17, 1968.

SN 316,765. Austin W. La Marche, Des Plaines, Ill. Filed Jan. 16, 1969.

CONSTAVOLT FLOAT

Without waiving his common law rights and for purposes of registration only, applicant disclaims the word "Float." Owner of Reg. No. 575,945.
For Electrical Current Converters for Converting Alternating Current to Direct Current (Int. Cl. 9).
First use prior to 1955.

SN 317,446. General Electric Company, Pittsfield, Mass. Filed Jan. 24, 1969.

SUPER ⚡ BUTE

For Instrument Transformers (Int. Cl. 9).
First use at least as early as May 1967.

SN 319,203. Stefan Sender, d.b.a. A & S Trading Co., New York, N.Y. Filed Feb. 14, 1969.

LaSonic

For Transistor Radios (Int. Cl. 9).
First use Jan. 15, 1968.

SN 319,208. Stewart-Warner Corporation, Chicago, Ill. Filed Feb. 14, 1969.

SWELEC 700

For Numerical Positioning Control Apparatus for Machines (Int. Cl. 9).
First use Sept. 30, 1968.

SN 321,161. Autonumerics, Inc., Westbury, N.Y. Filed Mar. 10, 1969.

POSITOOL

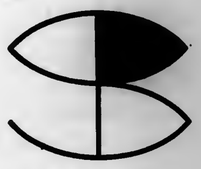
For Numerical Control System for Automatically Operating Machine Tools and the Like in Accordance With Stored Instructions (Int. Cl. 9).
First use Nov. 27, 1968.

SN 322,915. Solid Power Corporation, Farmingdale, N.Y. Filed Mar. 26, 1969.

SPC

For Power Transistors (Int. Cl. 9).
First use July 13, 1968.

SN 322,916. Solid Power Corporation, Farmingdale, N. Y. Filed Mar. 26, 1969.



For Power Transistors (Int. Cl. 9).
First use Nov. 20, 1968.

SN 322,950. American Plasticraft Company, Chicago, Ill. Filed Mar. 27, 1969.

R-GAP

For Electron Tube Sockets for Use With Television Picture Tubes, Which Sockets Have Arc-Gap Protective Means Including Resistors Positioned Within the Socket (Int. Cl. 9).
First use Sept. 29, 1968.

SN 326,682. Preformed Line Products Company, Cleveland, Ohio. Filed May 7, 1969.

URBAN

For Line Guard-Hand Ties for Connecting Electrical Cables, Strands, or Wire to Insulators (Int. Cl. 9).
First use about Apr. 3, 1969.

SN 327,234. Chromalloy American Corporation, West Nyack, N.Y. Filed May 14, 1969.

CRO-MO-TROL

For Electric Motor Speed Controls for Golf Carts (Int. Cl. 9).
First use May 2, 1969.

SN 327,857. Chicago Bell Limited Co., Morton Grove, Ill. Filed May 21, 1969.



The drawing is lined for the color red.
For Radio Receivers (Int. Cl. 9).
First use Apr. 21, 1969.

SN 330,774. Proctor-Silex Incorporated, Philadelphia, Pa. Filed June 23, 1969.

PONY VAC

Any registration rights are disclaimed for the word "Vac" apart from the mark as shown, but applicant waives none of its common law rights in the mark or any feature or part thereof.
For Vacuum Cleaner (Int. Cl. 9).
First use in or about May 1968.

SN 330,836. The Ipac Group, Inc., Pittsburgh, Pa. Filed June 24, 1969.

ipac

For Circuit Breaker Reclosure Device, Amplifiers, Signal Isolators, Integrators and Transmitters (Int. Cl. 9).
First use Feb. 21, 1969.

SN 330,951. Powerdyne Inc., Lake Oswego, Oreg. Filed June 25, 1969.

POWERDYNE

For Electric Switches (Int. Cl. 9).
First use Jan. 1, 1960.

SN 332,759. Union Carbide Corporation, New York, N.Y. Filed July 16, 1969.

UCAR

Owner of Reg. No. 837,046.
For Electrical Switching Apparatus—Namely, a Battery Switching Unit (Int. Cl. 9).
First use on or about Mar. 11, 1969.

SN 334,875. Rex Chainbelt Inc., West Milwaukee, Wis. Filed Aug. 4, 1969.

SPEED JUDGE

Applicant disclaims the word "Speed" apart from the mark as shown.
For Solid State Speed Controls for Electric Motors (Int. Cl. 9).
First use Apr. 23, 1969.

SN 335,004. Encoder Products Company, Costa Mesa, Calif. Filed Aug. 11, 1969.

ACCU-CODER

For Incremental Shaft Encoders (Int. Cl. 9).
First use Mar. 1, 1969.

SN 335,301. Nucleonic Products Company, Inc., Canoga Park, Calif. Filed Aug. 14, 1969.

NPC

Owner of Reg. Nos. 636,757 and 751,197.
For Diodes, Carbon Resistors, Transistors, Photo Diodes, Condensers, Rectifiers, Capacitors, Magnets, Voltage Regulators, Amplifiers, Resolvers, and Synchronous Motors (Int. Cl. 9).
First use Dec. 15, 1955.

SN 336,188. Solar Light Manufacturing Co., Chicago, Ill. Filed Aug. 25, 1969.

LUNALAR

For Electric Lighting Fixtures (Int. Cl. 9).
First use July 21, 1969.

SN 340,021. International Bakery, Inc., Schiller Park, Ill. Filed Oct. 7, 1969.

POWERSONIC

For Automotive Lead-Acid Storage Batteries (Int. Cl. 9).
First use at least as early as September 1969.

SN 340,739. RFM Industries Corporation, Farmingdale, N.J. Filed Oct. 15, 1969.



The mark consists of a stylized version of the letters "MMA."
For Electrical Burglar Alarms (Int. Cl. 9).
First use July 11, 1969; July 2, 1969, in another form.

SN 344,479. Utah-American Corporation, Huntington, Ind. Filed Nov. 24, 1969.

UTAH

For Speakers (Int. Cl. 9).
First use 1935.

SN 346,127. Superior Continental Corporation, Hickory, N.C. Filed Dec. 12, 1969.

ALUMADROP

Owner of Reg. No. 854,554.
For Shielded Communications Cable (Int. Cl. 9).
First use June 1, 1969.

SN 347,003. Selectrons, Ltd., New York, N.Y. Filed Dec. 23, 1969.

DIGIT AMP

For Ampere-Hour Meters (Int. Cl. 9).
First use January 1969.

Class 22 — Games, Toys, and Sporting Goods

SN 297,558. Gladding Corporation, South Otselic, N.Y. Filed May 7, 1968.

MUSKIE·PIKE

For Fishing Lines (Int. Cl. 28).
First use in 1962.

SN 303,823. Richard F. Carella, d.b.a. Range-O-Matic Sight Company, Mt. Clemens, Mich. Filed July 29, 1968.

RANGE-O-MATIC

For Archery Bowsight (Int. Cl. 28).
First use Mar. 27, 1968.

SN 313,995. George Schlatter-Ed Friendly Productions and Romart, Inc., Burbank, Calif. Filed Dec. 5, 1968.

SOCK-IT-TO-ME

For Inflatable Toys—Namely, Figures, Dummies, Gavels, Punching Balls, and Punching Bags (Int. Cl. 28).
First use on or before Oct. 1, 1968.

SN 314,460. Scapegoat, Inc., Falmouth, Mass. Filed Dec. 13, 1968.

SCAPEGOAT

For Novelty Item and Toy To Be Disassembled by a Blow of the Hand (Int. Cl. 28).
First use Oct. 21, 1968.

SN 315,292. Joseph Imperato, Selden, N.Y. Filed Dec. 27, 1968.

RIDERS UP

For Equipment for Playing a Parlor Type Horse Racing Game (Int. Cl. 28).
First use on or about Nov. 27, 1968.

SN 316,143. Karsten Solheim, Phoenix, Ariz. Filed Jan. 8, 1969.



For Golf Playing Equipment (Int. Cl. 28).
First use July 23, 1968.

SN 316,176. Arrow International Ltd., d.b.a. Complex Japanese Corp., Fukiai-ku, Kobe, Japan. Filed Jan. 9, 1969.

GALAXY

For Golf Balls (Int. Cl. 28).
First use Sept. 30, 1968; in commerce Sept. 30, 1968.

SN 318,874. Anderson Bait Distributors, Inc., Lonoke, Ark. Filed Nov. 25, 1968.



For Fishing Tackle—Namely, Lures, Rods, Reels, Bait Buckets, Trout Lines, Lead Sinkers, Swivels, Stringers, and Artificial Bait (Int. Cl. 28).
First use Aug. 1, 1966.

SN 320,481. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

MARK THE LANDMARK

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,508. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

SPACE AGE

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,517. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT ADVENTURE

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,529. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT DISCOVERIES

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,538. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

SPIRIT OF '76

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,549. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

SPORTSARAMA

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 320,564. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

HEROES OF HISTORY

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 322,601. Staton D. Lorenz, Plymouth, Mich. Filed Mar. 24, 1969.

WORLD POWER

For Equipment Sold as a Unit for Playing a Board-Type of Parlor Game (Int. Cl. 28).
First use Mar. 17, 1969.

SN 326,708. Zippee Company, Athens, Ohio. Filed May 7, 1969.

ZIPPEE

For Equipment for Playing an Outdoor Game—Namely, a Bat, Missile, and Missile Launcher (Int. Cl. 28).
First use Mar. 6, 1969.

SN 329,322. Adidas-Fabrique de Chaussures de Sport, 67/ Landersheim, France. Filed June 6, 1969.

SOFTPROTECT

Owner of French Reg. No. 740,715, dated Mar. 28, 1968.
For Footballs; Bags for Ski Boots; Bags for Football Boots and Protective Football Wear; and Bags for Baseball Boots and Protective Wear (Int. Cl. 28).
First use October 1967; in commerce October 1967.

SN 329,342. Creative Development Company, Santa Fe, N. Mex. Filed June 6, 1969.

GLITTER GULCH

For Equipment for Playing a Board Game (Int. Cl. 28).
First use Sept. 24, 1968.

SN 331,033. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed June 26, 1969.



Owner of Reg. Nos. 811,311 and 811,312.
For Tennis and Golf Balls, Tennis Rackets, Golf Clubs, Golf Club Covers, and Tennis Racket Covers (Int. Cl. 28).
First use Since Jan. 10, 1963.

SN 334,324. Hasbro Industries, Inc., Pawtucket, R.I. Filed Aug. 4, 1969.

SCOOP-A-LOOP

For Toy Set Comprising a Ball and a Ball Catch-and-Throw Device (Int. Cl. 28).
First use on or about Feb. 1, 1969.

SN 334,520. Mattel, Inc., Hawthorne, Calif. Filed Aug. 6, 1969.

NANETTE

For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).
First use July 8, 1969.

SN 334,521. Mattel, Inc., Hawthorne, Calif. Filed Aug. 6, 1969.

NAN 'N FRAN

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use July 8, 1969.

SN 334,523. Mattel, Inc., Hawthorne, Calif. Filed Aug. 6, 1969.

PEP TALK

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use July 8, 1969.

SN 334,936. Mattel, Inc., Hawthorne, Calif. Filed Aug. 11, 1969.

ELESPLOOSHER

For Toy Vehicle (Int. Cl. 28).
First use June 17, 1969.

SN 334,988. Mattel, Inc., Hawthorne, Calif. Filed Aug. 11, 1969.

CLIPPITY SNIPPITY

For Toy Paper and Cloth Cutting Device (Int. Cl. 28).
First use June 18, 1969.

SN 338,842. Mattel, Inc., Hawthorne, Calif. Filed Sept. 25, 1969.

FINGER DINGER

For Equipment Sold as a Unit for Playing an Action Game (Int. Cl. 28).
First use Aug. 26, 1969.

SN 339,100. Mattel, Inc., Hawthorne, Calif. Filed Sept. 29, 1969.

RACING WORLD

For Toy Kit Comprising a Molding Unit, Plastic Molding Materials, Molds, Paint, Brush, Cement, Scenic Environmental Setting, and Accessories (Int. Cl. 28).
First use Aug. 5, 1969.

SN 340,332. Parker Brothers, Inc., Salem, Mass. Filed Oct. 10, 1969.

ON GUARD

For Equipment for Playing a Tilting-Board Ball Game (Int. Cl. 28).
First use June 15, 1967.

SN 340,708. GAF Corporation, New York, N.Y. Filed Oct. 15, 1969.

gaf

Owner of Reg. No. 744,454.
For Toy Viewers, Projectors, Stereoscopes and Picture Guns and Picture Cards, Reels, Film Strips and Transparencies for Use Therewith (Int. Cl. 28).
First use on or before Jan. 1, 1969.

SN 341,761. Mattel, Inc., Hawthorne, Calif. Filed Oct. 27, 1969.

TRINA 'N TRIXI

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Sept. 8, 1969.

SN 342,701. Dynamic Classics, Ltd., New York, N.Y. Filed Nov. 5, 1969.

SILHOUETTE WHEEL

No claim of exclusive right is made to the term "Wheel" for the goods recited.
For Exercise Wheel (Int. Cl. 28).
First use Apr. 23, 1969.

SN 345,761. Mattel, Inc., Hawthorne, Calif. Filed Dec. 10, 1969.

BIG BELTER

For Power Booster for Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 29, 1969.

SN 345,762. Mattel, Inc., Hawthorne, Calif. Filed Dec. 10, 1969.

POWER PIT

For Toy Recharger for Miniature Cell Driven Automobiles (Int. Cl. 28).
First use Oct. 30, 1969.

SN 346,182. Mattel, Inc., Hawthorne, Calif. Filed Dec. 15, 1969.

HOT STREAKS

For Toy Tops (Int. Cl. 28).
First use Oct. 9, 1969.

SN 346,184. Mattel, Inc., Hawthorne, Calif. Filed Dec. 15, 1969.

SURFSIDER

For Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 29, 1969.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 278,102. Howe-Baker Engineers, Inc., Tyler, Tex. Filed Aug. 11, 1967.

AUTOSTILL

For Portable Oil Refinery Plants (Int. Cl. 11).
First use Oct. 11, 1966.

SN 293,630. Leesona Limited, Heywood, England. Filed Mar. 19, 1968.

POLYBEAMER

Priority claimed under Sec. 44(d) on British Reg. No. 919,108, dated Dec. 30, 1967.
For Beaming Machines and Parts Thereof for Textile Yarns Consisting Wholly of or Including Synthetic Fibres or Filaments (Int. Cl. 7).

SN 295,554. Pioneer Motor Bearing Co., South San Francisco, Calif. Filed Apr. 12, 1968.

PMB

For Plain Machine Bearings and Bushings for Sale to Marine and Heavy Industry (Int. Cl. 7).
First use 1920.

SN 301,475. Ultradynamics Corp., Paterson, N.J. Filed June 26, 1968.

ULTRAD-ION

For Water, Sewage, and Industrial Wastes Treatment Plant (Int. Cl. 11).
First use at least since December 1967.

SN 303,048. The French Oil Mill Machinery Company, Piqua, Ohio. Filed July 18, 1968.

FRENCO

For Mechanical Screw Presses and Speed Drive Reduction Units (Int. Cl. 7).
First use at least as early as Aug. 9, 1946.

SN 303,666. The Ehrsam Company, Abilene, Kans., assignee of The J. B. Ehrsam & Sons Mfg. Company, Abilene, Kans. Filed July 26, 1968.

V-CON

For Chain Driven Flight Conveyors for Handling Bulk Material (Int. Cl. 7).
First use Apr. 10, 1967.

SN 306,332. Brewer Corporation, Arlington, Tex. Filed Aug. 30, 1968.

HYDRA·DYNE

For Communication and Power Cable Handling Equipment—Namely, Pullers, Tensioners and Puller-Tensioners for Overhead Electrical Distribution and Transmission Conductors, Reel Supports for Cables and Conductors, and Pullers for Underground Cables and Conductors (Int. Cl. 7).
First use May 5, 1967.

SN 315,807. Aluminum Products, Inc., Fort Lauderdale, Fla. Filed Dec. 31, 1968.

LITTLE MULE

For Hand Chain Hoist (Int. Cl. 7).
First use 1953.

SN 318,541. Gildemeister & Comp. Akt.-Ges., Bielefeld, Germany. Filed Feb. 6, 1969.

GILDEMEISTER

For Metal Working Turret Lathes, and Single and Multiple Spindle Automatic Metal Working Machine Tools (Int. Cl. 7).
First use in or about February 1952; in commerce in or about February 1952.

SN 319,148. Elektriska Eledko Aktiebolag, Halmsted, Sweden. Filed Feb. 14, 1969.

LUNDA

For Electrically Operated Waste Compactor (Int. Cl. 7).
First use Nov. 1, 1968; in commerce Nov. 1, 1968.

SN 320,421. Boise Cascade Corporation, Boise, Idaho. Filed Mar. 3, 1969.

The mark consists of a checkerboard design with the symbolic letter "D" superimposed thereon.
For Differential for Motor Vehicles (Int. Cl. 12).
First use Jan. 29, 1969.

SN 321,297. U.S. Industries, Inc., New York, N.Y. Filed Mar. 10, 1969.

WEBCOR

Owner of Reg. Nos. 547,309, 762,349, and others.
For Sewing Machines (Int. Cl. 7).
First use September 1968.

SN 321,727. Process Control Corporation, Atlanta, Ga. Filed Mar. 14, 1969.

For Automatic Plastic Scrap Recovery Machinery Comprising a Central Panel, Hoppers, Blowers, Roll Feeder, Grinder, Receiver, Extruder Hopper With Bridge Breaker, Extruder and Vacuum Power Pack (Int. Cl. 7).
First use Jan. 9, 1969.

SN 321,777. Crown Machine & Tool Co., Dallas, Tex. Filed Mar. 14, 1969.

CUPMASTER

For Foam Plastic Molding Machines (Int. Cl. 7).
First use May 1965.

SN 322,291. Gustone Products, Inc., Long Island City, N.Y. Filed Mar. 20, 1969.

GUST-AIRE

For Cabinet Dispenser for Aerosol-Deodorants, Cabinet Dispensers for Air Sanitizers, and Cabinet Dispensers for Insecticides Dispensed in Aerosol Cans (Int. Cl. 9).
First use Mar. 4, 1969.

SN 322,602. Lubrastart Company, Los Angeles, Calif. Filed Mar. 24, 1969.

LUBRASTART

For Injector for Injecting Starting Fluid Into an Internal Combustion Engine (Int. Cl. 7).
First use Jan. 18, 1969.

SN 323,980. Western Litho Plate & Supply Co., St. Louis, Mo. Filed Apr. 8, 1969.

THE LITHOPLATER

For Machine for Developing, Washing and Drying Exposed Lithographic Plates (Int. Cl. 7).
First use Mar. 1, 1968.

SN 325,002. CF & I Steel Corporation, Denver, Colo. Filed Apr. 21, 1969.

SABRE 3X

For Grader Blades for Highway Scraper Apparatus (Int. Cl. 7).
First use Apr. 9, 1969.

SN 326,657. Berwind Corporation, Rosemont, Ill. Filed May 7, 1969.

kq

For Briquetting Machines for Compacting and Agglomerating Solid Matter (Int. Cl. 7).
First use at least as early as 1932.

SN 327,040. Nagle Pumps, Inc., Chicago Heights, Ill. Filed May 12, 1969.

NAGLE

Owner of Reg. No. 564,467.
For Industrial Pumps (Int. Cl. 7).
First use Mar. 28, 1968.

SN 327,364. Edouard Dubied & Cie Societe Anonyme, Couvet, Switzerland. Filed May 15, 1969.

COUVENIT

Owner of Swiss Reg. No. 235,237, dated Nov. 8, 1968; and U.S. Reg. Nos. 597,899 and 727,272.
For Textile Machines—Namely, Knitting Machines and Parts Thereof (Int. Cl. 7).

SN 328,603. Textron Inc., Providence, R.I. Filed May 28, 1969.

POWER TIP

For Guide Bars for Chain Saws (Int. Cl. 7).
First use at least as early as Nov. 30, 1968.

SN 331,080. Vaughan & Bushnell Mfg. Co., Hebron, Ill. Filed June 26, 1969.

VAUGHAN

For Hammers, Hatchets, Axes, Bricklayer Chisels and Sets, Regular Chisels, Punches, Ripping Bars, Nail Puller Bars, and Pry Bars (Int. Cl. 8).
First use During 1869.

SN 331,183. Gerber Legendary Blades, Portland, Oreg. Filed June 27, 1969.

KITCHEN-PROOF

For Butcher Knives, Carving Knives, Paring Knives, Utility Knives, and Boning Knives (Int. Cl. 8).
First use June 9, 1969.

SN 332,481. Hesston Corporation, Hesston, Kans. Filed July 14, 1969.

STAKHAND

For Agricultural Implements—Namely, Wagons for Picking Up, Compressing, and Transporting Loose Hay (Int. Cl. 7).
First use May 26, 1969.

SN 334,360. Monsanto Company, St. Louis, Mo. Filed Aug. 4, 1969.

VYKAN

For Textile Machine Bobbins Made of Rigid Plastic (Int. Cl. 7).
First use Mar. 11, 1968.

SN 335,132. General Appliance Manufacturing Co., Omaha, Nebr. Filed Aug. 12, 1969.

BONANZA

Owner of Reg. No. 844,046.
For Tractors and Garden Tillers (Int. Cls. 7 and 12).
First use at least as early as May 2, 1966.

SN 337,038. Garlock Inc., Palmyra, N.Y. Filed Sept. 4, 1969.

GARLITE

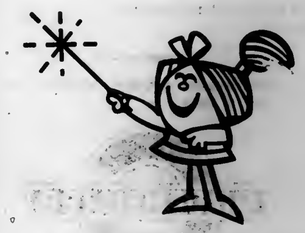
Owner of Reg. Nos. 184,261, 849,823, and others.
For Metal Shaft Sleeves (Int. Cl. 7).
First use Jan. 27, 1969.

SN 338,944. Tenneco Inc., Houston, Tex., assignee of Walker Manufacturing Company, Racine, Wis. Filed Sept. 25, 1969.

BLUE SWINGER

For Automotive Exhaust Systems and Parts Thereof—Namely, Exhaust Mufflers for Internal Combustion Engines (Int. Cl. 12).
First use on or about Dec. 16, 1968.

SN 339,432. Homestead Industries, Inc., Corapolis, Pa. Filed Oct. 1, 1969.



Owner of Reg. No. 817,961.
For Automatic Vehicle Washing Apparatus (Int. Cl. 7).
First use June 4, 1969.

SN 340,540. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Oct. 13, 1969.

Airstroke

Owner of Reg. No. 666,273.
For Actuators, Consisting of Pneumatic Rubber Bellows, To Initiate and Control the Motion of Mechanical Equipment (Int. Cl. 7).
First use Sept. 25, 1969.

SN 340,941. The Proctor Corporation, Birmingham, Ala. Filed Oct. 16, 1969.

PROCTOR

For Woodworking Saws and Blades (Int. Cl. 7).
First use May 9, 1969.

SN 341,075. IBP Equipment Corporation, Lake City, Minn. Filed Oct. 16, 1969.

IBP

For Hand and Hydraulic Operated Bending Machines, Cut-Off Machines, Tube and Pipe Milling Machines, and Earth Drill Units (Int. Cl. 7).
First use Dec. 4, 1968, on hydraulic Operated Bending Machine

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SN 341,675. Miehle-Goss-Dexter, Incorporated, Chicago, Ill. Filed Oct. 24, 1969.

Metro-Offset

For Printing Presses (Int. Cl. 7).
First use Sept. 14, 1965.

SN 342,711. AMP Incorporated, Harrisburg, Pa. Filed Nov. 5, 1969.

AMP-PAK

Owner of Reg. Nos. 405,714, 812,073, and others.
For Repair Kits Comprised of Electrical Connector Devices and Hand Tools To Apply Such Electrical Connector Devices (Int. Cl. 8).
First use Oct. 16, 1969.

SN 342,994. Oneida Ltd., Oneida, N.Y. Filed Nov. 7, 1969.
Owner of Reg. No. 775,811.

INDEPENDENCE

For Flatware Made of Non-Precious Metal (Int. Cl. 8).
First use Oct. 1, 1969.

SN 347,855. Artisan Industries, Inc., Waltham, Mass. Filed Jan. 7, 1970.

DUALFLO

For Trays Used in Processing Towers for Gas and Liquid Contact (Int. Cl. 11).
First use Dec. 1, 1969.

SN 348,216. Rodney Hunt Company, Orange, Mass. Filed Jan. 12, 1970.

TRU-NIP

Owner of Reg. Nos. 296,812 and 619,883.
For Textile Dyeing Machinery (Int. Cl. 7).
First use Dec. 11, 1969.

Class 24—Laundry Appliances and Machines

SN 312,579. F.lli Donini S.a.S. Officine Elettromeccaniche, Bologna, Italy. Filed Nov. 19, 1968.

DONINI
LAVASECCO INTERNAZIONALE
Bologna Italy

Owner of Italian Reg. No. 227,676, dated June 9, 1967.
For Dry Cleaning Machines for Domestic and Commercial Use (Int. Cl. 7).

Class 25—Locks and Safes

SN 331,245. Security Research and Development, Inc., Washington, D.C. Filed June 27, 1969.

MAXI-BAR

For Door Bar Latch (Int. Cl. 6).
First use June 10, 1969.

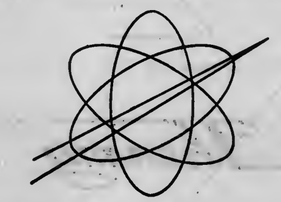
Class 26—Measuring and Scientific Appliances

SN 304,842. General Dynamics Corporation, Rochester, N.Y. Filed July 25, 1968.

EDX

For Data Communications Equipment Comprising Variable Equalizers, Data Modems, Data Terminals, All Suitable for Transmission and Reception Over Telephone and Other Channels (Int. Cl. 9).
First use at least as early as Nov. 6, 1967.

SN 306,650. Data Pacific Corporation, Portland, Oreg. Filed Sept. 5, 1968.



For Electronic Data Collection Equipment for Receiving and Recording Data From Local, Remote, or Multiple Input Stations on Digital Information Recording Tape, Data Recorders for Digital Information Recording Tape, and Controllers for Digital Information Recording Tape (Int. Cl. 9).
First use June 29, 1968.

SN 314,632. Terraillon S.A., Annemasse, Haute-Savoie, France. Filed Dec. 16, 1968.

Terraillon

Priority claimed under Sec. 44(d) on French Reg. No. 742,377, dated June 17, 1968.
For Weighing Scales (Int. Cl. 9).

SN 316,178. Brookfield Engineering Laboratories, Inc., Stoughton, Mass. Filed Jan. 9, 1969.

THERMOSEL

For Viscosity Measuring Chambers (Int. Cl. 9).
First use at least as early as Nov. 20, 1968.

SN 316,312. Iomec, Inc., San Jose, Calif. Filed Jan. 10, 1969.

iodisc

For Electronic Products—Namely, Data Disc Cartridges (a Storage Device on Which Digital Data Is Stored for Use in Conjunction With Computers), Data Disc Drives (Read and Write the Data Stored on Disc Cartridges), Data Controllers (Control the Disc Drive and Attach the Disc Drive to the Computer) (Int. Cl. 9).
First use Oct. 1, 1968 on Disc Cartridges.

SN 316,313. Iomec, Inc., San Jose, Calif. Filed Jan. 10, 1969.

IOMEC INC



Applicant disclaims "Inc" apart from the mark.
For Electrode Products—Namely, Data Disc Cartridges (a Storage Device on Which Digital Data Is Stored for Use in Conjunction With Computers), Data Disc Drives (Read and Write the Data Stored on Disc Cartridges), Data Controllers (Control the Disc Drive and Attach the Disc Drive to the Computer) (Int. Cl. 9).
First use Oct. 1, 1968 on Disc Cartridges.

SN 316,329. Mura Corporation, Great Neck, N.Y. Filed Jan. 10, 1969.

Thermy

For Electronic Temperature Indicating Instruments (Int. Cl. 9).
First use June 16, 1968.

SN 322,192. The Shuford-Massengill Corporation, Lexington, Mass. Filed Mar. 19, 1969.

SCORULE

For Materials Used in Connection With Educational Testing—Namely, Educational, Confidence Testing Kits Consisting of an Adjustable Score Indicator, Answer Forms, Analysis Forms, Scoring Table and Summary Instructions (Int. Cl. 16).
First use September 1967.

SN 322,839. Rite Autotronics Corporation, Los Angeles, Calif. Filed Mar. 20, 1969.

BLACK ◆ DIAMOND

For Automotive Instruments—Namely, Oil Pressure Gauges, Water Temperature Gauges, Ammeters, and Tachometers (Int. Cl. 9).
First use July 10, 1968.

SN 322,355. Societe Generale du Vide (Sogev), Paris, France. Filed Mar. 20, 1969.

EXTRAVAC

Owner of French Reg. No. 728,625, dated Sept. 27, 1967.
For Electronic Measurement Apparatus—Namely, Electronic Gauges for Measuring Vacuum (Int. Cl. 9).

SN 324,290. Hayssen Manufacturing Company, Sheboygan, Wis. Filed Apr. 11, 1969.

ACCU-TRACK

For Automatic Web Tracking Assembly for Controlling Flow and Alignment of Film in Packaging Sealing Machines (Int. Cl. 9).
First use Mar. 21, 1969.

SN 324,849. Sun Electric Corporation, Chicago, Ill. Filed Apr. 17, 1969.

TRI-TACH

For Electrical Tachometers (Int. Cl. 9).
First use Oct. 25, 1968.

SN 325,909. Visual Information Institute, Inc., Xenia, Ohio. Filed Apr. 29, 1969.

Vii

For Test Signal Generators (Int. Cl. 9).
First use May 5, 1965.

SN 329,051. AGE Optical Co., Inc., d.b.a. AGE Lens Corporation, New York, N.Y. Filed June 4, 1969.

a g e

The drawing is shaded for contrast only.
For Optical Lenses and Frames (Int. Cl. 9).
First use May 31, 1968.

SN 329,676. American Optical Corporation, Southbridge, Mass. Filed June 11, 1969.

PLASTISAFE

For Ophthalmic Lenses (Int. Cl. 9).
First use January 1965.

SN 329,855. Gulton Industries, Inc., Metuchen, N.J. Filed June 12, 1969.

FROSTGARD

For Temperature Alarm Devices Designed To Display a Warning Signal in Case of Off Normal Temperatures in Cooled or Heated Containers—Namely, Truck Trailers, Refrigerated Boxcars, and the Like (Int. Cl. 9).
First use Mar. 28, 1969.

SN 329,998. McBain Instruments, Inc., Van Nuys, Calif. Filed June 13, 1969.

INFO-SCOPE

For Optical Comparator Microscopes (Int. Cl. 9).
First use Dec. 12, 1968.

SN 330,785. Gelman Instrument Company, Ann Arbor, Mich. Filed June 23, 1969.

SEPRATEK

For Electrophoresis System Comprising Applicators, Chambers, Support Media, Conversion Lids, Glass Slides, Staining Trays, and Absorbent Pads (Int. Cl. 9).
First use May 31, 1969.

SN 331,736. Engelhard Minerals & Chemicals Corporation, Newark, N.J. Filed July 3, 1969.

TELL-OX

For Instrument for Detecting Oxygen (Int. Cl. 9).
First use Jan. 9, 1969.

SN 338,433. Reliance Electric Company, Toledo, Ohio. Filed Sept. 19, 1969.

RETAILER

For Weighing Scales and Parts Thereof (Int. Cl. 9).
First use Nov. 17, 1955.

SN 341,851. Rite Autotronics Corporation, Los Angeles, Calif. Filed Oct. 27, 1969.

#RAC competition

For Automotive Instruments—Namely, Ammeters, Tachometers, Water Temperature Gauges, and Oil Pressure Gauges (Int. Cl. 9).
First use Sept. 15, 1969.

SN 342,326. Sloan Instruments Corporation, Santa Barbara, Calif. Filed Oct. 31, 1969.

TEMPTRAK

For Temperature Measurement Instrument (Int. Cl. 9).
First use on or about Sept. 22, 1969.

SN 345,803. Cambridge Research and Development Group, Westport, Conn. Filed Dec. 4, 1969.

FFI

For Calculator for Displaying Variable Physiological Information Relating to Fertility (Int. Cl. 9).
First use at least as early as March 1969.

SN 346,200. Ambac Industries, Inc., Pittsburgh, Pa. Filed Dec. 15, 1969.

Canary

For Permissible Methane Detector, for Detecting and Measuring Percentage of Methane Gas in the Atmosphere of Enclosed Areas Such as Mining Areas (Int. Cl. 9).
First use on or about Oct. 1, 1969.

SN 346,811. Infoton, Incorporated, Burlington, Mass. Filed Dec. 22, 1969.

VISTA

For Computer Peripheral Equipment—Namely, Input/Output Cathode Ray Tube Digital Display Terminals (Int. Cl. 9).
First use Nov. 5, 1969.

SN 348,728. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Jan. 16, 1970.

DACOTEX

Owner of Reg. No. 823,088.
For Meter for Measuring Moisture Content in Dry Cleaning Solutions (Int. Cl. 9).
First use Feb. 21, 1967.

SN 348,744. Wooster Optical Corporation, Floral Park, N.Y. Filed Jan. 16, 1970.

AVANT-GARDE

For Eye Glass Frames and Lenses (Int. Cl. 9).
First use Nov. 15, 1968.

Class 27 — Horological Instruments

SN 305,687. Societe Anonyme de la Manufacture d'Horlogerie Audemars, Piquet et Co., Brassus, Switzerland. Filed Aug. 21, 1968.

AUDIGUET

Owner of Reg. No. 845,432.
For Watches, Clocks, Stop-Watches, Time Recorders, Chronometers, Chronographs, Watch Movements, and Parts of All the Foregoing (Int. Cl. 14).
First use December 1946; in commerce December 1946.

SN 330,198. Regency Creations, Inc., Greenvale, N.Y. Filed June 16, 1969.



For Watch Cases (Int. Cl. 14).
First use July 15, 1961.

Class 28 — Jewelry and Precious-Metal Ware

SN 331,443. Textron Inc., Providence, R.I. Filed June 30, 1969.

AUTUMN GOLD

No claim is made to the word "Gold" apart from the mark. Owner of Reg. No. 638,425.
For Bracelets, Including Watch Bracelets (Int. Cl. 14).
First use June 18, 1969.

Class 32 — Furniture and Upholstery

SN 325,302. GAF Corporation, New York, N.Y. Filed Apr. 23, 1969.



Owner of Reg. Nos. 509,124, 837,005, and others.
For Merchandise Display Shelves, Racks, Counters, Cabinets, Showcases, and Stands (Int. Cl. 20).
First use Mar. 19, 1968.

SN 336,737. Bomex Products Co., Inc., Kennedale, Tex. Filed Sept. 2, 1969.

BOMEX

For Sorting Tables, Work Tables, and Pigeon Hole Filing Cabinets of an Industrial Type or Nature (Int. Cl. 20).
First use Mar. 1, 1969.

SN 340,452. Oneida Ltd., Oneida, N.Y. Filed Dec. 5, 1969.

Oneida TABLE TOP FASHION SHOP

Applicant disclaims each of the words "Table," "Top," "Fashion," and "Shop," when used separately and apart from the mark as shown. Owner of Reg. Nos. 133,012, 818,257, and others.
For Display Stands for Tableware for Use in Stores (Int. Cl. 20)
First use October 1962.

SN 346,456. Con-Vex-O Chair & Lounge Co., Inc., St. Louis, Mo. Filed Dec. 17, 1969.

CON-VEX-O

For Chairs and Lounges (Int. Cl. 20).
First use Sept. 15, 1969.

SN 346,530. Tri-State Displays, Inc., Minneapolis, Minn. Filed Dec. 17, 1969.

MAGIC TREE

For Display Stands for Novelty Items, Such as Badges, Adhesive Labels, and Note Cards (Int. Cl. 20).
First use July 29, 1969.

SN 346,727. Clopay Corporation, Cincinnati, Ohio. Filed Dec. 19, 1969.

FRINGEMASTER

Owner of Reg. No. 372,849.
For Window Shades (Int. Cl. 20).
First use Mar. 17, 1969.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 293,958. Thermal Engineering & Design Co., Akron, Ohio. Filed Mar. 22, 1968.

FIRST MATE

For Commercial Coffee and Beverage Makers (Int. Cl. 11).
First use Oct. 4, 1966.

SN 317,297. Air Reduction Company, Incorporated, New York, N.Y. Filed Jan. 23, 1969.

TENSIL-COR

For Continuous Cored Welding Wire Electrodes (Int. Cl. 9).
First use Mar. 7, 1968.

SN 333,797. Intertherm, Inc., St. Louis, Mo. Filed July 29, 1969.

INTERTHERM

Owner of Reg. No. 794,063.
For Oil, Gas and Electric Furnaces and Stoves, Including Those for Mobile Homes and Travel Trailers, Metal Chimneys, Heating Duct Registers, Furnace-Mounted Humidifiers, Stoves and Parts Therefor; Electric Baseboard Wall and Undercabinet Heaters and Air Conditioners (Int. Cls. 6 and 11).
First use Mar. 26, 1969.

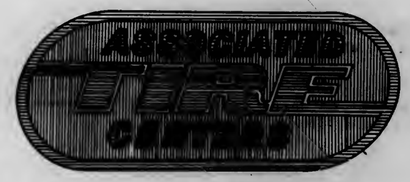
SN 335,164. Fedtro, Inc., Rockville Centre, N.Y. Filed Aug. 13, 1969.

SOLDER-ETTE

For Electric Soldering Irons (Int. Cl. 9).
First use as early as March 1959.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 328,802. Associated Tire Centers, Inc., Portland, Oreg. Filed June 2, 1969.



The drawing is lined for the colors blue and red. Applicant disclaims any right to the exclusive use of the words "Tire Centers" apart from the mark as shown.
For New, Recapped and Retreaded Tires, Inner Tubes, Hose of All Types, Used on Motor Vehicles, Such as Water Hose Connecting the Radiator to the Motor; Tire Tread, and Fan and Generator Belting (Int. Cls. 12 and 17).
First use May 7, 1969.

Class 36 — Musical Instruments and Supplies

SN 326,803. Springboard International Records, Inc., New York, N.Y. Filed May 8, 1969.

SPRINGBOARD

For Phonograph Record Albums (Int. Cl. 9).
First use on or about Dec. 9, 1968.

SN 327,245. Arthur Egnolan, d.b.a. Now Records, Los Angeles, Calif. Filed May 14, 1969.



The drawing is lined for the color red. Applicant disclaims the words "Sound" and "Records" apart from the mark as shown.
For Phonograph Records and Magnetic Tapes (Int. Cl. 9).
First use Nov. 1, 1967.

SN 327,393. J. L. Marsh, Inc., Minneapolis, Minn. Filed May 15, 1969.

MUSICLAND

For Guitars and Parts Therefor, Magnetic Tapes and Reels Therefor, Cassettes, Phonograph Record Adapters, Phonograps Record Needles, and Magnetic Tape Splicers (Int. Cls. 9 and 15).
First use Jan. 2, 1958.

SN 327,520. Supreme Musical Instrument Co., Newark, N.J. Filed May 16, 1969.

Supreme

For Guitars (Int. Cl. 15).
First use on or about Feb. 27, 1969.

SN 334,923. Event Records, Inc., New York, N.Y. Filed Aug. 11, 1969.

EVENT

For Phonograph Records (Int. Cl. 9).
First use Nov. 25, 1968.

SN 347,604. Gibson, Inc., Kalamazoo, Mich. Filed Jan. 2, 1970.



For Guitars (Int. Cl. 15).
First use Aug. 13, 1942.

SN 347,605. Gibson, Inc., Kalamazoo, Mich. Filed Jan. 2, 1970.



For Guitars (Int. Cl. 15).
First use July 7, 1942.

Class 37 — Paper and Stationery

SN 294,565. Ad-A-Day Company, Inc., Taunton, Mass. Filed Apr. 1, 1968.

Leth-R-Wood

For Desk Calendars (Int. Cl. 16).
First use Oct. 4, 1967.

SN 319,885. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co., New York, N.Y. Filed Feb. 24, 1969.

GEMTERTAINMENT

Owner of Reg. Nos. 793,315, 793,316, and 850,581.
For Cardboard, Paper, Foil, and Combination Paper and Foil-Photographic Transparency Slide Binders (Int. Cl. 16).
First use Jan. 2, 1964.

SN 319,867. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co., New York, N.Y. Filed Feb. 24, 1969.

GEMINI

Owner of Reg. Nos. 793,315, 793,316, and 850,581.
For Cardboard, Paper, Foil, and Combination Paper and Foil-Photographic Transparency Slide Binders (Int. Cl. 16).
First use Jan. 2, 1964.

SN 319,868. Paul S. Heitman, d.b.a. Gem- Mounts and Gem-Masks Co., New York, N.Y. Filed Feb. 24, 1969.

GEMMY

Owner of Reg. Nos. 793,315, 793,316, and 850,581.
For Cardboard, Paper, Foil, and Combination Paper and Foil-Photographic Transparency Slide Binders (Int. Cl. 16).
First use Jan. 2, 1964.

SN 319,869. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co., New York, N.Y. Filed Feb. 24, 1969.

FUN-ONE'S

For Cardboard, Paper, Foil, and Combination Paper and Foil-Photographic Transparency Slide Binders (Int. Cl. 16).
First use Jan. 2, 1964.

Class 38 — Prints and Publications

SN 291,068. The Florida National Bank and Trust Company at Miami, Miami, Fla. Filed Feb. 14, 1968.

TRUSTGRAM

For Trust Banking Newsletter (Int. Cl. 16).
First use Dec. 20, 1967.

SN 332,687. Alan McConnell & Son, Inc., Indianapolis, Ind. Filed July 16, 1969.

YOUR UNITOLOGY FORECAST

For Magazine (Int. Cl. 16).
First use 1940.

SN 337,402. Center for Political Research, Washington, D.C. Filed Sept. 9, 1969.

National Journal

Applicant Disclaims right to exclusive use of the Terminology "Journal" apart from the mark as shown.
For Weekly News Journal Summarizing Activities of the Federal Government (Int. Cl. 16).
First use Aug. 18, 1969.

SN 337,948. Historical Times, Inc., Gettysburg, Pa. Filed Sept. 10, 1969.

Civil War Times ILLUSTRATED

For Magazine Concerned With the American Civil War (Int. Cl. 16).
First use Apr. 1, 1962.

SN 341,598. RC Publications, Inc., Washington, D.C. Filed Oct. 24, 1969.

PACKAGING DESIGN

For Magazine (Int. Cl. 16).
First use May 1, 1959.

SN 345,641. Kalamazoo Label Company, Kalamazoo, Mich. Filed Dec. 8, 1969.

KALAMAZOO LABEL COMPANY K

For Printed Labels (Int. Cl. 16).
First use 1956.

SN 345,668. Orbit Publishing S.A., Cologny, Switzerland. Filed Dec. 8, 1969.

BUSINESS ORBIT

Owner of Swiss Reg. No. 234,381, dated Sept. 25, 1968.
For Magazines (Int. Cl. 16).

Class 39 — Clothing

SN 301,896. Alice Frock Company, San Francisco, Calif. Filed July 3, 1968.

Alice POLYNESIAN FASHIONS

The words "Polynesian Fashions" are disclaimed apart from the mark.
For Women's Garments—Namely, One-Piece and Two-Piece Shirtmaker and Sheath Dresses, Jackets and Long Coats, and Suits (Int. Cl. 25).
First use November 1964.

SN 303,499. The Bentley Engineering Company Limited, Leicester, England. Filed July 24, 1968.

DURA * VENT

Owner of British Reg. No. 920,458, dated Feb. 1, 1968.
For Knitted Articles of Clothing—Namely, Stockings, Socks, ¾ Hose, Bootees, Slippers, Tights, Leotards, and Pantihose (Int. Cl. 25).

SN 318,616. Alpi Seidenwebereien und Krawattenfabrik Albrecht Pic. K.G., Krefeld, Germany. Filed Feb. 7, 1969.

ALPI PEARLSILK

Priority claimed under Sec. 44(d) on German application filed Aug. 8, 1968; Reg. No. 854,221, dated Jan. 30, 1969.
For Neckties, Especially Long Ties, Bow Ties, and Plastrons; Cummerbunds, and Scarves (Int. Cl. 25).
First use Aug. 1, 1968; in commerce September 1968.

SN 321,516. Little Topsy's, Incorporated, New York, N.Y. Filed Mar. 12, 1969.

NUDNIX

For Infant Children's and Teens' Apparel and Sportswear—Namely, Pants, Shirts, Blouses, Slacks, Tops, and Combinations Thereof, Dresses and Playsuits (Int. Cl. 25).
First use Feb. 25, 1969.

SN 322,451. Koninklijke Weefgoederenfabriek C. T. Stork & Co., N.V., Hengelo, Netherlands. Filed Mar. 21, 1969.

SEA-SUN-SOAPFAST Seahorse A Stork PRODUCT

The word "Products" is disclaimed apart from the mark as shown. Owner of U.S. Reg. No. 597,971.
For Clothing Made of Terry Cloth—Namely, Night Gowns, Bermuda Shorts, Night Shirts, Pajamas, Swimming Suits, Shirts, Jackets, Robes, Hats and Caps, Capes, Coats, Blouses, Slacks, Shorts, Shirts, Pedal Pushers; Babies' Rompers and Booties; Shifts, Dresses, Culottes, Halters, Playsuits, Gloves, and Socks (Int. Cl. 25).
First use Feb. 27, 1934; in commerce Oct. 10, 1952.

SN 325,370. Maybro Sportwear Co. Inc., New York, N.Y. Filed Apr. 23, 1969.



For Women's Sportswear—Namely, Sports Dresses, Skirts, Pants, Shifts, and Tops (Int. Cl. 25).
First use July 1964.

SN 325,776. Plastimayd Corporation, Portland, Oreg. Filed Apr. 28, 1969.

DRYLITE

For Waterproof Clothing, Such as Coats, Jackets, and Pants (Int. Cl. 25).
First use on or about Aug. 11, 1964.

SN 327,753. E. G. Selzer Erzeugung von Sportbekleidung Gesellschaft m.b.H., Vienna, Austria. Filed May 20, 1969.

EXI

Owner of Austrian Reg. No. 60,975, dated Jan. 9, 1968.
For Sportswear and Skiwear for Men, Women and Children—Namely, Parkas, Anorkas, Turtlenecks, Warm-Up Pants, Warm-Up Suits, Racing Pants, Racing Suits, Tennis Shorts, Tennis Pants, Tennis Skirts, Golf Skirts, Sailing Jackets, Sailing Pants, Climbing Pants, Riding Breeches, Jodphurs, Ski Shirts, Ski Blouses, Ski Pants, Ski Jackets, Ski Suits, Ski Pullovers, Ski Vests, Ski Cardigans, Ski Caps, Ski Gloves, Ski Mittens, Ski Socks, Ski Stockings, Ski Hose, and Ski Helmets (Int. Cl. 25).
First use August 1955; in commerce 1963.

SN 329,250. Little Jo Designs, New Paltz, N.Y. Filed June 5, 1969.

GRAFFITI

For Shirts (Int. Cl. 25).
First use May 1, 1969.

SN 329,430. Baby Doll Industries, Inc., Malabon, Rizal, Philippines. Filed June 9, 1969.

Baby Doll

Owner of Philippine Reg. No. 11,551, dated Nov. 19, 1964.
For Infants' Wear—Namely, Diapers, Pajamas, Robe Sets, Panties, and Sandos (Undershirts) (Int. Cl. 25).
First use Jan. 15, 1964.

SN 330,571. Sunbeam Shoes Limited, Port Colborne, Ontario, Canada. Filed June 20, 1969.

BIG JOHN

For Boots (Int. Cl. 25).
First use at least as early as August 1967; in commerce at least as early as October 1968.

SN 330,898. Charles Belpaume, Bouches-du-Rhone, France. Filed June 25, 1969.

HOM

Owner of French Reg. No. 739,631, dated Mar. 15, 1968.
For Vests, Shirts, Underpants, and Bathing Trunks (Int. Cl. 25).

SN 332,664. Melville Shoe Corporation, New York, N.Y. Filed July 16, 1969.

HIPPOS

For Men's and Boys' Trousers (Int. Cl. 25).
First use July 14, 1969.

SN 332,792. Blue Bell, Inc., Greensboro, N.C. Filed July 17, 1969.



For Jeans (Int. Cl. 25).
First use May 1968.

SN 332,837. Manhattan Industries, Inc., New York, N.Y. Filed July 17, 1969.

ESTUPENDO

"Estupendo" is a Spanish word and its primary meaning is "stupendous."
For Dress Shirts and Sport Shirts (Int. Cl. 25).
First use Apr. 22, 1969.

SN 333,260. Fendrich Industries, Inc., Evansville, Ind. Filed July 23, 1969.

BLUE DOT

Owner of Reg. No. 435,261.
For Handkerchiefs (Int. Cl. 24).
First use at least as early as October 1946.

SN 333,262. Fendrich Industries, Inc., Evansville, Ind. Filed July 23, 1969.

REPELAGERM

Owner of Reg. No. 695,699.
For Handkerchiefs (Int. Cl. 24).
First use at least as early as Dec. 7, 1958.

SN 333,297. Priscilla Modes, Inc., New York, N.Y. Filed July 23, 1969.

LYKAFUR

For Ladies' Coats (Int. Cl. 25).
First use Aug. 16, 1968.

SN 335,283. Tex Manufacturing Co., Inc., El Paso, Tex. Filed Aug. 14, 1969.

KILA KILA

For Slacks and Jeans (Int. Cl. 25).
First use Apr. 16, 1969.

SN 335,724. Kimberly Knitwear, Inc., New York, N.Y. Filed Aug. 20, 1969.



The drawing is lined for the color red, but no claim is made as to said color. Owner of Reg. Nos. 603,980 and 774,629.
For Ladies' Knitted Outerwear—Namely, Dresses, Sweaters, Skirts, Jackets, and Suits (Int. Cl. 25).
First use March 1960; on or about Sept. 5, 1947, as to "Kimberly" and design.

SN 335,727. Nicholas Brecher, d.b.a. Brevoni Creations, New York, N.Y. Filed Aug. 20, 1969.

MALEO LEG HUGGER

For Panty Hose (Int. Cl. 25).
First use Aug. 14, 1969.

SN 336,585. Medici Industries, Ltd., New York, N.Y. Filed Aug. 28, 1969.

SWEATER LEGS

For Knit Pants for Men and Women (Int. Cl. 25).
First use Aug. 8, 1969.

SN 336,826. Majestic Specialties, Inc., Nashville, Tenn. Filed Sept. 2, 1969.



Owner of Reg. No. 765,181.
For Women's Shifts, Suits, Shirts, Skirts, Shorts, Pants, and Jackets (Int. Cl. 25).
First use at least as early as 1965.

SN 337,357. Rudin & Roth, Inc., New York, N.Y. Filed Sept. 8, 1969.

THE BRACELET

For Socks and Hosiery (Int. Cl. 25).
First use Aug. 20, 1969.

SN 337,487. La Bouttica Pappagallo, Inc., Greenwich, Conn. Filed Sept. 10, 1969.

LA BOUTTICA

For Women's Dresses and Shoes (Int. Cl. 25).
First use November 1968.

SN 337,917. Burton G. Feldman, Chicago, Ill. Filed Sept. 15, 1969.

CURL KEEPER

Owner of Reg. No. 740,425.
For Women's Hair-Retaining Caps (Int. Cl. 25).
First use during August 1961.

SN 338,196. U.S. Industries, Inc., New York, N.Y. Filed Sept. 17, 1969.

INSTANT PANTY HOSE

The words "Panty" and "Hose" are disclaimed apart from the mark as shown.
For Hosiery and Underwear (Int. Cl. 25).
First use on or before June 18, 1969.

SN 338,624. Evan Stephens, New York, N.Y. Filed Sept. 22, 1969.



For Skirts, Vests, Belts, and Dresses (Int. Cl. 25).
First use June 18, 1968.

SN 339,758. Tuxedoland Ltd., Baltimore, Md. Filed Oct. 3, 1969.

JOHN ALAN

The name "John Alan" is fanciful.
For Men's Clothing—Namely, Suits, Topcoats and Overcoats (Int. Cl. 25).
First use April 1969.

SN 339,835. Block-Southland Sportswear, Inc., Wilmington, N.C. Filed Oct. 6, 1969.



For Men's Shirts, Sport Shirts and Dress Shirts; Boys' Cut and Sewn Sport Shirts and Cut and Sewn Dress Shirts; Men's and Boys' Knit Shirts, Jackets, Walking Shorts, Underwear, Socks, and Pajamas (Int. Cl. 25).
First use June 1, 1969.

SN 339,897. The James Textile Corp., North Bergen, N.J. Filed Oct. 6, 1969.

BELOW THE BOTTOM

For Cotton Shirts, Dresses, and Pants (Int. Cl. 25).
First use Aug. 4, 1969.

SN 340,103. Jeff Richard, Inc., Philadelphia, Pa. Filed Oct. 8, 1969.

STRETCH-TALK

For Girls' Slacks, Shorts, and Polo Shirts (Int. Cl. 25).
First use June 3, 1969.

SN 340,126. Colfax Industries, Clifton, N.J. Filed Oct. 8, 1969.

COLFAX

For Men's Jackets and Slacks, and Knitted Clothing—Namely, Sweaters and Shirts (Int. Cl. 25).
First use Jan. 1, 1956.

SN 344,120. Lion Uniform, Inc., Dayton, Ohio. Filed Nov. 20,1969.



For the purpose of this registration only and without waiver of its common law rights, applicant makes no claim to the word "Uniform" used apart from the mark as shown.
For Uniforms for Industrial and Service Personnel—Namely, Shirts, Trousers, Jackets, Coveralls, and Caps (Int. Cl. 25).
First use at least as early as March 1966.

SN 344,511. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

LITTLE-ME

For Foundation Garments, Lingerie, Sleepwear, and Loungewear (Int. Cl. 25).
First use Aug. 28, 1969.

SN 348,083. Morse Shoe, Inc., Canton, Mass. Filed Jan. 9, 1970.

FAYVA

For Shoes (Int. Cl. 25).
First use at least as early as Dec. 12, 1969.

SN 348,845. Miss Melinda of California, Los Angeles, Calif. Filed Jan. 19, 1970.



For Ladies' Dresses (Int. Cl. 25).
First use Nov. 26, 1969.

SN 349,263. Camp and McInnes, Inc., Reading, Pa. Filed Jan. 22, 1970.

AERO LIGHT

For Men's Hosiery (Int. Cl. 25).
First use June 29, 1964.

SN 349,264. Camp and McInnes, Inc., Reading, Pa. Filed Jan. 22, 1970.

40 EAST

For Men's Hosiery (Int. Cl. 25).
First use June 1962.

SN 349,265. Camp and McInnes, Inc., Reading, Pa. Filed Jan. 22, 1970.

TONE 'N TONE

For Men's Hosiery (Int. Cl. 25).
First use May 1963.

Class 40—Fancy Goods, Furnishings, and Notions

SN 346,042. Tape-Craft Corporation, Anniston, Ala. Filed Dec. 12, 1969.

KEMPTEX

For Narrow Non-Elastic Tape Used for Clothing and Carpeting (Int. Cl. 26).
First use Aug. 11, 1954.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 314,059. Fieldcrest Mills, Inc., Eden, N.C. Filed Dec. 10, 1968.

PERFECTION

Owner of Reg. No. 507,819.
For Sheets and Pillowcases (Int. Cl. 24).
First use Apr. 12, 1967.

SN 330,052. Estee Lauder Inc., New York, N.Y. Filed June 16, 1969.

azurée

For Towels and Wash Cloths (Int. Cl. 24).
First use June 6, 1969.

SN 330,979. B. Priestly & Co., Inc., New York, N.Y. Filed June 24, 1969.

NOR-EAST

For Cloths and Piece Goods of Woolen, Worsted, Mohair, Cotton and Synthetic Fibers, and Also Piece Goods Made of a Combination of Two or More of These Fibers (Int. Cl. 24).
First use Sept. 15, 1922.

SN 337,568. McCoy-Gold Merchandising, Inc., New York, N.Y. Filed Sept. 10, 1969.

DURINEL

For Plastic Spun Fabric Employed for Banners and Signs of All Kinds (Int. Cl. 24).
First use May 1, 1968.

SN 337,814. M. Lowenstein & Sons, Inc., New York, N.Y. Filed Sept. 12, 1969.



The mark consists of three figures, each in the shape of the letter "W." Owner of Reg. No. 550,794.
For Knitted Textile Piece Goods Made of Cotton and/or Synthetic Fibers (Int. Cl. 24).
First use July 14, 1969.

SN 338,748. Bigelow-Sanford, Inc., New York, N.Y. Filed Sept. 24, 1969.

BEAUVAIS

Owner of Reg. No. 502,599.
For Textile Carpets and Rugs (Int. Cl. 27).
First use 1897.

SN 339,325. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. Filed Sept. 30, 1969.



Applicant disclaims the word "Nylon" separate and apart from the mark as a whole. Owner of U.S. Reg. Nos. 352,559, 806,977, and others.
For Woven and Knitted Textile Fabrics Made of Nylon Fibers (Int. Cl. 24).
First use Dec. 1, 1963; in commerce May 1, 1964.

SN 346,983. Thompson of California, Inc., Hermosa Beach, Calif. Filed Dec. 22, 1969.

TIC-TOC

For Knitted Piece Goods for Making Into All Types of Wearing Apparel (Int. Cl. 24).
First use Dec. 1, 1969.

Class 44—Dental, Medical, and Surgical Appliances

SN 291,638. Clive E. Roberts, d.b.a. Roberts Orthodontic Laboratory, La Canada, Calif. Filed Feb. 21, 1968.

ROBERTS

For Orthodontic Appliances—Namely, Retainers, Split Plates, Splints, Plastic Chin Caps, Habit Reminders, Lingual Arches, Nance Holding Arches, Rapid Expansion Plates, Coffin Springs, Lip Bumpers, Positioners, Crozats, Diagnostic Set Ups, and Activators (Int. Cl. 10).
First use Jan. 1, 1967.

SN 299,077. A & T Engineering, Inc., Laurel, Miss. Filed May 27, 1968.



No exclusive claim is made to the word "Massage" apart from the mark as shown.
For Portable Electric Massagers in the Nature of a Pad (Int. Cl. 10).
First use Nov. 12, 1965.

SN 308,068. Frederick B. Anthon, d.b.a. Frederick B. Anthon Enterprises Polysand-Division, Beverly Hills, Calif. Filed Sept. 20, 1968.



The phrase "The Modern Nail Care" is disclaimed apart from the mark as shown.
For Buffers for Fingernails and Toenails (Int. Cl. 21).
First use Dec. 10, 1967.

SN 308,107. Helene Curtis Industries, Inc., Chicago, Ill. Filed Sept. 24, 1968.

By NaturElle

For Electrically Operated Hair Dryers (Int. Cl. 11).
First use on or about July 18, 1968.

SN 316,274. Johnson & Johnson, New Brunswick, N.J. Filed Jan. 10, 1969.

TRAVEL KIT

No registration rights are claimed herein for the word "Kit" apart from the mark as shown, but the applicant waives none of its common law rights in said mark or any feature thereof. Owner of Reg. No. 689,965.
For First Aid Kits (Int. Cl. 5).
First use November 1921.

SN 316,887. Dentsply International Inc., York, Pa., assignee of The Dentists' Supply Company of New York, York, Pa. Filed Jan. 17, 1969.

AIR-FOIL

For Dental Chairs and Chair Bases (Int. Cl. 10).
First use July 18, 1968.

SN 317,617. Revel Distributors Limited, Richmond Hill, Ontario, Canada. Filed Jan. 27, 1969.

Curl-n-Go!

For Electric Hair Curlers (Int. Cl. 9).
First use Dec. 4, 1968; in commerce Dec. 4, 1968.

SN 323,069. Aircord Signal, Inc., Cincinnati, Ohio. Filed Mar. 28, 1969.

AIRCORD

For Wireless Nurse Call Cords Utilizing Air-Pressure Actuated Switches (Int. Cl. 10).
First use June 1, 1964.

SN 324,928. Nederlands Amerikaanse Brei Maatschappij N.V., Amsterdam, Netherlands. Filed Apr. 18, 1969.

FIXONET

Owner of Dutch Reg. No. 168,287, dated Oct. 7, 1968.
For Elastic Bandaging Materials (Int. Cl. 5).

SN 325,208. Mars Manufacturing Company, Inc. of Asheville, N.C., Asheville, N.C. Filed Apr. 22, 1969.

LIFE-GARD

For Disposable Sterile Surgical Packs Containing Gowns, Sheets, Drapes, Towels, Table and Stand Covers (Int. Cl. 5).
First use on or about Feb. 7, 1969.

SN 325,637. Washington Scientific Industries, Inc., Minneapolis, Minn. Filed Apr. 25, 1969.

ORA-FLEX

For Plastic Material for Forming Protective Mouthpieces for Use by Dentists (Int. Cl. 5).
First use Sept. 3, 1968.
Subj. to Intf. with SN 329,585.

SN 327,213. Parke, Davis & Company, Detroit, Mich. Filed May 14, 1969.

READIJET

For Dental Hygiene Device Utilizing a Pulsating Stream of Water for Cleaning the Teeth and Gums (Int. Cl. 10).
First use on or before May 7, 1969.

SN 332,135. Popper & Sons, Inc., New York, N.Y. Filed July 9, 1969.

FEVA-GARD

For Clinical Thermometers (Int. Cl. 9).
First use 1959.

SN 347,559. Propper Manufacturing Company, Inc., Long Island City, N.Y. Filed Jan. 2, 1970.

PROPPER PLUS +

Owner of Reg. Nos. 605,851 and 868,379.
For Otoscope Opthalmoscope Diagnostic Sets (Int. Cl. 10).
First use September 1969.

SN 347,560. Richards Manufacturing Company, Memphis, Tenn. Filed Jan. 2, 1970.

FREDDIE THE FROG

For Finger Splint (Int. Cl. 10).
First use Aug. 25, 1964.

Class 45 — Soft Drinks and Carbonated Waters

SN 320,771. Castle & Cooke, Inc., d.b.a. Dole Company, Honolulu, Hawaii. Filed Mar. 5, 1969.

Pina Paya

No claim is made to the word "Pina" apart from the mark as shown.
For Canned Fruit Juice Drink Containing Water (Int. Cl. 32).
First use Feb. 19, 1969.

Class 46 — Foods and Ingredients of Foods

SN 222,038. Lever Brothers Company, New York, N.Y. Filed June 25, 1965.

MAGI-CAL

For Artificial Food Sweetener (Int. Cl. 1).
First use Dec. 15, 1964.

SN 286,989. American Home Products Corporation, New York, N.Y. Filed Dec. 15, 1967.

ROLLER COASTERS

For Canned Prepared Noodles With Meatballs and Sauce (Int. Cl. 30).
First use Dec. 6, 1967.

SN 306,605. Weldon Farm Products, Inc., New York, N.Y., assignee of Weldon Foods, Inc., New York, N.Y. Filed Sept. 4, 1968.

ALBA

Owner of Reg. Nos. 568,453, 607,096, and 740,281.
For Instant Non-Fat Dry Milk; Non-Instant Non-Fat Dry Milk; Non-Fat Dry Milk Flavored With Chocolate; Non-Fat Dry Milk Flavored With Natural Fruit; Non-Fat Dry Milk Flavored With Artificial Food Flavors; Non-Fat Dry Milk Flavored With Vegetable Flavors (Int. Cls. 29 and 30).
First use 1949 on instant non-fat dry milk and non-instant non-fat dry milk.

SN 314,739. R. S. Toro, d.b.a. C.P.A. Importers and Caribbean Pacific Atlantic Importers, Los Angeles, Calif. Filed Dec. 17, 1968.

BORINCANO

"Borincano" is a folklore name descending from the ancient Indians in Puerto Rico.
For Coffee, Rice, Cassava Flour, Rice Flour, Corn Meal, Dried and Canned Peas, Beans, and Fruits; Toasted Wheat Flour With Sugar, Toasted Corn Meal With Sugar, Coconut Oil, Capers, Capers With Olives, Pimentos, Syrups for Food Purposes, Canned Fish, Crackers, Canned Beef and Pork Sausages; Cheese, Custard Pudding, and Annatto Seeds for Use as Food Flavoring and Coloring (Int. Cls. 2, 29, 30).
First use Nov. 14, 1953.

SN 321,587. American Dairy Queen Corporation, Minneapolis, Minn. Filed Apr. 14, 1969.

DAIRY QUEEN

Owner of Reg. Nos. 225,838, 858,832, and others.
For Evaporated Milk (Int. Cl. 29).
First use Nov. 6, 1928.

SN 327,485. General Foods Corporation, White Plains, N.Y. Filed May 16, 1969.

VANTAGE

Owner of Reg. No. 529,441.
For Coffee (Int. Cl. 30).
First use Mar. 25, 1969.

SN 327,490. Harvey Famous Cartoons, New York, N.Y. Filed May 16, 1969.



Owner of Reg. No. 722,254.
For Baked Cookies and Crackers (Int. Cl. 30).
First use August 1968 on baked cookies.

SN 328,460. Sundae Junction, Inc., Richmond, Va. Filed May 27, 1969.

PARLOR CAR SUPREME

The word "Supreme" is disclaimed apart from the mark as shown.
For Ice Cream and Sherbets (Int. Cls. 30 and 32).
First use Apr. 21, 1969.

SN 332,893. Rosalie Paris, Chicago, Ill. Filed July 18, 1969.



No claim is made to the word "Brand" apart from the mark as shown. The drawing is lined for the color green. The English translation of the Italian words "Conte Verde" is "Count Green."
For Edible Olive Oil (Int. Cl. 29).
First use 1913.

SN 334,430. Craig, Mostyn & Co. Pty. Limited, Sidney, New South Wales, Australia. Filed Aug. 5, 1969.

KARUMBA

For Frozen Seafood Products—Namely, Scallops, Lobster Meat, Shrimp, and Barramundi Fillets (Int. Cl. 29).
First use June 14, 1966; in commerce Aug. 16, 1966.

SN 336,354. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Aug. 26, 1969.

BIG TOOTH

For Chewing Gum (Int. Cl. 30).
First use June 27, 1969.

SN 336,743. General Mills, Inc., Minneapolis, Minn. Filed Sept. 2, 1969.

CATER-COUNTER

For Sandwiches, Cakes, Soups, Coffee, Potato Salad, Macaroni and Cheese Main Dishes, Hot Dog Buns, and Hamburger Buns (Int. Cls. 29 and 30).
First use on or about July 18, 1969.

SN 336,943. McCormick & Company, Cockeysville, Md. Filed Sept. 3, 1969.

EMULSO

For Pure Essential Oils, Oleoresins and/or Synthetic Flavors in a Water-Vegetable Gum Stable Homogenized Emulsion, Sold to Manufacturers of Food Products for Use as an Ingredient Therein (Int. Cls. 3 and 30).
First use July 22, 1965.

SN 336,944. McCormick & Company, Cockeysville, Md. Filed Sept. 3, 1969.

SPICE-CAP

For Dilute Encapsulated Spice Oils and/or Oleoresins, Sold to Food Manufacturers for Use as Ingredients in Food Products (Int. Cl. 30).
First use Mar. 4, 1964.

SN 336,945. McCormick & Company, Cockeysville, Md. Filed Sept. 3, 1969.

FLAVOR-CAP

For Encapsulated Essential Oils, Oleoresins, Synthetic Flavors, and/or Combinations Thereof, Sold to Manufacturers of Food Products for Use as Ingredients Therein (Int. Cls. 3 and 30).
First use Oct. 6, 1964.

SN 337,537. General Foods Corporation, White Plains, N.Y. Filed Sept. 10, 1969.

ALPHA BLOX

For Cereal Breakfast Food (Int. Cl. 30).
First use July 11, 1962.

SN 337,538. General Foods Corporation, White Plains, N.Y. Filed Sept. 10, 1969.

DESIRE

For Cereal Breakfast Food (Int. Cl. 30).
First use July 30, 1969.

SN 337,879. Arkansas Valley Industries, Inc., Little Rock, Ark. Filed Sept. 15, 1969.



For Dressed Chhicken (Int. Cl. 29).
First use July 31, 1959.

SN 338,430. Philadelphia Chewing Gum Corporation, Havertown, Pa. Filed Sept. 19, 1969.

NITTY GRITTY

For Chewing Gum (Int. Cl. 30).
First use Aug. 18, 1969.

SN 338,798. Mason, Au & Magenheimer Confy. Mfg. Co., Inc., Mineola, N.Y. Filed Sept. 24, 1969.

BIPPIES

For Candy (Int. Cl. 30).
First use Aug. 19, 1969.

SN 338,824. Tropical Banana, Inc., Miami, Fla. Filed Sept. 24, 1969.

SUSY'S

For Banana Chips (Int. Cl. 30).
First use Mar. 15, 1964.

SN 339,044. Rockdale Corporation, Madison, Wis. Filed Sept. 26, 1969.

STEAK MATE

For Meat Tenderizer (Int. Cl. 30).
First use Mar. 10, 1965.

SN 339,803. Malt-O-Meal Company, Minneapolis, Minn. Filed Oct. 6, 1969.

100 PLUS

For Breakfast Cereal (Int. Cl. 30).
First use Sept. 17, 1969.

SN 341,092. Citrus World, Inc., Lake Wales, Fla. Filed Sept. 19, 1969.

CITRUS WORLD

Applicant disclaims any exclusive rights in and to the word "Citrus" apart from the mark as shown.
For Canned Citrus Juice (Int. Cl. 32).
First use Aug. 22, 1969.

SN 344,777. Doughboy Industries, Inc., New Richmond, Wis. Filed Nov. 28, 1969.



For High Energy Feed Supplements and Starters for Beef, Lamb, and Poultry (Int. Cl. 31).
First use Aug. 24, 1969.

Class 50 — Merchandise Not Otherwise Classified

SN 320,512. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

SATELLITES AND PRIZES

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 328,054. Ivan M. Holt, d.b.a. Shower Boot Company, Long Beach, Calif. Filed May 22, 1969.

SHOWER BOOT

Applicant disclaims the word "Boot" apart from the mark as shown.
For Waterproof Plastic Bags or Sheaths for Wearing Over Plaster Casts for Protection in Showers, Baths, and the Like (Int. Cl. 20).
First use about April 1967.

SN 333,816. GTI Corporation, Tonawanda, N.Y. Filed July 29, 1969.

CLOVER CLOSURES

Applicant disclaims the word "Closures" apart from the mark as shown.
For Metal Industrial Closures and Molded Plastic Industrial Closures, Both Comprising Plugs and Caps Which May Be Applied to the Projecting Ends of Pipe and Tubing Associated With Machinery or Apparatus to Protect the Ends of Such Pipe or Tubing During Shipment of the Machinery or Apparatus and Until the Same is Ultimately Installed for Use (Int. Cls. 6 and 20).
First use Jan. 1, 1949.

Class 51 — Cosmetics and Toilet Preparations

SN 283,916. Miriam Collins Palm Beach Laboratories Co., Minneapolis, Minn. Filed Nov. 1, 1967.

MIMI

For Cologne and Perfume (Int. Cl. 3).
First use July 1947.

SN 315,501. Ray Sebastian, North Hollywood, Calif. Filed Dec. 31, 1968.

Gotas de Oro

The English translation of the mark is "drops of gold."
For Cosmetic Moisturizing Oils (Int. Cl. 3).
First use September 1968.

SN 316,282. Alberto-Culver Company, Melrose Park, Ill. Filed Jan. 10, 1969.

EUROPEAN NATURALS

For Hair Color Preparation (Int. Cl. 3).
First use Aug. 31, 1968.

SN 330,065. R. H. Cosmetics Corp., d.b.a. Amica, Brooklyn, N.Y. Filed June 16, 1969.

AMICA

The word "Amica" means "girl friend" in the Italian language.
For Pads Impregnated With Eye Makeup Remover: Cosmetic Eye Creams, Lotions, Oils, Drops and Lubricants; Makeup Base; Mascara: Liquid Eye Liner; Eye Shadow; Eyebrow Makeup; Kits Comprising Eye Makeup (Int. Cl. 3).
First use Sept. 30, 1967.

SN 332,133. Perma, Paris, France. Filed July 9, 1969.

SEBOSTIL

Owner of French Reg. No. 712,565, dated July 26, 1966.
For Hair Setting Lotions (Int. Cl. 3).

SN 338,291. Alberto-Culver Company, Melrose Park, Ill. Filed Sept. 19, 1969.

EXCITE

Owner of Reg. Nos. 868,246 and 868,255.
For Toothpaste (Int. Cl. 3).
First use July 17, 1968.

SN 342,614. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

PUFF AND GO

For Filled Powder Compact (Int. Cl. 3).
First use Aug. 27, 1969.

SN 342,615. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

THE INNOVATORS

For Lipstick, Mascara, Eyeshadow, and Cake Eyeliner (Int. Cl. 3).
First use Aug. 27, 1969.

SN 346,189. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Dec. 15, 1969.

FINISHED BEAUTY

For Makeup Finish (Int. Cl. 3).
First use Dec. 10, 1969.

SN 346,194. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Dec. 15, 1969.

TREASURED LOOK

For Makeup Finish (Int. Cl. 3).
First use Dec. 11, 1969.

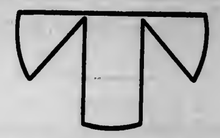
SN 348,608. Carter-Wallace, Inc., New York, N.Y. Filed Jan. 15, 1970.

PENEDRY

Owner of Reg. No. 649,068.
For Personal Deodorants (Int. Cl. 5).
First use Dec. 11, 1969.

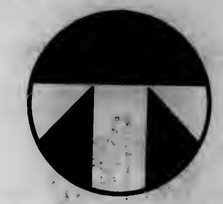
Class 52 — Detergents and Soaps

SN 323,581. Master Chemical Corporation, Perrysburg, Ohio. Filed Apr. 3, 1969.



For Liquid Machine Cleaner for the Removal of Deposits of Degraded Coolants, Oils, Dirt, and the Like From Machine Surfaces, Coolant Lines, and Fittings (Int. Cl. 3).
First use Jan. 24, 1967.

SN 323,583. Master Chemical Corporation, Perrysburg, Ohio. Filed Apr. 3, 1969.



For Liquid Machine Cleaner for the Removal of Deposits of Degraded Coolants, Oils, Dirt, and the Like From Machine Surfaces, Coolant Lines, and Fittings (Int. Cl. 3).
First use Jan. 24, 1967.

SN 338,298. Colgate-Palmolive Company, New York, N.Y. Filed Sept. 19, 1969.

S.A.B.

For Toilet Soap (Int. Cl. 3).
First use June 19, 1969.

SN 342,199. John H. Breck, Inc., Wayne, N.J. Filed Oct. 9, 1969.

MISS BRECK

Owner of Reg. Nos. 797,894, 874,410, and 874,412.
For Hair Shampoo (Int. Cl. 3).
First use Sept. 25, 1969.

SN 344,774. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 28, 1969.

KWIKSOLV

Owner of Reg. Nos. 206,184, 250,435, and 720,765.
For Dishwashing Detergent (Int. Cl. 3).
First use Nov. 6, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 302,418. Human Dynamics, Inc., Boston, Mass. Filed July 10, 1968.



For Behavioral Science Services—Namely, Providing Research Activities and Evaluation Reports Regarding the Interrelationship of Individuals and Their Occupations and Activities, and the Establishment of Programs To Most Effectively Accomplish the Objectives of Such Occupations and Activities (Int. Cl. 42).
First use May 15, 1968.

SN 307,504. Salt's Enterprises, San Rafael, Calif. Filed Sept. 16, 1968.

H. SALT, ESQ.

"H. Salt" identifies a living individual whose consent is of record.
For Restaurant Services (Int. Cl. 42).
First use on or about Jan. 2, 1967.

SN 309,761. Flume Stabilization Systems, Inc., Hoboken, N.J. Filed Oct. 16, 1968.



The words "Stabilization" and "System" are disclaimed apart from the mark as shown. The horizontal lines are part of the mark and are not used to indicate color. Owner of Reg. Nos. 739,852 and 775,970.
For Designing and Engineering Ship Anti-Roll Equipment (Int. Cl. 42).
First use Jan. 6, 1961.

SN 309,914. Smoke Watchers International Inc., New York, N.Y. Filed Oct. 17, 1968.



For Association Services—Namely, Promoting Abstinence From Use of Tobacco (Int. Cl. 42).
First use Oct. 15, 1968.

SN 312,272. Banta Food Co., Inc., Poughkeepsie, N.Y. Filed Nov. 15, 1968.

STEAK & STEIN

Applicant disclaims the word "Steak" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use May 26, 1967.

SN 312,499. Rega-Cut Franchise Technique, Inc., Westerly, R.I. Filed Nov. 18, 1968.

REGA-CUT

For Men's Hair Styling (Int. Cl. 42).
First use on or about May 12, 1968.

SN 315,699. Computer Matching International, Inc., Olive Branch, Miss. Filed Oct. 31, 1968.



For Evaluation and Selection of Individuals for Purposes of Social Dating by Means of Computer (Int. Cl. 42).
First use Oct. 16, 1968.

SN 322,175. The McLendon Corporation, Dallas, Tex. Filed Mar. 19, 1969.

Lika Kissner

"Lika Kissner" is a fictitious name.
For Series of Horoscope Programs Broadcast on Commercial Radio Stations (Int. Cl. 42).
First use Jan. 21, 1969.

SN 323,060. Medimation, Inc., Fort Worth, Tex. Filed Mar. 28, 1969.

medimation

The drawing is lined for the color green.
For Devising Computer Information Systems, Application of Computer Systems to Laboratory Testing and Operation of Laboratories for Others (Int. Cl. 42).
First use Jan. 28, 1969.

SN 327,416. Will Ross, Inc., Milwaukee, Wis. Filed May 15, 1969.

VISION CENTER

For Optical, Contact Lens, and Sunglass Service—Namely, Examination of Eyes, Prescription of Eyeglasses and Custom Fitting of Eyeglasses, and Sunglasses (Int. Cl. 42).
First use 1952.

SN 331,809. Arthur Treacher's Fish & Chips, Inc., Columbus, Ohio. Filed July 7, 1969.

ARTHUR TREACHER'S

"Arthur Treacher" is the name of a particular living individual whose consent to register his name is of record.
For Restaurant and Carry Out Restaurant Service (Int. Cl. 42).
First use May 5, 1969.

SN 331,811. Arthur Treacher's Fish & Chips, Inc., Columbus, Ohio. Filed July 7, 1969.



"Arthur Treacher" is the name of a particular living individual whose consent to register his name and portrait is of record. For the purposes of registration, no claim is made to the exclusive right to use the words "Fish and Chips" apart from the mark as shown, but applicant waives none of its common-law rights in the mark or any feature thereof.
For Preparation and Serving of Food for Carry Out and for Consumption on the Premises (Int. Cl. 42).
First use in or about May 1969.

SN 336,735. Astrological Research Corporation, New York, N.Y. Filed Sept. 2, 1969.



The mark consists of a stylized representation of the letter "A."
For Computerized Horoscope Services (Int. Cl. 42).
First use on or about June 26, 1969.

SN 338,088. Marriott Corporation, Washington, D.C. Filed Sept. 17, 1969.

CAMELBACK INN

Applicant disclaims the word "Inn" apart from the mark as shown, but the applicant waives none of its common law rights in said mark or any feature thereof.
For Hotel and Restaurant Services (Int. Cl. 42).
First use at least as early as Dec. 15, 1936.

SN 341,439. Consolidated Oil Company, Inc., Lebanon, Tenn. Filed Oct. 20, 1969.

"CRACKER BARREL"
OLD COUNTRY STORE

For Restaurant Services (Int. Cl. 42).
First use Sept. 18, 1969.

SN 345,145. Envirofood, Inc., Orange, Calif. Filed Dec. 3, 1969.

UNCLE JOHN'S

Owner of Reg. Nos. 761,441, 761,486, and others.
For Restaurant Services (Int. Cl. 42).
First use Aug. 26, 1956.

SN 347,876. Interstate United Corporation, Chicago, Ill. Filed Dec. 80, 1969.

JONATHAN'S

For Restaurant Services (Int. Cl. 42).
First use Aug. 29, 1969.

Class 101—Advertising and Business

SN 288,403. Open Pantry Food Marts, Inc., Chicago, Ill. Filed Jan. 5, 1968.



The words "7 Days 'Til Midnight," and "Food Mart" are disclaimed apart from the mark as shown.
For Retail Grocery Store Services (Int. Cl. 35).
First use October 1961.

SN 294,690. Taco Tico, Inc., Wichita, Kans. Filed Apr. 1, 1968.

ALWAYS IN SEASON AND SEASONED TO PLEASE

For Rendering Technical Assistance to Others in All Phases of Restaurant Services (Int. Cl. 35).
First use in or about May 1966.

SN 299,686. R. H. Macy & Co., Inc., New York, N.Y. Filed June 4, 1968.

Bamberger's NEW JERSEY
ONE OF AMERICA'S GREAT STORES

Owner of Reg. No. 581,394 and others.
For Department Store Services (Int. Cl. 35).
First use on or about Mar. 15, 1955.

SN 299,687. R. H. Macy & Co., Inc., New York, N.Y. Filed June 4, 1968.

Bamberger's NEW JERSEY
NEW JERSEY'S GREATEST STORE, ONE OF AMERICA'S FINEST

Owner of Reg. No. 581,394 and others.
For Department Store Services (Int. Cl. 35).
First use on or about Mar. 15, 1955.

SN 302,056. Harley V. Dee, d.b.a. A-OK Creative Media Markets, Hollywood, Fla. Filed July 5, 1968.



For Promoting Newspaper Advertising by Giving Cash Awards to Those Who Submit Evidence in the Form of Labels, Stamps, and the Like, That They Have Patronized the Firms Who Advertise in the Aforementioned Newspapers (Int. Cl. 35).
First use Feb. 3, 1966.

SN 304,989. Pizza Hut, Inc., Wichita, Kans., assignee of Taco, Inc., Wichita, Kans. Filed Aug. 12, 1968.
The representation of the taco is disclaimed separate from the mark as shown.



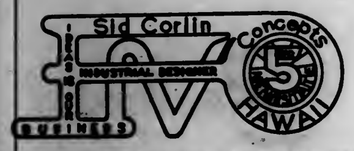
For Technical Assistance in the Establishment and Operation of Restaurants for Others (Int. Cl. 35).
First use on or about Mar. 1, 1968.

SN 306,228. Charles Offset Co., Inc., New York, N.Y. Filed Aug. 29, 1968.

CHARLESPRINT

For Printing Services—Namely, Lithographing and Preparation of Proofs and Prints for Advertising Agencies (Int. Cl. 35).
First use July 22, 1968.

SN 310,069. Sid Corlin, Honolulu, Hawaii. Filed Oct. 21, 1968.



No claim is made to the phrases "Concepts," "Ideas Is Our Business," "Industrial Designer," and "Hawaii" apart from the mark as shown without waiving any common law rights therein.
For Product Designing to the Order and/or Specification of Others; Promotional and Advertising Agency Services (Int. Cl. 35).
First use Nov. 17, 1964.

SN 310,109. La Societe O.C.C.R., Organisation, Conception, Controle, Realisation, Paris, France. Filed Oct. 21, 1968.

INTER G

Priority claimed under Sec. 44(d) on French Reg. No. 758,248, dated July 10, 1968.
For Business Advisory Consulting and Professional Assistance Services, Conducting Market Surveys and Research Studies, and Public Relations Services (Int. Cl. 35).

SN 312,046. Kobacker Shoe Company, Inc., d.b.a. Children's Palace, McKees Rocks, Pa. Filed Nov. 13, 1968.

CHILDREN'S
PALACE

For Retail Toy Store Services (Int. Cl. 35).
First use Sept. 30, 1968.

SN 312,283. Daniel Boone Fried Chicken Inc., Lexington, Ky. Filed Nov. 15, 1968.

DANIEL BOONE CHICKEN 'N BEEF

For Establishing and Rendering Technical Assistance to Restaurants (Int. Cl. 35).
First use Aug. 17, 1968.

SN 316,265. Wax & Wicker Works, Inc., Raleigh, N.C. Filed Jan. 9, 1969.

WW

For Retail Gift Shop Services (Int. Cl. 35).
First use as early as Nov. 7, 1968.

SN 316,997. Computer Methods Corporation, White Plains, N.Y. Filed Jan. 21, 1969.

TESTPAK

For Installation of Computer Programs Designed To Make Systems Analyses and Evaluations (Int. Cl. 35).
First use Nov. 12, 1968.

SN 317,770. Supermarkets General Corporation, Cranford, N.J. Filed Jan. 28, 1969.

PATHMARKING

Owner of Reg. Nos. 853,358, 870,817 and others.
For Unit Valve Pricing in Connection With Retail Supermarket Services (Int. Cl. 35).
First use Jan. 12, 1969.

SN 317,784. Western Publishing Company, Inc., Racine, Wis. Filed Jan. 28, 1969.



For Printing and Lithographing for Others (Int. Cl. 35).
First use Nov. 6, 1968.

SN 320,378. The Reynolds and Reynolds Company, Dayton, Ohio. Filed Feb. 28, 1969.



For Systematic Preparation for Others of Replacement Part Inventory Control Reports (Int. Cl. 35).
First use Apr. 1, 1968.

SN 321,789. GAF Corporation, New York, N.Y. Filed Mar. 14, 1969.

ADSCRIP

For Promoting the Sale of Goods of Photographic Dealers by Providing to Photographic Dealers Advertising Copy, Advertising Mats, and Aid in Placing Advertisements (Int. Cl. 35).
First use Feb. 24, 1969.

SN 332,008. Taxon Corporation, Sunnyvale, Calif. Filed Mar. 17, 1969.

TAXON

For Computer Programming Services (Int. Cl. 35).
First use Feb. 18, 1969.

SN 322,207. Wohl Shoe Company, St. Louis, Mo. Filed Mar. 19, 1969.

SHOETIQUE

For Retail Shoe Outlet Services (Int. Cl. 35).
First use Feb. 16, 1965.

SN 322,946. MBA Enterprises, Inc., New York, N.Y. Filed Mar. 27, 1969.

MBA RECRUITMENT

For Personnel Recruiting, Research, and Reporting Services Int. Cl. 35).
First use Nov. 7, 1968.

SN 323,014. Promotivation Inc., New York, N.Y. Filed Mar. 27, 1969.

BEAT THE LINE

For Advertising and Promoting the Sale of the Goods of Others by Conducting a Contest Wherein Participants Guess the Outcome of Sporting Events and Submit Entries Together With Proof of Purchase or Facsimile Thereof (Int. Cl. 35).
First use Dec. 10, 1968.

SN 323,946. Walter Drake and Sons, Inc., Colorado Springs, Colo. Filed Apr. 8, 1969.

WALTER DRAKE

"Walter Drake" is the name of a living individual whose consent is of record.
For Retail Mail Order Services for General Merchandise for Home and Garden (Int. Cl. 35).
First use in or about May 1951.

SN 324,314. Telephone Secretaries, Inc., Appleton, Wis. Filed Apr. 11, 1969.

TEL SEC

For Telephone Answering Services (Int. Cl. 35).
First use Feb. 23, 1969.

SN 324,523. Statistical Tabulating Corporation, Chicago, Ill. Filed Apr. 14, 1969.

MAR-TEC

For Computer Programming Services in the Field of Market Research (Int. Cl. 35).
First use November 1968.

SN 324,559. Blue Bell, Inc., Greensboro, N.C. Filed Apr. 15, 1969.

WRANGLER WROOST

Owner of Reg. Nos. 441,727, 849,477 and others.
For Retail Clothing Store Services (Int. Cl. 35).
First use June 1968.

SN 325,453. The Army and Air Force Exchange Service, Dallas, Tex. Filed Apr. 24, 1969.

BASE EXCHANGE

Owner of Reg. Nos. 854,348 and 854,349.
For General Merchandise Store Services for Government Employees (Int. Cl. 35).
First use July 26, 1947.

SN 325,454. The Army and Air Force Exchange Service, Dallas, Tex. Filed Apr. 24, 1969.

BX

Owner of Reg. Nos. 854,348 and 854,349.
For General Merchandise Store Services for Government Employees (Int. Cl. 35).
First use July 26, 1947.

SN 331,189. Glendinning Companies, Inc., Westport, Conn. Filed June 27, 1969.

ADVENTURES IN FLIGHT

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designs for Promotional Games (Int. Cl. 35).
First use June 5, 1969.

SN 331,190. Glendinning Companies, Inc., Westport, Conn. Filed June 27, 1969.

MILESTONES OF MANNED FLIGHT

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials, Commemorative Medallions, and Advertising Designs for Promotional Games (Int. Cl. 35).
First use July 31, 1968.

SN 333,397. Glendinning Companies, Inc., Westport, Conn. Filed July 24, 1969.

BEAT THE BUDGET

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designs for Promotional Games (Int. Cl. 35).
First use Sept. 15, 1968.

SN 339,957. Payrite Pharmacy, Inc., Springfield, Mo. Filed Oct. 7, 1969.

PAYRITE

For Retail Drugstore Services (Int. Cl. 35).
First use July 9, 1969.

SN 342,869. Long John Silver's, Inc., Lexington, Ky. Filed Nov. 3, 1969.

LONG JOHN SILVER'S

For Promotion of Franchise Restaurants, and Rendering Technical Assistance in the Establishment and Operations of Restaurants (Int. Cl. 35).
First use at least as early as June 1969.

SN 349,552. Ocean Garden Products, Inc., d.b.a. Dyn-Econ, San Diego, Calif. Filed 1–26–70.

DYN-ECON

For Computer Programming Services (Int. Cl. 35).
First use on or about June 26, 1968.

Class 102 — Insurance and Financial

SN 298,979. United States Finance Company, Inc., Jacksonville, Fla. Filed May 28, 1968.



The drawing is lined for the colors pink and red.
For Personal Loan Services (Int. Cl. 36).
First use Apr. 15, 1962.

SN 313,269. The County Trust Co., White Plains, N.Y. Filed Nov. 29, 1968.

PACEMAKER

For Banking Services—Namely, Offering a Special Type of Banking Account Featuring a Higher Interest Rate (Int. Cl. 36).
First use Sept. 24, 1968.

SN 323,898. The Arizona Bank, Phoenix, Ariz. Filed Apr. 1, 1969.



The drawing is lined for the colors red, purple, blue, green, and yellow.
For Banking Services—Namely, Acceptance of Checking Accounts, Acceptance of Time and Savings Accounts, Making of Commercial, Agricultural and Consumer Loans, Issuance of Check Guarantee and Credit Cards, of Safe Deposit Boxes, Trust Services, International Banking Services, Correspondent Bank Relationships and Loan Participations (Int. Cl. 36).
First use in 1964.

SN 329,346. Employee Benefit Consultants, AG, Zurich, Switzerland. Filed June 6, 1969.

EUROBEN

For Consultant Services Pertaining to Employee Benefits and Insurance Brokerage (Int. Cl. 36).
First use Oct. 31, 1968; in commerce Oct. 31, 1968.

SN 335,105. Maguire Insurance Agency of Pennsylvania, Inc., Philadelphia, Pa. Filed Aug. 12, 1969.

WHEELWAYS

For Insurance Broker Services (Int. Cl. 36).
First use on or about June 1, 1969.

SN 338,837. The Aims Group, Incorporated, New York, N.Y. Filed Sept. 25, 1969.

The Aims Group

For Personal Financial Planning and Management of the Assets of Others (Int. Cl. 36).
First use Apr. 22, 1968.

SN 338,838. The Aims Group, Incorporated, New York, N.Y. Filed Sept. 25, 1969.

Ag THE AIMS GROUP INCORPORATED

For Personal Financial Planning and Management of the Assets of Others (Int. Cl. 36).
First use Apr. 22, 1968.

Class 103 — Construction and Repair

SN 298,103. H. Braun Tool & Instrument Co., Inc., Hawthorne, N.J. Filed May 14, 1968.

"CHEM-BLANKS"

For Custom Manufacture of Flat Metal Parts by Chemical Machining (Int. Cl. 37).
First use Nov. 1, 1967.

SN 325,076. Rain for Rent, Inc., Bakersfield, Calif. Filed Apr. 21, 1969.



For Design, Construction and Repair of Portable Irrigation and Watering Systems (Int. Cl. 37).
First use Mar. 24, 1950.

SN 327,660. Montecito Manufacturing Company, Santa Barbara, Calif. Filed May 19, 1969.



Applicant disclaims any right to register the words "Linen Supply" apart from the mark as shown. Owner of Reg. No. 859,476.
For Linen Supply Services (Int. Cl. 37).
First use Feb. 1, 1957.

SN 333,716. Intertherm, Inc., St. Louis, Mo. Filed July 28, 1969.



Owner of Reg. Nos. 794,063 and 794,795.
For Servicing, Installation and Repair of Oil, Gas, and Electric Furnaces, and of Air Conditioners, Including, but Not Limited to Those for Mobile Homes and Travel Trailers (Int. Cl. 37).
First use Mar. 26, 1969.

Class 105 — Transportation and Storage

SN 287,737. International Travel Advisors Incorporated, St. Louis, Mo. Filed Dec. 28, 1967.

ORIENT ADVENTURE

Applicant makes no claim to the word "Orient" apart from the mark as shown.
For Travel Services—Namely, Arranging Travel Tours, Arranging for Accommodations and Reservations, and Organizing, Promoting and Arranging Group Travel Tours (Int. Cl. 39).
First use December 1966.

SN 310,324. Robert J. Guerriero, d.b.a. The Journeymasters, Peabody, Mass. Filed Oct. 23, 1968.

THE JOURNEYMASTERS

For Travel Agency Services (Int. Cl. 39).
First use July 19, 1968.

SN 317,385. Michael C. Roseto, San Francisco, Calif. Filed Jan. 23, 1969.

WIDE WORLD OF GOLF TOURS

No registration rights are claimed for the words "Golf Tours," apart from the mark as shown, but applicant waives none of his common law rights in the mark or any feature thereof.
For Travel and Golf Arrangements for Individuals and Groups Throughout the World (Int. Cl. 39).
First use at least as early as Aug. 26, 1967.

SN 319,575. Boise Cascade Corporation, Boise, Idaho. Filed Feb. 19, 1969.

PRINCESS CRUISES

Applicant disclaims the word "Cruises" apart from the mark as shown.
For Conducting Ocean Cruises (Int. Cl. 39).
First use June 1, 1965.

SN 320,127. Comstol Air Transit, Inc., Oakland, Calif. Filed Feb. 26, 1969.



The drawing is lined for the color red.
For Air Transportation Services—Namely, Air Charter Flights of Passengers and Baggage (Int. Cl. 39).
First use May 29, 1968.

SN 320,423. Boise Cascade Corporation, Boise, Idaho. Filed Mar. 3, 1969.

PRINCESS CRUISES



Applicant disclaims the word "Cruises" apart from the mark as shown.
For Conducting Ocean Cruises (Int. Cl. 39).
First use Sept. 1, 1967.

SN 328,218. Allegheny Airlines, Inc., Washington, D.C. Filed Apr. 1, 1969.

ALLEGHENY AIR SYSTEM

Applicant disclaims the words "Air System" apart from the mark as shown.
Owner of Reg. Nos. 800,037 and 880,201.
For Air Transportation of Persons, Property, Freight, and Mail (Int. Cl. 39).
First use Mar. 17, 1969.

SN 338,247. Southeastern Pennsylvania Transportation Authority, Philadelphia, Pa. Filed Sept. 18, 1969.



The design feature of the mark is a representation of the letter "S."
For Public Transportation (Int. Cl. 39).
First use June 12, 1969; Sept. 30, 1968, as to "Septa."

Class 107 — Education and Entertainment

SN 319,600. Wilbur A. Heinemann, Jr., Milwaukee, Wis. Filed Feb. 19, 1969.

THE JUDGE

For Entertainment Services—Namely, Exhibition Automobile Racing (Int. Cl. 41).
First use July 2, 1968.

SN 325,361. William L. Horan, d.b.a. American Twirling Academie, Leesburg, Fla. Filed Apr. 23, 1969.



Owner of Reg. No. 858,107.
For Providing Classroom and Field Training in Baton Twirling and Baton Dance Routines and Any Related Arts Pertaining to the Field of Baton Twirling (Int. Cl. 41).
First use June 9, 1968.

SN 332,898. Tifs, Inc., Santa Barbara, Calif. Filed July 18, 1969.

TIFS

For Flight Crew Training Services (Int. Cl. 41).
First use at least as early as June 1968.

SN 336,066. George E. Mattson Enterprises, Inc., Boston, Mass. Filed Aug. 25, 1969.

MATTSON

For Operation of Physical Fitness Training and Exercise Studios (Int. Cl. 41).
First use 1958.

SN 342,603. Voss Enterprises, Inc., San Francisco, Calif. Filed Nov. 4, 1969.

THE HUMMINGBIRDS

For Popular Musical Entertainment Services Rendered by a Group (Int. Cl. 41).
First use May 1, 1967.

SN 348,482. Doris Marco, d.b.a. Sewtique Fashion Studio, Stamford, Conn. Filed Jan. 14, 1970.

SEWTIQUE

For Instruction Services in Designing, Creating, Selecting Fabrics, and Construction of Women's Clothing (Int. Cl. 41).
First use Aug. 12, 1969.

SN 349,794. Walt Disney Productions, Burbank, Calif. Filed Jan. 28, 1970.

TOMORROWLAND

For Providing Participation Type Entertainment in Amusement and Educational Park (Int. Cl. 41).
First use July 17, 1955.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 319,386. Springfield Revolver Club Inc., Springfield, Mass. Filed Feb. 17, 1969.



For Indicating Membership in Applicant.
First use Mar. 6, 1915.

CERTIFICATION MARKS

Class A — Goods

SN 309,624. San Luis Valley Administrative Committee, Monte Vista, Colo. Filed Oct. 14, 1968.



The mark certifies that the goods were grown in San Luis Valley region of Colorado. The drawing is lined for the colors orange, yellow and blue, but the colors are not claimed as part of the mark.
For Potatoes.
First use January 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

890,711. UNIROYAL U.S. RUBBER AND DESIGN. Uniroyal, Inc., by change of name from United States Rubber Company. MULTIPLE CLASS (Classes 1, 2, 5, 6, 10, 12, 13, 15, 16, 19, 20, 21, 22, 23, 32, 35, 39, 42, 43, and 50). SN 265,236. Pub. 2–24–70. Filed 2–23–67.

890,712. GOLDEN T. T.G. & Y. Stores Company. SN 300,020. Pub. 2–24–70. Filed 6–7–68.

890,713. LOWELLON. Lowell Industries, Inc. SN 300,600. Pub. 2–24–70. Filed 6–17–68.

890,714. RENK CORN AND DESIGN. Wm. F. Renk & Sons Co., Inc. SN 313,875. Pub. 2–24–70. Filed 12–9–68.

890,715. DOW CORNING 2104. Dow Corning Corporation. SN 316,721. Pub. 2–24–70. Filed 1–16–69.

890,716. DOW CORNING 2105A. Dow Corning Corporation. SN 316,722. Pub. 2–24–70. Filed 1–16–69.

890,717. ARP. Furane Plastics, Incorporated. SN 319,862. Pub. 2–24–70. Filed 2–24–69.

890,718. AMI AND DESIGN. American Modoc, Inc. SN 321,335. Pub. 2–24–70. Filed 2–19–69.

890,719. SUPRA. Great Lakes Foundry Sand Company. SN 322,861. Pub. 2–24–70. Filed 3–26–69.

890,720. GLORY-BEE BRAND. Dale Wild Sarcoxie Nurseries, Inc. SN 323,404. Pub. 2–24–70. Filed 4–1–69.

890,721. BC AND DESIGN. Bruce Church, Inc., d.b.a. BC Seeds. SN 324,859. Pub. 2–24–70. Filed 4–18–69.

Class 2 — Receptades

890,711. (See Class 1 for this trademark.)

890,722. ROOM-MATES. Mattel, Inc. (Delaware corporation), assignee of Mattel, Inc. (California corporation). SN 292,858. Pub. 4–15–69. Filed 3–11–68.

890,723. C & K AND DESIGN. Crompton & Knowles Corporation. MULTIPLE CLASS (Classes 2, 6, 12, 13, 19, and 23). SN 309,807. Pub. 2–24–70. Filed 10–17–68.

890,724. JEFFREY. Jeffrey Galion Inc. SN 314,077. Pub. 2–24–70. Filed 12–10–68.

890,725. AIRFLITE. Plastics, Inc. SN 320,284. Pub. 2–24–70. Filed 2–27–69.

890,726. "MITEY MIDGETS." Summit Products Company. SN 326,559. Pub. 2–24–70. Filed 5–6–69.

890,727. TODD AND DESIGN. Percy Todd Manufacturing Company. SN 328,747. Pub. 2–24–70. Filed 5–29–69.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

890,728. TREVIRA. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. MULTIPLE CLASS (Classes 3, 7, 12, 19, 22, 35, 39, 42, and 43). SN 286,398. Pub. 1–20–70. Filed 12–7–67.

Class 4 — Abrasives and Polishing Materials

890,729. CC AND DESIGN. Precision Diamond Tool Company. MULTIPLE CLASS (Classes 4 and 23). SN 282,720. Pub. 2–24–70. Filed 10–17–67.

890,730. TRACK. The Drackett Company. SN 312,574. Pub. 2–24–70. Filed 11–19–68.

890,731. MISCELLANEOUS DESIGN. Columbia Broadcasting System, Inc. MULTIPLE CLASS (Classes 4, 21, and 36). SN 316,930. Pub. 2–24–70. Filed 1–21–69.

Class 5 — Adhesives

890,711. (See Class 1 for this trademark.)

890,732. TIRE GUARD. Ore-Lube Corporation. SN 325,214. Pub. 2–24–70. Filed 4–22–69.

Class 6 — Chemicals and Chemical Compositions

890,711. (See Class 1 for this trademark.)

890,723. (See Class 2 for this trademark.)

890,733. ADVASPERSE. Carlisle Chemical Works, Inc. SN 276,309. Pub. 7–2–68. Filed 7–19–67.

890,734. SUCROX. Northern Petrochemical Company. SN 280,114. Pub. 5–27–69. Filed 9–11–67.

890,735. AQUA-KEM. Thetford Engineering Corporation. SN 289,541. Pub. 6–3–69. Filed 1–24–68.

890,736. PARAPEL. Ar Chem Corporation. SN 303,385. Pub. 12–2–69. Filed 7–23–68.

890,737. FINELAWN. Spartans Industries, Inc. SN 312,071. Pub. 2–24–70. Filed 11–13–68.

890,738. DOW CORNING Z–4141. Dow Corning Corporation. SN 316,738. Pub. 2–24–70. Filed 1–16–69.

890,739. LUBRIZOL. The Lubrizol Corporation. SN 320,960. Pub. 2–24–70. Filed 3–6–69.

890,740. PINOSAN. Purex Corporation, Ltd. SN 321,130. Pub. 11–11–69. Filed 3–10–69.

890,741. DREWFAX. Drew Chemical Corporation. SN 322,764. Pub. 2–24–70. Filed 3–24–69.

890,742. JULEP-MIST. The Cello Chemical Company. SN 322,968. Pub. 2–24–70. Filed 3–27–69.

890,743. WAYFOS. Philip A. Hunt Chemical Corporation. SN 324,196. Pub. 2–24–70. Filed 4–10–69.

890,744. CARBO-FREE. Milchem Incorporated. SN 324,211. Pub. 2–24–70. Filed 4–10–69.

890,745. CHEMGAS. Chemgas of America, Inc. SN 324,406. Pub. 2–24–70. Filed 4–14–69.

890,746. SETAREX. Geigy Chemical Corporation. SN 324,446. Pub. 2–24–70. Filed 4–14–69.

890,747. SETAROLEN. Geigy Chemical Corporation. SN 324,447. Pub. 2–24–70. Filed 4–14–69.

890,748. REACTOLAN. Geigy Chemical Corporation. SN 324,814. Pub. 2–24–70. Filed 4–17–69.

890,749. RYZELAN. Eli Lilly and Company. SN 335,408. Pub. 2–24–70. Filed 8–15–69.

Class 7 — Cordage

890,728. (See Class 3 for this trademark.)

890,750. DESIGNER YARN. Norcross, Inc. SN 323,588. Pub. 2–24–70. Filed 4–3–69.

Class 8—Smokers' Artides, Not Including Tobacco Products

890,751. ROYAL LONDON. Royal London, Ltd. SN 305,247. Pub. 2-24-70. Filed 8-15-68.

890,752. BRISA VIRGINIANA. Miquel y Costas & Miquel, S.A. SN 313,596. Pub. 2-24-70. Filed 12-4-68.

Class 10—Fertilizers

890,711. (See Class 1 for this trademark.)

890,753. DAIRY ORGANIC COMPOST AND DESIGN. Organic Compost Corporation. SN 272,398. Pub. 2-24-70. Filed 5-25-67.

890,754. JUMBOS. Oil-Dri Corporation of America. SN 332,129. Pub. 2-24-70. Filed 7-9-69.

Class 11—Inks and Inking Materials

890,755. PRISMATIC. Berol Corporation, assignee of Formulabs Industrial Inks, Incorporated. SN 304,216. Pub. 7-29-69. Filed 8-2-68.

890,756. STAR SET. Sun Chemical Corporation. SN 327,968. Pub. 1-6-70. Filed 5-21-69.

Class 12—Construction Materials

890,711. (See Class 1 for this trademark.)

890,723. (See Class 2 for this trademark.)

890,728. (See Class 3 for this trademark.)

890,757. SC-20. Owens-Corning Fiberglas Corporation. SN 310,490. Pub. 12-9-69. Filed 10-24-68.

890,758. MINIT MOUNT AND DESIGN. Seattle Door Company, Inc. SN 317,470. Pub. 2-24-70. Filed 1-24-69.

890,759. ESTI-BARN. Walter W. Slamon. SN 321,284. Pub. 2-24-70. Filed 3-10-69.

890,760. POTLATCH. Potlatch Forests, Inc. SN 322,187. Pub. 2-24-70. Filed 3-19-69.

890,761. ACTIVA. Activa Products, Inc. SN 322,240. Pub. 2-24-70. Filed 3-20-69.

890,762. TOR-SHOK AND DESIGN. ARA, Inc. SN 322,800. Pub. 2-24-70. Filed 3-26-69.

890,763. KARI. Bau-Stahlgewebe G.m.b.H. SN 327,348. Pub. 2-24-70. Filed 5-15-69.

890,764. AUTO-CALK. Mayfield Manufacturing Co., Inc. SN 329,995. Pub. 2-24-70. Filed 6-13-69.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

890,711. (See Class 1 for this trademark.)

890,723. (See Class 2 for this trademark.)

890,765. LOAD-LOK AND DESIGN. Suburban Metal Industries Limited. SN 281,237. Pub. 4-29-69. Filed 9-26-67.

890,766. TDW AND DESIGN. T. D. Williamson, Inc. MULTIPLE CLASS (Classes 13 and 23). SN 306,290. Pub. 5-27-69. Filed 8-29-68.

890,767. AQUA-O AND DESIGN. Stanley D. Ogden, d.b.a. Aqua-O Products Company. SN 309,206. Pub. 2-24-70. Filed 10-9-68.

890,768. FLOW-WING. Hi-Shear Corporation. SN 312,587. Pub. 2-24-70. Filed 11-19-68.

890,769. ROTARY DROP-IN. U.S. Expansion Bolt Company. SN 312,922. Pub. 2-24-70. Filed 11-22-68.

890,770. DEKABON. Samuel Moore and Company. SN 317,084. Pub. 2-24-70. Filed 1-21-69.

890,771. INSTANTAP. Gaslite Illinois, Inc. SN 318,169. Pub. 2-24-70. Filed 2-3-69.

890,772. NPS AND DESIGN. Sybron Corporation. SN 322,360. Pub. 2-24-70. Filed 3-20-69.

890,773. K/M AND DESIGN. K-M Products, Inc. SN 324,470. Pub. 2-24-70. Filed 4-14-69.

890,774. PALCO ETC. AND DESIGN. Worcester Pressed Aluminum Corp. MULTIPLE CLASS (Classes 13 and 34). SN 327,107. Pub. 2-24-70. Filed 5-13-69.

890,775. SEXAUER PRODUCTS AND DESIGN. J. A. Sexauer Mfg. Co., Inc. SN 327,688. Pub. 2-24-70. Filed 5-19-69.

Class 14—Metals and Metal Castings and Forgings

890,776. PERF-X-PAND AND DESIGN. Perforated & Expanded Metal Supply, Inc. SN 326,119. Pub. 2-24-70. Filed 5-1-69.

Class 15—Oils and Greases

890,711. (See Class 1 for this trademark.)

890,777. TARGET AND DESIGN. Releasall Limited. SN 309,185. Pub. 2-24-70. Filed 10-8-68.

890,778. ENTERPRISE NATURAL. Marshall Enterprises, Inc. SN 309,936. Pub. 2-24-70. Filed 10-18-68.

890,779. FASHION MATE. Gibson Greeting Cards, Inc. SN 331,188. Pub. 2-24-70. Filed 6-27-69.

Class 16—Protective and Decorative Coatings

890,711. (See Class 1 for this trademark.)

890,780. TILE-KOTE ETC. AND DESIGN. Spe-de-Way Products Co., Inc. SN 119,899. Pub. 3-11-69. Filed 5-12-61.

890,781. KRAKALAC. Waterlac Finish Company, Inc. SN 272,767. Pub. 6-18-68. Filed 5-31-67.

890,782. T AND DESIGN. Todd Chemical Company, Inc. SN 279,119. Pub. 2-24-70. Filed 8-25-67.

890,783. SION. Marks Polarized Corporation. SN 292,215. Pub. 2-24-70. Filed 2-29-68.

890,784. SAC RUST BARRIER. Sea-Air Chemical Corporation. SN 292,501. Pub. 2-24-70. Filed 3-5-68.

890,785. KAN-D-ICE. Fenton Manufacturing Corp. SN 292,568. Pub. 2-24-70. Filed 3-6-68.

890,786. DOW CORNING 997. Dow Corning Corporation. SN 316,720. Pub. 2-24-70. Filed 1-16-69.

890,787. LONG-LASTIC. Chemtrust Industries Corp. SN 323,333. Pub. 2-24-70. Filed 4-1-69.

Class 17—Tobacco Products

890,788. FLOR DE LAS PALMAS AND DESIGN. Compania Insular Tabacalera, S.A. SN 314,699. Pub. 2-24-70. Filed 12-17-68.

890,789. PITA HNOS. Danby Imported Cigar Corp., d.b.a. Danby Imported Cigars Corp. SN 327,004. Pub. 2-24-70. Filed 5-12-69.

890,790. 1760. Lorillard Corporation. SN 327,827. Pub. 2-24-70. Filed 5-21-69.

890,791. HAVANA BLOSSOM. Lorillard Corporation. SN 327,828. Pub. 2-24-70. Filed 5-21-69.

Class 18—Medicines and Pharmaceutical Preparations

890,792. SIRON. Rohto Pharmaceutical Co., Ltd. SN 284,039. Pub. 2-24-70. Filed 1-30-69.

890,793. LOESCH. Loesch Laboratory Consultants, Inc., d.b.a. Loesch. SN 298,341. Pub. 2-24-70. Filed 5-16-68.

890,794. SANDOPAK. Sandoz-Wander, Inc., by merger and change of name from Sandoz, Inc. SN 306,095. Pub. 12-23-69. Filed 8-28-68.

890,795. RELIEF PLUS. Bristol-Myers Company. SN 306,639. Pub. 2-24-70. Filed 9-5-68.

890,796. R AND DESIGN. Rucker Pharmacal Co., Inc. SN 310,034. Pub. 2-24-70. Filed 10-21-68.

890,797. MOISTURELLE. Bristol-Myers Company. SN 310,204. Pub. 2-24-70. Filed 10-22-68.

890,798. CONSONOL. Bristol-Myers Company. SN 310,304. Pub. 2-24-70. Filed 10-23-68.

890,799. HEALTHWISE AND DESIGN. U.S. Health Club, Inc. SN 315,966. Pub. 2-24-70. Filed 1-6-69.

890,800. LACTOMULSION. The Granchel Medicine Co., Inc. SN 317,909. Pub. 2-24-70. Filed 1-30-69.

890,801. KLORTET. Dawe's Laboratories, Inc. SN 318,406. Pub. 12-2-69. Filed 2-5-69.

890,802. KAY CIEL. Cooper Laboratories, Inc. SN 321,906. Pub. 2-24-70. Filed 3-17-69.

890,803. ROBAM. SIG: Incorporated. SN 322,624. Pub. 12-30-69. Filed 3-24-69.

890,804. SQUIBB AND DESIGN. E. R. Squibb & Sons, Inc. SN 322,685. Pub. 2-24-70. Filed 3-25-69.

890,805. ASPRIL II. Bristol-Myers Company. SN 324,682. Pub. 2-24-70. Filed 4-16-69.

890,806. BICOZENE. Vogarell Products, Inc. SN 324,769. Filed 2-24-70. Filed 4-16-69.

890,807. VERSTRAN. Warner-Lambert Research Institute. SN 329,945. Pub. 2-24-70. Filed 6-13-69.

890,808. CONCEPT II. Richardson-Merrell Inc. SN 330,066. Pub. 2-24-70. Filed 6-16-69.

890,809. Q AND DESIGN. American Home Products Corporation. SN 330,658. Pub. 2-24-70. Filed 6-23-69.

890,810. GENISIS. Organon Inc. SN 331,981. Pub. 2-24-70. Filed 7-8-69.

890,811. B FORTO-FIDE. Live Food Products Co. SN 333,053. Pub. 2-24-70. Filed 7-22-69.

Class 19—Vehides

890,711. (See Class 1 for this trademark.)

890,723. (See Class 2 for this trademark.)

890,728. (See Class 3 for this trademark.)

890,812. INNOVATOR. Bird Space Technology, Inc. SN 263,441. Pub. 2-24-70. Filed 1-27-67.

890,813. PANTHER. Arctic Enterprises, Inc. SN 273,017. Pub. 12-3-68. Filed 6-5-67.

890,814. NAPA AND DESIGN. National Automotive Parts Association. SN 301,638. COLLECTIVE MARK. Pub. 2-24-70. Filed 6-28-68.

890,815. NORTH AMERICAN ROCKWELL AND DESIGN. North American Rockwell Corporation. SN 315,095. Pub. 2-24-70. Filed 12-23-68.

890,816. STOLIFTER. Conroy Aircraft Corporation. SN 315,644. Pub. 2-24-70. Filed 12-23-68.

890,817. DS 20. Societe Anonyme Automobiles Citroen. SN 322,659. Pub. 2-24-70. Filed 3-20-69.

890,818. MAGCOA AND DESIGN. Magnesium Company of America. SN 332,730. Pub. 2-24-70. Filed 7-16-69.

890,819. HAWK COMMANDER. North American Rockwell Corporation. SN 334,737. Pub. 2-24-70. Filed 8-7-69.

890,820. TOM SAWYER. United Marine Industries, Inc. SN 335,090. Pub. 2-24-70. Filed 8-11-69.

890,821. SAMUEL CLEMENS. United Marine Industries, Inc. SN 335,091. Pub. 2-24-70. Filed 8-11-69.

890,822. SIERRA HOME. Kit Manufacturing Company. SN 335,588. Pub. 2-24-70. Filed 8-18-69.

890,823. SPARKER. D. P. Harris Hardware & Manufacturing Co., Inc., SN 338,084. Pub. 2-24-70. Filed 9-17-69.

Class 20—Linoleum and Oiled Cloth

890,711. (See Class 1 for this trademark.)

890,824. KONCEL AND DESIGN. Vulcan, Inc. SN 291,656. Pub. 12-2-69. Filed 2-21-68.

890,825. GRIP-MAT. Flex-O-Glass, Inc., d.b.a. Warp Brothers. SN 327,316. Pub. 2-24-70. Filed 5-15-69.

Class 21—Electrical Apparatus, Machines, and Supplies

890,711. (See Class 1 for this trademark.)

890,731. (See Class 4 for this trademark.)

890,826. DOUBLE DIAMOND DESIGN. Baker Industries, Inc. CONSOLIDATED CERTIFICATE. SN 285,719, pub. 2-24-70, filed 11-28-67, Cl. 21; SN 284,147, pub. 10-7-69, filed 11-6-67, Cls. 100 and 103; SN 284,146, pub. 10-21-69, filed 11-6-67, Cl. 104.

890,827. KORKAP. Schlumberger Technology Corporation. SN 286,233. Pub. 2-24-70. Filed 12-5-67.

890,828. DYNASCAN. Dynascan Corporation. MULTIPLE CLASS (Classes 21 and 26). SN 291,051. Pub. 2-24-70. Filed 2-14-68.

890,829. IDEAL. Ideal Industries, Inc. MULTIPLE CLASS (Classes 21, 23, and 26). SN 308,071. Pub. 9-30-69. Filed 9-24-68.

890,830. THERM O LAB AND DESIGN. Therm-O-Lab Corp. SN 321,837. Pub. 2-24-70. Filed 3-14-69.

890,831. BROADMOOR. Broadmoor Industries, Ltd. SN 322,037. Pub. 2-24-70. Filed 3-18-69.

890,832. SPACEMAKER. Metra Electronics Corporation. SN 326,252. Pub. 2-24-70. Filed 5-2-69.

890,833. DELTA AND TRIANGLE DESIGN. Delta Products, Inc. SN 329,443. Pub. 12-2-69. Filed 6-9-69.

890,834. MR. CLOWN. Cable Electric Products Inc. SN 330,583. Pub. 2-24-70. Filed 6-20-69.

890,835. MAGNARAY. Ultra-Violet Products, Inc. SN 330,646. Pub. 1-6-70. Filed 6-20-69.

890,836. K KUHLMAN AND DESIGN. Kuhlman Corporation. SN 330,753. Pub. 2-24-70. Filed 6-23-69.

890,837. GARDEX. Cerro Corporation. SN 331,029. Pub. 2-24-70. Filed 6-26-69.

890,838. KAPPA. Kappa Networks, Inc. SN 331,514. Pub. 2-24-70. Filed 7-1-69.

890,839. UNISHIELD. Anaconda Wire and Cable Company. SN 333,516. Pub. 2-24-70. Filed 7-25-69.

890,840. ALBALOY. M & T Chemicals Inc. SN 334,854. Pub. 2-24-70. Filed 8-8-69.

Class 22 — Games, Toys, and Sporting Goods

890,711. (See Class 1 for this trademark.)

890,728. (See Class 3 for this trademark.)

890,841. MAJORCA. Dart Industries Inc., d.b.a. The Seamless Rubber Company, by change of name from Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company. SN 299,487. Pub. 9–23–69. Filed 5–31–68.

890,842. COMET AND DESIGN. Nelson Sales Company. SN 304,877. Pub. 7–22–69. Filed 8–5–68.

890,843. KUM-BAK AND DESIGN. Wells Manufacturing Co., Inc. SN 308,729. Pub. 2–24–70. Filed 10–2–68.

890,844. MONTAN. Curley-Bates Co. SN 309,361. Pub. 2–24–70. Filed 10–10–68.

890,845. SPLITTIN' IMAGE. Mattel, Inc. SN 310,405. Pub. 9–2–69. Filed 10–24–68.

890,846. BALL-BUNION. Cooper-ation, Inc. SN 310,445. Pub. 2–24–70. Filed 10–24–68.

890,847. GO-TEE. Cooper-ation, Inc. SN 310,446. Pub. 2–24–70. Filed 10–24–68.

890,848. SEA-DOO. Bombardier Limited. SN 314,523. Pub. 2–24–70. Filed 12–16–68.

890,849. FUNNY PUMPER. Rainbow Crafts, Inc. SN 323,365. Pub. 2–24–70. Filed 4–1–69.

890,850. FUZZLE UPS. Rainbow Crafts, Inc. SN 323,366. Pub. 2–24–70. Filed 4–1–69.

890,851. CINCH-O-MATIC. Lawrence L. Davison, d.b.a. Cinch-O-Matic Sales Company. SN 324,702. Pub. 2–24–70. Filed 4–16–69.

890,852. BASS FLAPPER. Ollie W. Jackson, d.b.a. Jackson Fish Lure Mfg. Co. SN 328,990. Pub. 2–24–70. Filed 6–3–69.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

890,711. (See Class 1 for this trademark.)

890,723. (See Class 2 for this trademark.)

890,729. (See Class 4 for this trademark.)

890,766. (See Class 13 for this trademark.)

890,829. (See Class 21 for this trademark.)

890,853. TORQUEMASTER. M.H.H. Engineering Company Ltd., assignee of Torque Controls, Inc. SN 242,857. Pub. 11–7–67. Filed 4–6–66.

890,854. ROTOBOND. General Binding Corporation, by merger from Rotobond, Inc. SN 250,519. Pub. 8–27–68. Filed 7–18–66.

890,855. GEROLER. Char-Lynn Company. SN 280,393. Pub. 2–24–70. Filed 9–15–67.

890,856. TORQUEMASTER. M. H. H. Engineering Company Limited. SN 283,297. Pub. 3–19–68. Filed 10–26–67.

890,857. NEW HOLLAND. Sperry Rand Corporation. SN 301,093. Pub. 2–24–70. Filed 6–21–68.

890,858. H IN A CIRCLE (DESIGN). Daniel C. Hanna, d.b.a. Hanna Construction Company. SN 303,675. Pub. 2–24–70. Filed 7–26–68.

890,859. HYDRA-TURN. Douglas Dynamics Corporation. SN 305,641. Pub. 2–24–70. Filed 8–21–68.

890,860. MAGI CARPET ALACAZAM. Keltec, Inc. SN 307,790. Pub. 2–24–70. Filed 8–21–68.

890,861. MAGI-CARPET GENIE. Keltec, Inc. SN 307,792. Pub. 2–24–70. Filed 8–21–68.

890,862. BEL. Save Way Barber Beauty Supplies, Inc. MULTIPLE CLASS (Classes 23, 29, 40, and 51). SN 308,923. Pub. 2–24–70. Filed 10–4–68.

890,863. HYDRA-LOCK. Wisconsin Machine Corporation. SN 310,603. Pub. 2–24–70. Filed 10–25–68.

890,864. HYDROCYCLE. Lockwood Corporation, assignee of Hydro Corporation. SN 314,793. Pub. 2–24–70. Filed 12–18–68.

890,865. EXTRACTO. SW Industries, Inc. SN 316,341. Pub. 2–24–70. Filed 1–10–69.

890,866. LAHR. The Warner & Swazey Company. SN 317,409. Pub. 2–24–70. Filed 1–23–69.

890,867. VIGOR. B. Jadow and Sons, Inc. SN 320,268. Pub. 2–24–70. Filed 2–27–69.

890,868. SPRED-A-VAC. Squar-Buff, Inc. SN 324,101. Pub. 2–24–70. Filed 4–9–69.

890,869. AIR-FLO. Air-Flo Compressor & Mfg., Inc. SN 327,340. Pub. 2–24–70. Filed 5–15–69.

890,870. MARK TWAIN. Imperial Knife Associated Companies, Inc. SN 327,883. Pub. 2–24–70. Filed 5–15–69.

890,871. PLIKE. Hunter Industries, d.b.a. Hunter Tools. SN 329,862. Pub. 1–27–70. Filed 6–12–69.

890,872. CORTINA ROSE. Imperial International Corp. SN 331,380. Pub. 2–24–70. Filed 6–30–69.

890,873. BABCO. Babcock Mfg. Co. SN 334,543. Pub. 2–24–70. Filed 8–6–69.

890,874. RIGGER. Columbus McKinnon Corporation. SN 334,695. Pub. 2–24–70. Filed 8–7–69.

890,875. MAVERICK. General Appliance Manufacturing Co. SN 335,134. Pub. 2–24–70. Filed 8–12–69.

Class 26 — Measuring and Scientific Appliances

890,828. (See Class 21 for this trademark.)

890,829. (See Class 21 for this trademark.)

890,876. TORQUEMASTER. M.H.H. Engineering Company Ltd., assignee of Torque Controls, Inc. SN 242,858. Pub. 3–19–68. Filed 4–6–66.

890,877. TDA. Air Technology Associates. SN 298,299. Pub. 2–24–70. Filed 5–16–68.

890,878. PTI AND DESIGN. Pacific Technology, Inc. SN 320,852. Pub. 2–24–70. Filed 3–5–69.

890,879. TAC SYSTEMS AND DOT DESIGN. T.A.C. Systems, Inc. SN 325,236. Pub. 2–24–70. Filed 4–22–69.

890,880. SUPERMATE. General Electric Company. SN 325,862. Pub. 2–24–70. Filed 4–29–69.

890,881. MINI-RIG. Dynamics Corporation of America. SN 328,587. Pub. 2–24–70. Filed 5–28–69.

890,882. MATCHMAKER. Witherby Tool Company, Inc. SN 331,676. Pub. 2–24–70. Filed 7–2–69.

890,883. CCS. Computer Control Systems, Incorporated. SN 332,202. Pub. 2–24–70. Filed 7–10–69.

890,884. TOSHIBA. Tokyo Shibaura Electric Co., Ltd. SN 332,383. Pub. 2–24–70. Filed 7–14–69.

890,885. ZIPTROL. Drummond Instrument Company. SN 333,691. Pub. 2–24–70. Filed 7–28–69.

890,886. ROMICRON. Paul Rosenthal, Inc. SN 338,859. Pub. 2–24–70. Filed 9–25–69.

Class 29 — Brooms, Brushes, and Dusters

890,862. (See Class 23 for this trademark.)

890,887. MIRACLE BRUSH. Syndicate Products (1964) Ltd. SN 316,694. Pub. 2–24–70. Filed 1–15–69.

Class 30 — Crockery, Earthenware, and Porcelain

890,888. ROYAL COURT CHINA BLUE FANTASY. Super-Crafts, Inc. SN 295,978. Pub. 2–24–70. Filed 4–18–68.

Class 31 — Filters and Refrigerators

890,889. DP. Delta Prime Water Conditioner Co. SN 289,174. Pub. 2–24–70. Filed 1–19–68.

Class 32 — Furniture and Upholstery

890,711. (See Class 1 for this trademark.)

890,890. MISCELLANEOUS DESIGN. Robert John Company. SN 330,201. Pub. 2–24–70. Filed 6–16–69.

890,891. PROTO/FORM. Directional Industries, Incorporated. SN 330,372. Pub. 2–24–70. Filed 6–18–69.

Class 34 — Heating, Lighting, and Ventilating Apparatus

890,774. (See Class 13 for this trademark.)

890,892. AMSCO SUPER 20. Abex Corporation. SN 272,560. Pub. 6–4–68. Filed 5–29–67.

890,893. KASTOR. Kastor Oy. SN 310,464. Pub. 2–24–70. Filed 10–24–68.

890,894. YALE, INC. AND DESIGN. Yale, Inc. SN 319,659. Pub. 2–24–70. Filed 2–19–69.

890,895. BLITZ. Eutectic Corporation. SN 321,644. Pub. 2–24–70. Filed 3–13–69.

890,896. VVV AND DESIGN. Jenn-Air Corporation. SN 323,106. Pub. 2–24–70. Filed 3–28–69.

890,897. GAS LIGHT AUER-A-BERLIN AND DESIGN. Auergesellschaft G.m.b.H. SN 324,675. Pub. 2–24–70. Filed 4–16–69.

890,898. HAKKO. Hakko Metal Industries, Limited. SN 325,485. Pub. 2–24–70. Filed 4–24–69.

890,899. THERMONETICS. The G & O Manufacturing Company. SN 332,339. Pub. 2–24–70. Filed 7–11–69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

890,711. (See Class 1 for this trademark.)

890,728. (See Class 3 for this trademark.)

890,900. PLS. Crane Packing Company. SN 315,472. Pub. 2–24–70. Filed 12–31–68.

890,901. POLY-GRIP. Agway, Inc. SN 335,834. Pub. 2–24–70. Filed 8–21–69.

Class 36 — Musical Instruments and Supplies

890,731. (See Class 4 for this trademark.)

890,902. QRK. QRK Electronic Products Inc. SN 297,438. Pub. 2–24–70. Filed 5–6–68.

890,903. AIR-O. The Magnavox Company. SN 336,503. Pub. 2–24–70. Filed 8–27–69.

Class 37 — Paper and Stationery

890,904. LEAF DESIGN. Lily-Tulip Cup Corporation. SN 292,589. Pub. 2–24–70. Filed 3–6–68.

890,905. FANCIFUL A DESIGN. Abbott Distributing Company. SN 297,358. Pub. 7–8–69. Filed 5–6–68.

890,906. TUFGARD. Kingsbacher-Murphy Company. SN 297,683. Pub. 12–24–68. Filed 5–8–68.

890,907. ROOM-MATES. Mattel, Inc. SN 309,518. Pub. 4–1–69. Filed 10–14–68.

890,908. CREATIVE HAND. Crest Art, Inc. SN 315,718. Pub. 2–24–70. Filed 1–3–69.

890,909. SNAPPY. Hasbro Industries, Inc. SN 317,050. Pub. 2–24–70. Filed 1–21–69.

890,910. STUDY. Hasbro Industries, Inc. SN 317,051. Pub. 2–24–70. Filed 1–21–69.

890,911. TOPPER. Hasbro Industries, Inc. SN 317,052. Pub. 2–24–70. Filed 1–21–69.

890,912. SECRETARY. The Joseph Dixon Crucible Company. SN 320,332. Pub. 1–13–70. Filed 2–28–69.

890,913. WEBCO. The Holes-Webway Co. SN 325,133. Pub. 2–24–70. Filed 4–22–69.

890,914. STA-TONE. Packaging Corporation of America. SN 326,957. Pub. 2–24–70. Filed 5–12–69.

890,915. PINK CARNATION. The Joseph Dixon Crucible Company. SN 327,749. Pub. 1–6–70. Filed 5–20–69.

Class 38 — Prints and Publications

890,916. DESIGN OF SIX HEADS. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 277,674. Pub. 2–24–70. Filed 8–7–67.

890,917. THE INCREDIBLE HULK. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 277,675. Pub. 2–24–70. Filed 8–7–67.

890,918. THE MIGHTY THOR. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 278,018. Pub. 2–24–70. Filed 8–10–67.

890,919. MEN. Magazine Management Co., Inc., assignee, by mesne assignment, of Magazine Management Company. SN 278,709. Pub. 2–24–70. Filed 8–21–67.

890,920. CARTOON CAPERS. Magazine Management Co., Inc., assignee of Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group. SN 308,520. Pub. 2–24–70. Filed 9–30–68.

890,921. TRUE ACTION. Magazine Management Co., Inc., assignee of Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group. SN 308,522. Pub. 2–24–70. Filed 9–30–68.

890,922. THE SILVER SURFER. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee of Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group. SN 308,524. Pub. 2–24–70. Filed 9–30–68.

890,923. WISH YOU WERE HERE. Picture Corporation. SN 311,175. Pub. 2–24–70. Filed 11–1–68.

890,924. SCHAWKGRAPHICS. Schawk Graphics, Inc. SN 313,732. Pub. 2–24–70. Filed 12–5–68.

890,925. PMI. Programming Methods Incorporated. SN 314,112. Pub. 2–24–70. Filed 12–10–68.

890,926. EL DIARIO LA PRENSA AND BUILDING DESIGN. El Diario Publishing Co., Inc. SN 317,733. Pub. 2–24–70. Filed 1–28–69.

890,927. CV AND PLANT DESIGN. The Children's Village, Inc. SN 324,043. Pub. 2–24–70. Filed 4–9–69.

890,928. DOPALERT. The Norwich Pharmacal Company. SN 326,414. Pub. 2–24–70. Filed 5–5–69.

890,929. IDD AND DESIGN. IDD, Inc. SN 326,652. Pub. 2–24–70. Filed 5–7–69.

890,930. RADIANT GREETINGS. Elmcraft, Inc., d.b.a. E-C Art. SN 332,288. Pub. 2–24–70. Filed 7–11–69.

890,931. THE STARLITER AND DESIGN. Dart Industries Inc., d.b.a. Vanda Beauty Counselor. SN 332,808. Pub. 2–24–70. Filed 7–17–69.

890,932. STAFF PHYSICIAN. The Resident, Inc. SN 332,894. Pub. 2–24–70. Filed 7–18–69.

890,933. DATEBLOCKS. Cory Corporation. SN 336,092. Pub. 2–24–70. Filed 8–25–69.

890,934. THE WORD. The Word, Inc. SN 336,859. Pub. 2–24–70. Filed 8–26–69.

890,935. CAMPUS CLATTER. Newspaper Enterprises Association, Inc. SN 336,591. Pub. 2-24-70. Filed 8-28-69.

890,936. FRITO-LAY BANDWAGON. Frito-Lay, Inc. SN 336,689. Pub. 2-24-70. Filed 8-29-69.

890,937. CURRENT HISTORY. Current History, Inc. SN 338,760. Pub. 2-24-70. Filed 9-24-69.

890,938. BUSINESS EDUCATION WORLD. McGraw-Hill, Inc. SN 338,922. Pub. 2-24-70. Filed 9-25-69.

Class 39 — Clothing

890,711. (See Class 1 for this trademark.)

890,728. (See Class 3 for this trademark.)

890,939. ERNST. Ernst, Inc. SN 259,651. Pub. 2-24-70. Filed 11-29-66.

890,940. F AND GOLD TAB DESIGN. Farah Manufacturing Company, Inc. SN 275,043. Pub. 10-1-68. Filed 6-29-67.

890,941. BLAZER FLANNEL. Peerless Robes & Sportswear, Inc. SN 282,128. Pub. 2-24-70. Filed 10-9-67.

890,942. INSTANT SLACKS. Arthur Winer, Incorporated. SN 297,231. Pub. 2-24-70. Filed 5-2-68.

890,943. INSTANT FIT. Arthur Winer, Incorporated. SN 297,232. Pub. 2-24-70. Filed 5-2-68.

890,944. HANG UPS. Hang Ups Sportswear, Ltd. SN 310,096. Pub. 2-24-70. Filed 10-21-68.

890,945. SKALAR. Excelled Sheepskin and Leather Coat Co., Inc. SN 310,760. Pub. 12-9-69. Filed 10-29-68.

890,946. EVANS STANDARD. L. B. Evans' Son Company. SN 313,562. Pub. 2-24-70. Filed 12-4-68.

890,947. SEBASTIAN. Robert Slayton. SN 313,840. Pub. 2-3-70. Filed 12-6-68.

890,948. LITTLE MISS HOLLY AND DESIGN. Holly Stores, Inc. SN 320,152. Pub. 2-24-70. Filed 2-26-69.

890,949. WACOAL WITH JAPANESE CHARACTERS AND DESIGN. Wacoal Inc. SN 321,557. Pub. 2-24-70. Filed 3-12-69.

890,950. TENNIS PARTY AND DESIGN. Sam Zagoria. SN 322,113. Pub. 2-24-70. Filed 3-18-69.

890,951. LAPIDUS. Schappe Ltd. SN 327,792. Pub. 2-24-70. Filed 5-21-69.

890,952. CUCULO AND DESIGN. Cuculo Imports, Ltd. SN 328,276. Pub. 2-24-70. Filed 5-26-69.

890,953. BOUTIQUE CIRO COSTA. Cuculo Imports, Ltd. SN 328,277. Pub. 2-24-70. Filed 5-26-69.

890,954. KENNETH JOHNS. Wilroy Inc. SN 328,519. Pub. 2-24-70. Filed 5-28-69.

890,955. ROBIN SUE. The Felsway Shoe Corporation. SN 328,836. Pub. 2-24-70. Filed 6-2-69.

890,956. UNIVERSITY SHIELD AND DESIGN. Carlyle Shirt Co., Inc. SN 329,059. Pub. 12-9-69. Filed 6-4-69.

890,957. KOALA KOLLECTION AND DESIGN. Sid Eagle Associates, Inc. SN 329,133. Pub. 2-24-70. Filed 6-4-69.

890,958. HEATHER STRIPES. Camp and McInnes, Inc. SN 329,651. Pub. 2-24-70. Filed 6-11-69.

890,959. SAVEX. Edison Brothers Stores, Inc. SN 332,001. Pub. 2-24-70. Filed 7-8-69.

890,960. PERFINOS. Freeman-Toor Corporation. SN 338,843. Pub. 2-24-70. Filed 9-25-69.

Class 40 — Fancy Goods, Furnishings, and Notions

890,862. (See Class 23 for this trademark.)

890,961. MAJESTY. Transia Ltd. SN 268,346. Pub. 11-12-68. Filed 4-4-67.

890,962. DW AND WIG DESIGN. Di Monique Wigs Inc. SN 312,878. Pub. 2-24-70. Filed 11-22-68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

890,711. (See Class 1 for this trademark.)

890,728. (See Class 3 for this trademark.)

890,963. MISCELLANEOUS DESIGN. Decorator Industries, Inc. SN 290,082. Pub. 1-21-69. Filed 2-1-68.

890,964. BONNIE GLEN. Milbank Hardy Minnis, Inc., by change of name from Milbank-Hardy Inc. SN 309,879. Pub. 2-24-70. Filed 10-17-68.

890,965. BLOCKADE. The Kendall Company. SN 313,124. Pub. 2-24-70. Filed 11-26-68.

890,966. WILLOW WIND. Klopman Mills, Inc. SN 317,848. Pub. 1-6-70. Filed 1-29-69.

890,967. KLOPMAN OR BUST. Klopman Mills, Inc. SN 317,850. Pub. 2-24-70. Filed 1-29-69.

890,968. FANTASHEER. Klopman Mills, Inc. SN 320,617. Pub. 2-24-70. Filed 3-3-69.

890,969. KASSAKA. Klopman Mills, Inc. SN 320,619. Pub. 2-24-70. Filed 3-3-69.

890,970. GALLIA. Klopman Mills, Inc. SN 320,621. Pub. 2-24-70. Filed 3-3-69.

890,971. SNOW CRYSTAL. Klopman Mills, Inc. SN 320,623. Pub. 2-24-70. Filed 3-3-69.

890,972. VIVALOON. Fuji Spinning Co., Ltd. SN 322,021. Pub. 2-24-70. Filed 3-18-69.

890,973. LAPIDUS. Schappe Ltd. SN 327,793. Pub. 2-24-70. Filed 5-21-69.

Class 43 — Thread and Yarn

890,711. (See Class 1 for this trademark.)

890,728. (See Class 3 for this trademark.)

890,974. PHILLIPS 66. Phillips Petroleum Company. SN 309,783. Pub. 2-24-70. Filed 10-16-68.

890,974. PHILLIPS 66. Phillips Petroleum Company. SN 309,783. Pub. 2-24-70. Filed 10-16-68.

Class 44 — Dental, Medical, and Surgical Appliances

890,975. ALASTIK. Unitek Corporation. SN 272,875. Pub. 3-12-69. Filed 6-1-67.

890,976. OPTEMP. Alcon Laboratories, Inc. SN 321,141. Pub. 2-24-70. Filed 3-10-69.

890,977. RARITAN LABORATORIES AND DESIGN. Johnson & Johnson, d.b.a. Raritan Laboratories. SN 321,943. Pub. 2-10-70. Filed 3-17-69.

890,978. SQUIBB AND CAPSTONE AND PILLAR DESIGN. E. R. Squibb & Sons, Inc. SN 325,148. Pub. 2-24-70. Filed 4-22-69.

Class 46 — Foods and Ingredients of Foods

890,979. BAKON DELITES. Borden, Inc., assignee of Wise Potato Chip Company. SN 190,134. Pub. 6-29-65. Filed 4-1-64.

890,980. MR. MISTY KISS. American Dairy Queen Corporation. SN 276,297. Pub. 9-3-68. Filed 7-19-67.

890,981. THE WC. HOLLOWAYS OUTDOOR-INDOOR. W. C. Holloway. SN 285,022. Pub. 9-3-68. Filed 11-16-67.

890,982. BAR TWIST. North American Dynamics Corporation. SN 286,442. Pub. 4-1-69. Filed 12-7-67.

890,983. PETIT'S. Geo. I. Petit, Inc. SN 290,322. Pub. 11-5-68. Filed 2-5-68.

890,984. MISCELLANEOUS DESIGN. Kadison Laboratories, Inc. SN 291,077. Pub. 2-24-70. Filed 2-14-68.

890,985. THINSHELL SPARKLES AND DESIGN. Lusk Candy Company. SN 290,101. Pub. 2-24-70. Filed 2-1-68.

890,986. FIRST MATE. Seaway Foods, Inc. SN 296,461. Pub. 2-24-70. Filed 4-24-68.

890,987. TRIO. Caxton Chocolate Company Limited. SN 300,421. Pub. 3-25-69. Filed 6-14-68.

890,988. QUICK 'N' EASY. Olson Brothers, Inc. SN 307,858. Pub. 2-24-70. Filed 9-20-68.

890,989. PANI-GLAZE The Paniplus Company. SN 309,073. Pub. 5-27-69. Filed 10-7-68.

890,990. POLAR FROST. H. C. Brill Company, Inc. SN 310,303. Pub. 6-10-69. Filed 10-23-68.

890,991. HANDI-BAKE. Hershey Foods Corporation. SN 310,662. Pub. 2-24-70. Filed 10-28-68.

890,992. SMUCKER'S. The J. M. Smucker Company. SN 311,071. Pub. 2-24-70. Filed 10-31-68.

890,993. FLUOGUM. Omni-Pharm S.A. SN 311,168. Pub. 2-24-70. Filed 11-1-68.

890,994. U.S. MINT. George C. Terzis. SN 311,187. Pub. 10-14-69. Filed 11-1-68.

890,995. THREE BULLS HEADS IN TREFOIL DESIGN. Oxo Limited. SN 311,290. Pub. 7-8-69. Filed 11-4-68.

890,996. FIORDAGOSTO. Unil-It S.p.A. SN 317,889. Pub. 2-24-70. Filed 1-29-69.

890,997. STEAK MAKER. Farmers Regional Cooperative. SN 318,133. Pub. 2-24-70. Filed 2-3-69.

890,998. DEERFIELD ETC. AND STAR DESIGN. Adrienne R. Earnhardt, trustee of the estate of E. P. Porcher, deceased. SN 318,535. Pub. 2-24-70. Filed 2-6-69.

890,999. MORTON. Morton International, Inc. SN 318,880. Pub. 2-24-70. Filed 2-11-69.

891,000. STANLEY DEMOS. Stanley J. Demos, d.b.a. Stanley Demos. SN 319,034. Pub. 2-24-70. Filed 2-13-69.

891,001. BROOKWOOD FARMS AND DESIGN. Brookwood Farms, Inc. SN 320,123. Pub. 2-24-70. Filed 2-26-69.

891,002. HICKORY MOUNTAIN AND SCROLL DESIGN. Hickory Mountain Farms, Inc. SN 320,149. Pub. 2-24-70. Filed 2-26-69.

891,003. DESSERTS ON THE SQUARE AND DESIGN. Just Desserts Inc. SN 321,805. Pub. 2-24-70. Filed 3-14-69.

891,004. "4×4" AUTOMATIC. W. R. Grace & Co. SN 322,435. Pub. 2-24-70. Filed 3-21-69.

891,005. COLONEL STRAL AND DESIGN. Stral Processing Company. SN 323,382. Pub. 2-24-70. Filed 4-1-69.

891,006. CRACKIN' GOOD. Crackin' Good Bakers, Inc. SN 323,797. Pub. 2-24-70. Filed 4-7-69.

891,007. MELLO-CUP. Farmer Bros. Co. SN 326,758. Pub. 2-3-70. Filed 5-8-69.

891,008. BREAKFAST BREAKTHROUGH. The Quaker Oats Company. SN 327,328. Pub. 2-24-70. Filed 5-15-69.

891,009. SCUDDERCUPS. Pet Incorporated. SN 327,834. Pub. 2-24-70. Filed 5-21-69.

891,010. LUCY ELLEN. F & F Laboratories, Inc. SN 327,875. Pub. 2-24-70. Filed 5-21-69.

891,011. EVER-FRESH AND DESIGN. Farm Fresh Cream Whip Corp. SN 328,011. Pub. 12-23-69. Filed 5-22-69.

891,012. MOONSTRIPS. Aron Streit, Inc. SN 329,680. Pub. 2-24-70. Filed 6-11-69.

891,013. CHEDDANUT. National Biscuit Company. SN 330,176. Pub. 2-24-70. Filed 6-16-69.

891,014. LADY LEE. Lucky Stores, Inc. SN 332,418. Pub. 2-24-70. Filed 7-14-69.

891,015. KABOOM. General Mills, Inc. SN 337,853. Pub. 2-24-70. Filed 9-15-69.

891,016. STACK 'O JACKS. Red Owl Stores, Inc. SN 337,865. Pub. 2-24-70. Filed 9-15-69.

891,017. FINNAZIO'S. Red Owl Stores, Inc. SN 337,866. Pub. 2-24-70. Filed 9-15-69.

891,018. AQUARIUS AND FLOWERS DESIGN. Tani Farms. SN 338,097. Pub. 2-24-70. Filed 9-17-69.

891,019. MARIA VISTA. Tani Farms. SN 338,098. Pub. 2-24-70. Filed 9-17-69.

Class 47 — Wines

891,020. BLACK TOWER. Hermann Kendermann. SN 308,214. Pub. 1-6-70. Filed 9-25-68.

891,021. DON ZOILO. Zoilo Ruiz-Mateos, S.A. SN 324,774. Pub. 2-24-70. Filed 4-16-69.

Class 48 — Malt Beverages and Liquors

891,022. CAB. Meryl L. Stoddard. SN 303,714. Pub. 2-24-70. Filed 7-26-68.

891,023. INNKEEPER. Little Switzerland Brewing Co. SN 331,048. Pub. 2-24-70. Filed 6-26-69.

Class 49 — Distilled Alcoholic Liquors

891,024. J. DUBOR & CO. ETC. AND DESIGN. Maison Barriasson. SN 279,924. Pub. 2-24-70. Filed 9-8-67.

891,025. DUNDARY. Continental Distilling Corporation. SN 324,637. Pub. 1-20-70. Filed 4-16-69.

891,026. FLAMBOYAN. E. Delatour & Cie, S.A. SN 326,520. Pub. 2-24-70. Filed 5-6-69.

891,027. MARIE BRIZARD AND DESIGN. Marie Brizard et Roger, Inc. SN 329,601. Pub. 2-24-70. Filed 6-10-69.

Class 50 — Merchandise Not Otherwise Classified

890,711. (See Class 1 for this trademark.)

Class 51 — Cosmetics and Toilet Preparations

890,862. (See Class 23 for this trademark.)

891,028. TY. L'Oreal. SN 280,429. Pub. 2-24-70. Filed 8-28-69.

891,029. SUNBONNET. Avon Products, Inc. SN 297,943. Pub. 9-17-68. Filed 5-13-68.

891,030. SUNBONNET. Avon Products, Inc., assignee of Lanvin-Charles of the Ritz, Inc. SN 299,913. Pub. 9-17-68. Filed 6-7-68.

891,031. APRIL VIOLETS. Yardley of London, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 302,876. Pub. 2-24-70. Filed 7-16-68.

891,032. PEDISPONGE-S. Pagan Laboratories, Inc. SN 303,820. Pub. 2-24-70. Filed 7-29-68.

891,033. GIRL TALK. ABC Films, Inc., assignee of Cosmetically Yours, Inc. SN 304,766. Pub. 6-10-69. Filed 8-9-68.

891,034. PROTEM. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 305,510. Pub. 2-24-70. Filed 8-20-68.

891,035. CARE DEEPLY. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 310,168. Pub. 1-6-70. Filed 10-22-68.

891,036. CLINIQUE YOUNG FACE AND DESIGN. Clinique Laboratories, Inc. SN 310,306. Pub. 2-24-70. Filed 10-23-68.

891,037. CLINIQUE YOUNG FACE AND DESIGN. Clinique Laboratories, Inc. SN 310,307. Pub. 2-24-70. Filed 10-23-68.

891,038. DANISH MODERN. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 318,852. Pub. 2-24-70. Filed 12-9-68.

891,039. GENESIS. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 313,854. Pub. 2-24-70. Filed 12-9-68.

891,040. KARMA. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 313,855. Pub. 2-24-70. Filed 12-9-68.

891,041. OLDE LYME. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 313,856. Pub. 2-24-70. Filed 12-9-68.

891,042. SHARECROPPER Koscot Interplanetary, Inc. SN 317,242. Pub. 2-3-70. Filed 1-22-69.

891,043. MEXIGLO AND DESIGN. Mexiglo Co. SN 318,798. Pub. 2-24-70. Filed 2-10-69.

891,044. MANHANDLE. Chemway Corporation. SN 319,433. Pub. 2-24-70. Filed 2-18-69.

891,045. REUSSITE. Laboratoire Garnier S.A. SN 319,821. Pub. 2-24-70. Filed 3-5-69.

891,046. WUNDER VEIL. Trent Laboratories (Canada) Limited. SN 325,824. Pub. 1-6-70. Filed 4-29-69.

891,047. FTT. Fashion Two Twenty, Inc. SN 326,467. Pub. 2-24-70. Filed 5-5-69.

891,048. PROTECTRESS. L'Oreal. SN 326,536. Pub. 2-24-70. Filed 5-6-69.

891,049. LONG'N LOVELY. Mark Anthony Drug Co., Inc. SN 327,455. Pub. 2-24-70. Filed 5-16-69.

891,050. THE EVERYTHING OIL. Vidal Sassoon, Inc. SN 329,143. Pub. 2-24-70. Filed 6-4-69.

891,051. INTERNATIONALS. Yardley of London, Inc. SN 330,652. Pub. 2-24-70. Filed 6-20-69.

891,052. POLIDENT. Block Drug Company, Inc. SN 330,901. Pub. 1-27-70. Filed 6-25-69.

891,053. BEAUTI LAC. Beautifax, Inc. SN 331,272. Pub. 2-24-70. Filed 6-30-69.

891,054. MEASURE RITE. Beecham Inc. SN 332,574. Pub. 1-27-70. Filed 7-15-69.

891,055. OMNIONE. Omnione, Inc. SN 332,589. Pub. 2-24-70. Filed 7-15-69.

891,056. OMNI III. Omnione, Inc. SN 332,590. Pub. 2-24-70. Filed 7-15-69.

891,057. OMNI II. Omnione, Inc. SN 332,668. Pub. 2-24-70. Filed 7-15-69.

891,058. OMNI I. Omnione, Inc. SN 332,669. Pub. 2-24-70. Filed 7-15-69.

891,059. JUBA. Avon Products, Inc. SN 333,521. Pub. 2-24-70. Filed 7-25-69.

891,060. UNDERSTATEMENTS. Avon Products, Inc. SN 333,523. Pub. 2-24-70. Filed 7-25-69.

891,061. CREMERY. Yardley of London, Inc. SN 334,146. Pub. 2-24-70. Filed 7-31-69.

891,062. FOLLOW-THAT-WOMAN. Yardley of London, Inc. SN 334,149. Pub. 2-24-70. Filed 7-31-69.

891,063. SLIMORAMA AND DESIGN. Slimorama International Corp. SN 334,287. Pub. 2-24-70. Filed 8-4-69.

891,064. RECALL. Chesebrough-Pond's Inc. SN 335,499. Pub. 2-24-70. Filed 8-18-69.

891,065. EVERYOUTH. Everyouth Inc. SN 336,981. Pub. 2-24-70. Filed 9-4-69.

891,066. "YOU'LL WONDER WHERE THE YELLOW WENT WHEN YOU BRUSH YOUR TEETH WITH PEP-SODENT. Lever Brothers Company. SN 338,845. Pub. 2-24-70. Filed 9-25-69.

Class 52 — Detergents and Soaps

891,031. (See Class 51 for this trademark.)

891,034. (See Class 51 for this trademark.)

891,035. (See Class 51 for this trademark.)

891,038. (See Class 51 for this trademark.)

891,039. (See Class 51 for this trademark.)

891,040. (See Class 51 for this trademark.)

891,041. (See Class 51 for this trademark.)

891,067. SWIPE. Chemical Associates, Inc. SN 277,146. Pub. 2-24-70. Filed 7-31-67.

891,068. SUPER TAKE-UP! Madison Chemical Corporation. SN 294,516. Pub. 2-24-70. Filed 3-29-68.

891,069. DYNAFOAM. Wayne Chemical Company. SN 298,074. Pub. 1-6-70. Filed 5-13-68.

891,070. GITANA. Antonio Puig S.A. SN 302,704. Pub. 2-24-70. Filed 7-15-68.

891,071. TALLBA. Fabriksaktiebolaget Victoria. SN 308,198. Pub. 2-24-70. Filed 9-25-68.

891,072. HAZZIT. Wyandotte Chemicals Corporation. SN 310,512. Pub. 2-24-70. Filed 10-24-68.

891,073. MR. TIME LIME AND DESIGN. Infinite Products, Inc. SN 311,151. Pub. 2-24-70. Filed 11-1-68.

891,074. ROD & ROAD. The Drackett Company. SN 312,571. Pub. 2-24-70. Filed 11-19-68.

891,075. TRACK. The Drackett Company. SN 312,573. Pub. 2-24-70. Filed 11-19-68.

891,076. BIO-LYNE. Lever Brothers Company. SN 328,392. Pub. 2-24-70. Filed 5-27-69.

891,077. QUALITY ETC. AND DESIGN. Quality Products Co. SN 328,777. Pub. 2-24-70. Filed 6-2-69.

891,078. CHEVRON AND DESIGN. Standard Oil Company of California. SN 329,531. Pub. 2-24-70. Filed 6-9-69.

891,079. FOXY. Sterling Drug Inc. SN 336,526. Pub. 2-24-70. Filed 8-28-69.

Service Marks

Class 100 — Miscellaneous

890,826. CONSOLIDATED CERTIFICATE. See Class 21.

891,080. MISCELLANEOUS DESIGN. Paramed Incorporated. SN 264,579. Pub. 8-20-68. Filed 2-13-67.

891,081. MERIDIAN. Meridian Engineering, Inc. SN 281,603. Pub. 2-24-70. Filed 10-2-67.

891,082. WHATABURGER. Grace W. Dobson, d.b.a. Whataburger Drive Inns. SN 291,496. Pub. 2-24-70. Filed 2-20-68.

891,083. FOAM FASHION FORUM. Foam Fashion Forum. SN 291,604. Pub. 2-24-70. Filed 2-21-68.

891,084. BURGER LODGE. Charles J. Commander II. SN 297,038. Pub. 2-24-70. Filed 5-1-68.

891,085. VIATRON. Viatron Computer Systems Corporation. SN 299,707. Pub. 2-24-70. Filed 6-4-68.

891,086. AUTO EXPO. Varner Ward Leasing Company. SN 303,718. Pub. 2-24-70. Filed 7-26-68.

891,087. MONTEREY HOUSE. Monterey House. SN 309,881. Pub. 2-24-70. Filed 10-17-68.

891,088. MONTEREY HOUSE. Monterey House. SN 309,882. Pub. 2-24-70. Filed 10-17-68.

891,089. DESIGN OF DONKEY PULLING CART. Monterey House. SN 309,883. Pub. 2-24-70. Filed 10-17-68.

891,090. TIP DESIGN. Transport Pool, Inc. SN 315,121. Pub. 2-24-70. Filed 12-23-68.

891,091. HUMAN MALE FIGURE AND DESIGN. American Optical Corporation. SN 315,374. Pub. 2-24-70. Filed 12-30-68.

891,092. RED CARPET RX SERVICE. American Optical Corporation. SN 315,375. Pub. 2-24-70. Filed 12-30-68.

891,093. HABITAT. Moshe Safdie. SN 321,821. Pub. 2-24-70. Filed 3-14-69.

891,094. CV AND PLANT DESIGN. The Children's Village, Inc. SN 324,044. Pub. 2-24-70. Filed 4-9-69.

891,095. S AND WREATH DESIGN. ITT Sheraton Corporation of America. SN 334,927. Pub. 2-10-70. Filed 8-11-69.

Class 101 — Advertising and Business

891,096. PLANTATION FOODS. Plantation Foods Corporation. SN 276,169. Pub. 11-25-69. Filed 7-17-67.

891,097. AMCELL. Southeastern Personnel, Inc., d.b.a. Amcell Personnel Service. SN 284,114. Pub. 12-2-69. Filed 11-3-67.

891,098. R AND WREATH DESIGN. Rollins, Inc. MULTIPLE CLASS (Classes 101, 102, 103, and 104). SN 295,784. Pub. 7-8-69. Filed 4-15-68.

891,099. SCIIM. Keolyn Plastics, Inc. SN 310,617. Pub. 5-27-69. Filed 10-28-68.

891,100. THE WORLD AT YOUR TABLE. World Cuisine, Inc. SN 313,464. Pub. 2-24-70. Filed 12-2-68.

891,101. MEDIBANK. Medicredit, Inc. SN 314,802. Pub. 2-24-70. Filed 12-18-68.

891,102. KWIKIE DUPLICATING INC. AND DESIGN. Kwikie Duplicating, Inc. SN 315,323. Pub. 2-24-70. Filed 12-27-68.

891,103. GGG AND DESIGN. Goodway, Inc. SN 320,593. Pub. 2-24-70. Filed 3-3-69.

891,104. FOOSBALL COMPETITIVE SPORTS SYSTEM. Patterson International Corporation. SN 324,930. Pub. 2-24-70. Filed 4-18-69.

891,105. MULTISAMP. Stratmar Systems Inc. SN 327,215. Pub. 2-24-70. Filed 5-14-69.

Class 102 — Insurance and Financial

891,098. (See Class 101 for this trademark.)

891,106. SIGNAL. Thrift Interstate Corporation. SN 259,778. Pub. 1-2-68. Filed 11-30-66.

891,107. REDDY BUCKS. Bucks County Bank and Trust Company. SN 313,157. Pub. 2-24-70. Filed 11-27-68.

Class 103 — Construction and Repair

890,826. CONSOLIDATED CERTIFICATE. See Class 21.

891,098. (See Class 101 for this trademark.)

891,108. SIR BOURBON AND DESIGN. Suburban Sanitation Service. SN 322,920. Pub. 2-24-70. Filed 3-26-69.

Class 104 — Communication

890,826. CONSOLIDATED CERTIFICATE. See Class 21.

891,098. (See Class 101 for this trademark.)

Class 105 — Transportation and Storage

891,109. AEI WINGS & WHEELS AND DESIGN. Wings and Wheels Express, Inc. SN 301,794. Pub. 2-24-70. Filed 7-1-68.

Class 106 — Material Treatment

891,110. VANQUEUR. Market Fur Dressing Corp. SN 309,774. Pub. 2-24-70. Filed 10-16-68.

Class 107 — Education and Entertainment

891,111. SOUND OF YOUTH U.S.A. AND DESIGN. The Sound of Youth, Inc. SN 290,539. Pub. 2-24-70. Filed 2-7-68.

891,112. HOUR OF CHARM. Studio Girl-Hollywood, Inc., d.b.a. Studio Girl. SN 308,541. Pub. 2-24-70. Filed 9-30-68.

891,113. HARMONICATS. Jerry Muradian, d.b.a. Jerry Murad. SN 314,104. Pub. 2-24-70. Filed 12-10-68.

891,114. CIRCUS CIRCUS. Circus Circus, Inc. SN 314,874. Pub. 2-24-70. Filed 12-19-68.

891,115. COMPED-12. Software Sciences Corporation. SN 315,631. Pub. 2-24-70. Filed 12-27-68.

891,116. PROJECT PHYSICS AND DESIGN. Project Physics. SN 315,806. Pub. 2-24-70. Filed 1-2-69.

891,117. GIRL TALK. ABC Films, Inc. SN 316,857. Pub. 6-10-69. Filed 1-17-69.

891,118. ACA DIXIE CHEER-O-RAMA AND DESIGN. William L. Horan, d.b.a. Dixie Cheer-O-Rama. SN 318,047. Pub. 2-24-70. Filed 1-31-69.

891,119. THE JOLLY GENTS. Roger Rubinow, d.b.a. Sonny Rogers. SN 323,369. Pub. 2-24-70. Filed 4-1-69.

891,120. CHARLIE VAN DYKE SHOW. Charles Steinle. SN 325,089. Pub. 2-24-70. Filed 4-21-69.

891,121. DESIGN OF A WING. The Detroit Hockey Club, Inc. SN 328,278. Pub. 2-24-70. Filed 5-26-69.

Collective Membership Marks

Class 200

891,122. CID NIREB AND DESIGN. National Association of Real Estate Boards. SN 307,220. Pub. 2-24-70. Filed 9-12-68.

891,123. MEMBER FEMA FOUNDRY EQUIPMENT MANUFACTURERS ASSOCIATION INC. AND DESIGN. Foundry Equipment Manufacturers Association. SN 308,480. Pub. 2-24-70. Filed 9-30-68.

891,124. CALIFORNIA STATE ELECTRONICS ASSOCIATION AND DESIGN. California State Electronics Association. SN 312,752. Pub. 2-24-70. Filed 11-21-68.

891,125. POLICE OFFICERS MOBILE AUXILIARY AND DESIGN. Police Officers Mobile Auxiliary Assn. SN 319,116. Pub. 2-24-70. Filed 2-14-69.

TRADEMARK REGISTRATIONS RENEWED

76,307. MATTONA. Cl. 16 (Int. Cl. 2). 1-4-10.
77,049. ADVANCE. Cl. 14 (Int. Cl. 6). 3-8-10.
77,477. ATLAS. Cl. 23 (Int. Cl. 8). 4-12-10.
78,519. GREDAG. Cl. 15 (Int. Cl. 4). 6-21-10.
266,051. PEEK FREAN & CO. Cl. 46 (Int. Cl. 30). 1-14-30.
266,837. INSULITE. Cl. 12 (Int. Cl. 19). 2-4-30.
266,875. MTU. Cl. 12 (Int. Cl. 19). 2-4-30.
267,115. MAJESTIC. Cl. 46 (Int. Cls. 29 and 30). 2-11-30.
267,338. SECUREX. Cl. 13 (Int. Cls. 6 and 11). 2-18-30.
267,365. SURETAN. Cl. 18 (Int. Cl. 5). 2-18-30.
267,807. COLPROVIA. Cl. 12 (Int. Cl. 19). 3-4-30.
268,013. AERONET. Cl. 39 (Int. Cl. 25). 3-4-30.
268,051. ORLIS. Cl. 51 (Int. Cl. 3). 3-4-30.
268,465. LULLABY. Cl. 42 (Int. Cl. 24). 3-18-30.
268,633. RED RIVER AND DESIGN. Cl. 46 (Int. Cl. 30). 3-18-30.
269,034. COLGATE'S. Cl. 51 (Int. Cl. 3). 3-25-30.
269,073. DURBAR. Cl. 42 (Int. Cl. 24). 3-25-30.
269,399. CROSS STITCH. Cl. 46 (Int. Cl. 30). 4-8-30.
269,936. TIP-TOPS. Cl. 46 (Int. Cl. 30). 4-22-30.
270,464. UNIFLEX. Cl. 35 (Int. Cl. 7). 5-6-30.
270,725. CAVANAGH HATS. Cl. 39 (Int. Cl. 25). 5-13-30.

270,966. TURCO AND DESIGN. Cl. 52 (Int. Cl. 3). 5–20–30.
271,881. GOLDEN DAWN AND DESIGN. Cl. 39 (Int. Cl. 25). 6–3–30.
271,947. AROCLOR. Cl. 6 (Int. Cl. 1). 6–17–30.
272,106. EATON'S HIGHLAND VELLUM. Cl. 37 (Int. Cl. 16). 7–1–30.
272,377. BENZEDRINE. Cl. 18 (Int. Cl. 5). 7–8–30.
272,530. DUO-LITE. Cl. 33 (Int. Cl. 21). 7–8–30.
272,531. AERO LITE AND DESIGN. Cl. 33 (Int. Cl. 21). 7–8–30.
273,144. SANTOLITE. Cl. 1 (Int. Cl. 1). 7–22–30.
443,602. CARMELITA. Cl. 46 (Int. Cl. 29). 12–6–49.
444,018. POLI-GRIP. Cl. 51 (Int. Cl. 5). 6–6–50.
444,052. AMM-I-DENT. Cl. 51 (Int. Cl. 3). 6–27–50.
444,135. DA-TEX. Cl. 16 (Int. Cl. 2). 8–8–50.
511,222. SMOKY JOE. Cl. 39 (Int. Cl. 25). 6–21–49.
516,784. CHILIMAC. Cl. 46 (Int. Cl. 29). 10–25–49.
517,772. TICKOMETER. Cl. 26 (Int. Cl. 9). 11–22–49.
518,229. SAVORY SHARP. Cl. 46 (Int. Cl. 29). 11–29–49.
518,857. CONVEYAN SCREEN. Cl. 21 (Int. Cl. 9). 12–13–49.
519,412. ATLAS. Cl. 23 (Int. Cl. 7). 1–3–50.
519,516. NUBRONS. Cl. 11 (Int. Cl. 2). 1–3–50.
519,646. FABERGETTE. Cl. 51 (Int. Cl. 3). 1–10–50.
519,706. BACIDRIN. Cl. 18 (Int. Cl. 5). 1–10–50.
519,796. CEBETABS. Cl. 18 (Int. Cl. 5). 1–10–50.
520,074. DEPOCILLIN. Cl. 18 (Int. Cl. 5). 1–17–50.
520,197. WRIGHTSWEAR. Cl. 39 (Int. Cl. 25). 1–24–50.
520,245. ESSEX. Cl. 12 (Int. Cl. 19). 1–24–50.
520,389. RIGHT-CUT. Cl. 17 (Int. Cl. 34). 1–31–50.
520,401. STAYLASTIC. Cl. 40 (Int. Cl. 26). 1–31–50.
520,602. AIR-FLIGHT CIRCULATORS. Cl. 21 (Int. Cl. 11). 2–7–50.
520,743. THORPE AND DESIGN. Cl. 23 (Int. Cl. 20). 2–7–50.
520,815. CAULK. Cl. 26 (Int. Cl. 10). 2–7–50.
520,853. HYGEIA. Cl. 44 (Int. Cl. 21). 2–7–50.
521,082. MAINSTAY AND DESIGN. Cl. 46 (Int. Cl. 29). 2–21–50.
521,083. MARINERS PATHFINDER. Cl. 26 (Int. Cl. 9). 2–21–50.
521,116. BOBBY A FORMFIT CREATION AND DESIGN. Cl. 39 (Int. Cl. 25). 2–21–50.
521,178. BRUTON AND DESIGN. Cl. 17 (Int. Cl. 34). 2–21–50.
521,179. BRUTON (BAND). Cl. 17 (Int. Cl. 34). 2–21–50.
521,181. BILL'S BEST. Cl. 17 (Int. Cl. 34). 2–21–50.
521,242. SERGEANT'S. Cl. 18 (Int. Cl. 5). 2–21–50.
521,292. ALPA. Cl. 46 (Int. Cl. 29). 2–21–50.
521,472. MERLE NORMAN. Cl. 51 (Int. Cl. 3). 2–28–50.
521,477. ALMO. Cl. 21 (Int. Cl. 9). 2–28–50.
521,478. DUPLEX. Cl. 13 (Int. Cl. 6). 2–28–50.
521,488. K–P. Cl. 21 (Int. Cl. 7). 2–28–50.
521,568. ROYAL-RAY SCALPOIL AND DESIGN. Cl. 51 (Int. Cl. 3). 2–28–50.
521,577. SUNEP. Cl. 15 (Int. Cl. 4). 2–28–50.
521,645. OUR SUN. Cl. 38 (Int. Cl. 16). 2–28–50.
521,728. DEARBORN AND DESIGN. Cl. 23 (Int. Cl. 7). 3–7–50.
522,032. JUMBAGS. Cl. 2 (Int. Cl. 16). 3–7–50.
522,058. EVERSHARP. Cl. 23 (Int. Cl. 8). 3–7–50.
522,270. WURLITZER. Cl. 21 (Int. Cl. 9). 3–14–50.
522,385. KAISER. Cl. 14 (Int. Cl. 6). 3–14–50.
522,417. MAURESQUE. Cl. 42 (Int. Cl. 24). 3–14–50.
522,419. DIRECTAIRE. Cl. 42 (Int. Cl. 24). 3–14–50.
522,431. ADVERTISING WELL DIRECTED AND DESIGN. Cl. 101 (Int. Cl. 35). 3–14–50.
522,479. STEINWAY NEWS. Cl. 38 (Int. Cl. 16). 3–14–50.
522,507. MADONNA. Cl. 28 (Int. Cl. 14). 3–21–50.
522,602. HAYES. Cl. 23 (Int. Cl. 7). 3–21–70.
522,679. TAKAMINE AND DESIGN. Cl. 6 (Int. Cl. 1). 3–21–50.
522,689. W & K. Cl. 50 (Int. Cl. 20). 3–21–50.
523,053. WYANDOTTE. Cl. 52 (Int. Cl. 3). 3–28–50.
523,069. PLANET JR. AND DESIGN. Cl. 23 (Int. Cls. 7 and 12). 3–28–50.
523,126. PROTEFORTIS. Cl. 18 (Int. Cl. 5). 3–28–50.
523,187. THE EYE SAVER. Cl. 26 (Int. Cl. 16). 3–28–50.
523,146. OHMITE. Cl. 21 (Int. Cl. 9). 3–28–50.
523,283. MILPRINT. Cl. 38 (Int. Cl. 16). 4–4–50.
523,345. STAL. Cl. 23 (Int. Cl. 7). 4–4–50.
523,465. MATCHED HEADS. Cl. 46 (Int. Cl. 31). 4–4–50.
523,599. B AND DESIGN. Cl. 19 (Int. Cl. 12). 4–4–50.
523,705. WALNUT CRUSH. Cl. 46 (Int. Cl. 30). 4–11–50.
523,849. ROCKLATH. Cl. 12 (Int. Cl. 6). 4–11–50.
523,886. TIP-TOP RESTAURANT BREAD AND DESIGN. Cl. 46 (Int. Cl. 30). 4–11–50.
523,887. WARDS TIP-TOP CAKES AND DESIGN. Cl. 46 (Int. Cl. 30). 4–11–50.
523,966. BRECOWAY. Cl. 13 (Int. Cl. 6). 4–11–50.
524,128. D. Cl. 26 (Int. Cl. 9). 4–18–50.
524,140. VULCAIN. Cl. 27 (Int. Cl. 14). 4–18–50.
524,177. HYL. Cl. 14 (Int. Cl. 6). 4–18–50.
524,311. YELLOW BONNET. Cl. 46 (Int. Cls. 29, 30, and 32). 4–25–50.
524,359. EP AND DESIGN. Cl. 21 (Int. Cls. 7 and 9). 4–25–50.
524,366. OXY-DRY. Cl. 21 (Int. Cl. 9). 4–25–50.
524,470. DELTA'S MASTER EL GRECO. Cl. 29 (Int. Cl. 16). 4–25–50.
524,621. SLUMBER TIME. Cl. 32 (Int. Cl. 20). 5–2–50.
524,628. ST. MICHAEL. Cl. 39 (Int. Cl. 25). 5–2–50.
524,677. CLORANGE. Cl. 45 (Int. Cl. 32). 5–2–50.
524,708. LANCASTER. Cl. 37 (Int. Cl. 16). 5–2–50.
524,829. CENTRILINE. Cl. 103 (Int. Cl. 37). 5–2–50.
524,830. CENTRALINE PROCESS AND DESIGN. Cl. 103 (Int. Cl. 37). 5–2–50.
525,274. PUM-ROUGE. Cl. 44 (Int. Cl. 10). 5–16–50.
525,280. HYDRA-SLINGER. Cl. 23 (Int. Cl. 7). 5–16–50.
525,489. APROPOS. Cl. 51 (Int. Cl. 3). 5–23–50.
525,617. RED TAG AND DESIGN. Cl. 46 (Int. Cl. 29). 5–30–50.
525,618. GREEN TAG AND DESIGN. Cl. 46 (Int. Cl. 29). 5–30–50.
525,619. BROOKLAND. Cl. 46 (Int. Cl. 29). 5–30–50.
525,694. AMBASSADOR. Cl. 32 (Int. Cl. 20). 5–30–50.
525,695. DUCHESS. Cl. 32 (Int. Cl. 20). 5–30–50.
526,212. NITROLOID. Cl. 16 (Int. Cl. 2). 6–13–50.
526,233. LAUDER'S. Cl. 49 (Int. Cl. 33). 6–13–50.
526,326. NUFLEX. Cl. 40 (Int. Cl. 26). 6–18–50.
526,925. MALGLYN. Cl. 18 (Int. Cl. 5). 6–27–50.
527,085. SUPERIOR AND DESIGN. Cl. 23 (Int. Cl. 7). 7–4–50.
527,207. DUNHILL. Cl. 8 (Int. Cl. 34). 7–4–50.
527,359. SEACO AND DESIGN. Cl. 14 (Int. Cl. 6). 7–4–50.
527,390. SPECIAL. Cl. 42 (Int. Cl. 24). 7–4–50.
527,450. PN. Cl. 21 (Int. Cls. 7, 9, and 11). 7–11–50.
527,474. TRIPLOC. Cl. 21 (Int. Cl. 9). 7–11–50.
527,512. TIMKEN. Cl. 23 (Int. Cl. 7). 7–11–50.
527,562. WAHL. Cl. 23 (Int. Cl. 8). 7–11–50.
527,567. THE WAYFARER AND DESIGN. Cl. 39 (Int. Cl. 25). 7–11–50
527,628. CADILLAC. Cl. 21 (Int. Cl. 9). 7–11–50.
527,655. EZY-OUT. Cl. 23 (Int. Cl. 8). 7–18–50.
528,086. ABIGAIL. Cl. 39 (Int. Cl 25). 7–25–50.
528,138. MAVROY. Cl. 39 (Int. Cl. 25). 7–25–50.
528,305. MONSANTO. Cl. 6 (Int. Cl. 1). 8–1–50.
528,383. HECO AND DESIGN. Cl. 21 (Int. Cl. 9). 8–1–50.
528,488. LITTLE SPORT. Cl. 38 (Int. Cl. 16). 8–1–50.
528,658. ROGERS. Cl. 19 (Int. Cl 12). 8–8–50.
528,718. BALLROLL. Cl. 15 (Int. Cl. 4). 8–8–50.
528,806. SQUIRT. Cl. 45 (Int. Cl. 32). 8–8–50.
529,035. MONSANTO. Cl. 1 (Int. Cl. 17). 8–15–50.
529,039. LUMITON. Cl. 44 (Int. Cl. 10). 8–15–50.

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Section 8

The following registrations issued Mar. 24, 1964

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766,931. AQUAFIRM. Cl. 1.
766,932. SNAP FIRE. Cl. 1.
766,933. OROFIL. Cl. 1.
766,936. PINE-CEL. Cl. 1.
766,940. KITTY FAIR. Cl. 1.
766,944. SUPRON. Cls. 1 and 39.
766,952. QA. Cl. 2.

766,955. MIN-MUM. Cl. 4.
766,962. TRICON. Cl. 6.
766,964. MODITONE AND DESIGN. Cl. 6.
766,967. ALL-SPORTS. Cl. 6.
766,971. VALET. Cl. 8.
766,974. DEERFIELD. Cl. 10.
766,978. GIBRELATE. Cl. 10.
766,979. PERMAKAST. Cl. 12.
766,980. PAX-BRIX. Cl. 12.
766,983. FYRETECH 100. Cl. 12.
766,984. FIBERLIGHT STONE SO LIGHT IT FLOATS! AND DESIGN. Cl. 12.
766,995. ISOTHERMAL. Cl. 14.
767,000. MYVAKOT. Cl. 15.
767,006. NALBASE. Cl. 15.
767,016. P·A·K. Cl. 18.
767,027. ALIM. Cl. 19.
767,028. WANDER WAGON. Cl. 19.
767,030. SPACE-CRAFT AND DESIGN. Cl. 19.
767,032. TRAIL MAKER. Cl. 19.
767,037. SABELT. Cl. 19.
767,041. ROYAL PATIO URN. Cl. 21.
767,043. MICRO-PLANAR. Cl. 21.
767,044. MCS AND DESIGN. Cl. 21.
767,046. ELECTRESTEEM. Cl. 21.
767,047. MARCOSWITCHLIGHT. Cl. 21.
767,048. ILO AND DESIGN. Cl. 21.
767,052. GDI AND DESIGN. Cl. 21.
767,053. MERLUX. Cl. 21
767,059. DOUBLE BUILT. Cl. 22.
767,060. COSMO. Cl. 22.
767,061. WORD POWER. Cl. 22.
767,068. THE WIZARD OF ODDS. Cl. 22.
767,070. B. Cl. 23.
767,072. BL. Cl. 23.
767,075. SCJ. Cl. 23.
767,076. HS. Cl. 23.
767,081. 3-WAY JET. Cl. 23.
767,083. FARRELOY. Cl. 23.
767,087. H AND DESIGN. Cl. 23.
767,088. S AND DESIGN. Cl. 23.
767,091. CUPMASTER. Cl. 23.
767,098. SCRAPER-CUSHIN'. Cl. 23.
767,101. CLINTON AND DESIGN. Cl. 23.
767,103. KELL-DOT AND DESIGN. Cl. 23.
767,106. QA. Cl. 23.
767,109. COBRA. Cl. 23.
767,111. TWISTYPE AND DESIGN. Cl. 23.
767,112. EHT AND DESIGN. Cl. 23.
767,114. LOKTIP. Cl. 23.
767,115. PRINT-A-PLY. Cl. 23.
767,119. K. Cl. 23.
767,120. JETGAS AND DESIGN. Cl. 23.
767,123. BALDIDE. Cl. 23.
767,127. ZERO-ONE. Cl. 26.
767,129. LUMA-RAC. Cl. 26.
767,133. TELOPTIK. Cl. 26.
767,137. VELOCITRONIC. Cl. 26.
767,139. KELLERT. Cl. 26.
767,145. UNI-JUST. Cl. 26.
767,148. TAPE TENNA. Cl. 26.
767,151. POLYSTAT. Cl. 26.
767,155. DATASCRIBE. Cl. 26.
767,160. STARGAZER. Cl. 27.
767,161. EAST WIND. Cl. 27.
767,164. BEAUZAL. Cl. 28.
767,167. SALON. Cl. 29.
767,172. REFLECTIONS. Cl. 32.
767,173. SCOTCH-ROK. Cl. 33.
767,175. WHITE-ROOMETTE. Cl. 34.
767,178. RACCO. Cl. 34.
767,180. AMMOCARB. Cl. 34.
767,181. THIRD HAND. Cl. 34.
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767,189. CHATTY-RING. Cl. 36.
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767,191. PETRO-SEAL. Cl. 37.
767,192. QUIK-STRIP AND DESIGN. Cl. 37.
767,193. SHIELD-TIP. Cl. 37.
767,194. HI-WIRE. Cl. 37.
767,195. NEETRACE. Cl. 37.
767,201. PAR·T·SING. Cl. 38.
767,202. LITHOTALK. Cl. 38.
767,204. THE VOICE OF STAINLESS. Cl. 38.
767,205. WINGS. Cl. 38.
767,206. HOME APPLIANCE BUILDER. Cl. 38.
767,207. PHARMASCOPE. Cl. 38.
767,212. GLAD HATTER AND DESIGN. Cl. 39.
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767,219. EVER-STA. Cl. 39.
767,220. PARIS PRIDE-MARK AND DESIGN. Cl. 39.
767,221. ASTRO-FOAM. Cl. 39.
767,223. HI-SHIELD. Cl. 39.
767,224. MILO DA VINCI. Cl. 39.
767,227. THE COMMODORE'S LADY. Cl. 39.
767,230. GOAL TENDER. Cl. 39.
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767,235. WEATHER WINNER AND DESIGN. Cl. 39.
767,245. FURCHIEF. Cl. 39.
767,246. PILE PURR. Cl. 42.
767,247. SHIFT FOR YOURSELF. Cl. 42.
767,259. CROWN ETC. AND DESIGN. Cl. 46.
767,260. BILLY STONE AND DESIGN. Cl. 46.
767,264. DISCO. Cl. 46.
767,265. LOIS LANE. Cl. 46.
767,268. SAN JAC. Cl. 46.
767,269. TASTYPINE. Cl. 46.
767,276. DOCH-AN-DORRIS. Cl. 49.
767,277. MULTI-PAN. Cl. 50.
767,279. STICK-STACKS. Cl. 50.
767,283. ROLL 'N GO. Cl. 51.
767,284. JANUS MANN AND DESIGN. Cl. 51.
767,290. EGBERT. Cl. 51.
767,293. DRI-BATH. Cl. 52.
767,294. AERO DEW. Cl. 52.
767,298. LESGERM. Cl. 52.
767,303. DPMA AND DESIGN. Cl. 100.
767,311. CUSHION SEAL AND DESIGN. Cl. 50.
767,312. SUN DRENCHED. Cl. 51.

Section 18

677,071. SLOPPY JOE. Cl. 46. 4–14–59.
772,465. RUSTEGO. Cl. 47. 6–30–64.
791,918. WHOPPABURGER. Cl. 46. 6–29–65.
810,588. SMOKE-NO-MORE. Cl. 18. 6–28–66.
816,368. NO-MORE-SMOKING. Cl. 18. 10–4–66.
842,652. SUMTHIN' SWEET AND DESIGN. Cl. 46. 1–16–68.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

46,043. DIAMOND BRAND AND DESIGN. Cl. 39. 9–5–05. Peters Shoe Co. Interco Incorporated, St. Louis, Mo. Amended to appear:



46,616. THE CLUB. Cl. 49. 9–26–05. G. F. Heublein & Bro. Heublein, Inc., Hartford, Conn. Amended to appear:



126,564. SAXMAYER. Cl. 23. 9–16–19. National Bundle Tyer Company. SOS Consolidated Inc., Birmingham, Mich. Amended to appear:

SAXMAYER

266,052. ESCOLLOID. Cl. 52. 1–14–30. The Cowles Detergent Company. Stauffer Chemical Company, New York, N.Y. Amended to appear:

ESCOLLOID

267,046. AMAFLEECE. Cl. 43. 2–11–30. Amazon Cotton Mills Company, Thomasville, N.C. Corrected: In the statement, column 1, line 1, after "Mills" *Company* should be inserted.

269,117. TREMCO. Cl. 12. 3–25–30. The Tremco Manufacturing Company, Cleveland, Ohio. Amended: In the statement, column 1, lines 14 through 18, "plastic cements for air-proofing and insulating purposes, cork and plaster bonding compounds," is deleted and the drawing is amended to appear:

TREMCO

270,849. TREMCO. Cl. 16. 5–13–30. The Tremco Manufacturing Company, Cleveland, Ohio. Amended to appear:

TREMCO

412,107. KINGS MEN. Cl. 51. 2–20–45. "42" Products, Inc., doing business as Windsor House, Ltd. Empro Intangibles, Inc., Chicago, Ill. Amended: In the statement, column 1, lines 9 and 10, ", after shave powder" is deleted.

443,764. MAGIC MIST. Cl. 6. 2–21–50. Knapp-Monarch Company. Hunter Products Corp., San Antonio, Tex. Amended to appear:

MAGIC MIST

512,411. OXFORD. Cl. 12. 7–19–49. Oxford Electric Corporation. Oxford Speaker Company, Chicago, Ill. Amended: In the statement, column 1, lines 22 and 23 are deleted and the drawing is amended to appear:

OXFORD

766,816. CORTLAND. Cl. 46. 3–17–64. Cortland Produce Co., Toledo, Ohio. Corrected: In the statement, column 1, line 1, "Company, Inc." should be deleted and *Co.* should be inserted.

767,404. V-BOLT. Cl. 13. 3–31–64. Vol-Shan Industries, Inc. VSI Corporation, Pasadena, Calif. Amended: In the statement, column 2, line 3, "bolts" is deleted and *bolt* is inserted and the drawing is amended to appear:

V-BOLT

776,635. SIROCCO. Cl. 37. 9–8–64. Consolidated Papers, Inc., Wisconsin Rapids, Wis. Amended to appear:

SIROCCO

777,702. COLCREST. Cl. 14. 9–29–64. Colvilles Limited, Glasgow, Scotland. Corrected: In the statement, column 1, line 1, "Colville" should be deleted and *Colvilles* should be inserted.

781,121. CHEM-DIE. Cl. 50. 12–1–64. American Photoengraving Co., Inc., Philadelphia, Pa. Corrected: In the statement, column 1, line 1, after "Co." *, Inc.* should be inserted.

782,940. "SMOOTHEE" BY HONEYDEW. Cl. 46. 1–5–65. General Preserve Company, Inc., Brooklyn, N.Y. Amended to appear:

"Smoothee" by Honeydew

788,245. NAPOLEON AND DESIGN. Cl. 47. 4–13–65. Societe N. Napoleon & Cie, Marseilles, France. Amended: In the statement, column 2, line 1, after "wines" *, excepting champagne and other sparkling wines* is inserted.

878,823. LACET D'OR. Cl. 49. 10–14–69. Maison E. Remy Martin & Co., Societe Anonyme, Cognac, France. Corrected: In the statement, column 2, line 1, "Scotch whisky" should be deleted and *brandy* should be inserted.

881,661. SKY HITCH. Cl. 23. 12–2–69. Sky-Climber, Inc., Gardena, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Washington* should be inserted.

883,441. MANOR HOUSE. Cl. 46. 12–30–69. National Dairy Products Corporation. Krafto Corporation, Chicago, Ill. Amended: In the statement, column 2, lines 3 and 4, "sauce and gravy mixes" is deleted.

884,057. AMERICAN BOY. Cl. 22. 1–13–70. Shakespeare Company, by merger from Shakespear Company, Kalamazoo, Mich. Corrected: In the statement, column 1, before line 1, *Shakespeare Company (Delaware corporation), by merger from* should be inserted and in line 1, "Co." should be deleted and *Company* should be inserted.

884,058. ALL AMERICAN BOY. Cl. 22. 1–13–70. Shakespeare Company, by merger from Shakespeare Company, Kalamazoo, Mich. Corrected: In the statement, column 1, before line 1, *Shakespeare Company (Delaware Corporation), by merger from* should be inserted and in line 1, "Co." should be deleted and *Company* should be inserted.

886,364. DIATYPE. Cl. 38. 2–17–70. Automata Corporation, assignee of Scientific Advances, Inc., Richland, Wash. Corrected: In the statement, column 1, before line 1, *Automata Corporation (Washington corporation), 1305 Mansfield Ave., Richland, Wash. 99352, assignee of* should be inserted.

886,493. BREAK THE BANK. Cl. 101. 2–17–70. Bard Advertising, Inc. Chicago, Ill. Corrected: In the statement, column 1, line 1, "or" should be deleted and *of* should be inserted.

886,495. COMPROP. Cl. 101. 2–17–70. Robert David Guthrie, Fullerton, Calif. Corrected: In the heading, "Ser. No. 318,859" should be deleted and *Ser. No. 318,959* should be inserted.

886,650. ROYAL LONDON. Cl. 22. 2–24–70. Royal London, Ltd., New York, N.Y. Corrected: In the statement, column 2, line 1, "cheese" should be deleted and *chess* should be inserted.

886,709. DIATYPE. Cl. 26. 2–24–70. Automata Corporation, assignee of Scientific Advances, Inc., Richland, Wash. Corrected: In the statement, column 1, before line 1, *Automata Corporation (Washington corporation), 1305 Mansfield Ave., Richland, Wash. 99352, assignee of* should be inserted.

886,799. SEIDEL'S. Cl. 46. 2–24–70. Ad. Seidel & Son Inc., Elk Grove Village, Ill. Corrected: In the statement, column 1, line 1, "Siedel" should be deleted and *Seidel* should be inserted.

886,819. LIGHT N' LIVELY. Cl. 46. 2–24–70. Kraftco Corporation, now by change of name from National Dairy Products Corporation, New York, N.Y. Corrected: In the statement, column 1, before line 1, *Kraftco Corporation, now by change of name from* should be inserted.

887,072. BLACK CAT AND DESIGN. Cl. 22. 3–3–70. Harold J. Searer, doing business as Searer Rubber Company, Akron, Ohio. Corrected: In the statement, column 2, line 3, "Aug. 20" should be deleted and *Aug. 30* should be inserted.

887,231. MATCHMAKERS. Cl. 46. 3–3–70. Rowntree Mackintosh Limited, by change of name from Rowntree and Company Limited, York, England. Corrected: In the statement, column 1, line 2 should be deleted and in line 3, "York, England" should be deleted and *York, Y01 1XY, England* should be inserted.

887,240. COFFEETWIN. Cl. 46. 3–3–70. Kraftco Corporation, now by change of name from National Dairy Products Corporation, New York, N.Y. Corrected: In the statement, column 1, before line 1, *Kraftco Corporation, now by change of name from* should be inserted.

887,615. JEWEL-TONE. Cl. 51. 3–10–70. Jean D'Arc, Ltd., Chicago, Ill. Corrected:

JEWEL-TONE

INDEX OF REGISTRANTS

MAY 12, 1970

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

ABC Films, Inc., New York, from Cosmetically Yours, Inc., Yonkers, N.Y. 891,033, pub. 6–10–69. Cl. 51.
ABC Films, Inc., New York, N.Y. 891,117, pub. 6–10–69. Cl. 107.
ARA, Inc., West Covina, Calif. 890,762, pub. 2–24–70. Cl. 12.
Abbott Distributing Co., El Segundo, Calif. 890,905, pub. 7–8–69. Cl. 37.
Abex Corp., New York, N.Y. 890,892, pub. 6–4–68. Cl. 34.
Acheson Industries, Inc. : *See*—
International Acheson Graphite Co.
Acme Shear Co., The : *See*—
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Acme Shear Co., The, Bridgeport, Conn. 522,058, ren. 5–12–70. Cl. 23.
Activa Products, Inc., San Francisco, Calif. 890,761, pub. 2–24–70. Cl. 12.
Adams-Millis Corp., High Point, N.C. 767,223, canc. Cl. 39.
Advance Car Mover Co., Inc. : *See*—
McLeish, Wm.
Agway, Inc., De Witt, N.Y. 890,901. Cl. 35.
Air Technology Associates, Baltimore, Md. 890,877, pub. 2–24–70. Cl. 26.
Air-Flo Compressor & Mfg., Inc., Cuyahoga Falls, Ohio. 890,869, pub. 2–24–70. Cl. 23.
Alcon Laboratories, Inc., Fort Worth, Tex. 890,976, pub. 2–24–70. Cl. 44.
Alim Association, Inc., Miami, Fla. 767,027, canc. Cl. 19.
Allen, S. L. & Co., Inc., Philadelphia, Pa., to The Leisure Group, Inc., Los Angeles, Calif. ren. 5–12–70. Cl. 23.
All-Sports Medications, Inc., d.b.a. All Sports Medications, Tupelo, Miss. 766,967, canc. Cl. 6.
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Amazon Cotton Mills Co., Thomasville, N.C. 267,046, cor. Cl. 43.
American Dairy Queen Corp., Minneapolis, Minn. 890,980, pub. 9–3–68. Cl. 46.
American Home Products Corp., New York, N.Y. 767,294, canc. Cl. 52.
American Home Products Corp., New York, N.Y. 890,809, pub. 2–24–70. Cl. 18.
American Modoc, Inc., Davis, Calif. 890,718, pub. 2–24–70. Cl. 1.
American Optical Corp., Southbridge, Mass. 891,091–2, pub. 2–24–70. Cl. 100.
American Photoengraving Co., Inc., Philadelphia, Pa. 781,121, cor. Cl. 50
American Steel Foundries, to Amsted Industries Inc., Chicago, Ill. 524,177, ren. 5–12–70. Cl. 14.
Amsted Industries Inc. : *See*—
American Steel Foundries.
Anaconda Wire & Cable Co., New York, N.Y. 890,839, pub. 2–24–70. Cl 21.
Anthony, Mark Drug Co., Inc., Miami, Fla. 891,049, pub. 2–24–70. Cl. 51.
Apex Management, Inc., Cromwell, Ind. 767,120, canc. Cl. 23.
Ar Chem Corp., Portsmouth, Ohio. 890,736, pub. 12–2–69. Cl. 6.
Arctic Enterprises, Inc., Thief River Falls, Minn. 890,813, pub. 12–3–68. Cl. 19.
Arrow Liqueurs Corp., d.b.a. McMaster Import Co., Detroit, Mich 767,276, canc. Cl. 49.
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Peek Frean & Co. Ltd.
Atlantic Powdered Metals, Inc., New York, N.Y. 519,516, ren. 5–12–70. Cl. 11.
Atlas Imperial Diesel Engine Co., Oakland, Calif., to White Motor Corp., Cleveland, Ohio. 519,412, ren. 5–12–70. Cl. 23.
Auergesellschaft G.m.b.H., Berlin, Germany. 890,897, pub. 2–24–70. Cl. 34.
Automata Corp., assignee of Scientific Advances, Inc., Richland, Wash. 886,364, cor. Cl. 38.
Automata Corp., assignee of Scientific Advances, Inc., Richland, Wash. 886,079, cor. Cl. 26.
Avalon Hill Co., The, Baltimore, Md. 767,061, canc. Cl. 22.
Avisun Corp., Philadelphia, Pa. 766,928, canc. Cl. 1.
Avon Products, Inc., New York, N.Y. 891,029–30, pub. 9–17–68. Cl. 51.
Avon Products, Inc., New York, N.Y. 891,034–5, pub. 2–24–70. Multiple Class (Classes 51 and 52).
Avon Products, Inc., New York, N.Y. 891,038–41, pub. 2–24–70. Multiple Class (Classes 51 and 52).
Avon Products, Inc., New York, N.Y. 891,059–60, pub. 2–24–70. Cl. 51.
B.S.A. Harford Pumps, London, England. 767,087, canc. Cl. 23.
Bahcock Mfg. Co., Oakland, Calif. 890,873, pub. 2–24–70. Cl. 23.
Baker & Co., Inc., to Engelhard Minerals & Chemical Corp., Newark, N.J. 525,274, ren. 5–12–70. Cl. 44.
Baker Industries, Inc, Newark, N.J. 890,826, pub. 10–21–69. Multiple Class (Classes 21, 100, 103, and 104).
Baldwin-Lima-Hamilton Corp., Philadelphia, Pa. 767,123, canc. Cl. 23.
Bard Advertising, Inc., Chicago, Ill. 886,493, cor. Cl. 101.
Bau-Stahlgewebe G.m.b.H., Oberkassel, Germany. 890,763, pub. 2–24–70. Cl. 12.
Beautifax, Inc., Minneapolis, Minn. 891,053, pub. 2–24–70. Cl. 51.
Beecham Inc., Clifton, N.J. 891,054, pub. 1–27–70. Cl. 51.
Berol Corp., Danbury, Conn., from Formulabs Industrial Inks, Inc., Escondido, Calif. 890,755, pub. 7–29–69. Cl. 11.
Bianchi, Joseph S., d.b.a. Bianchi Music Co., Fullerton, Calif. 767,201, canc. Cl. 38.
Bird Space Technology, Inc., Palm Springs, Calif. 890,812, pub. 2–24–70. Cl. 19.
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Boise Cascade Corp. : *See*—
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Bombardier Ltd., Valcourt, Quebec, Canada. 890,848, pub. 2–24–70. Cl. 22.
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Bradford, Kenneth C., d.b.a. Bradford & Co., Anaheim, Calif. 767,091, canc. Cl. 23.
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Brill, H. C., Co., Inc., Cedar Grove, N.J. 890,990, pub. 6–10–69. Cl. 46.
Bristol-Myers Co., New York, N.Y. 890,795, pub. 2–24–70. Cl. 18.
Bristol-Myers Co., New York, N.Y. 890,797–8, pub. 2–24–70. Cl. 18.
Bristol-Myers Co., New York, N.Y. 890,805, pub. 2–24–70. Cl. 18.
British Cod Liver Oils (Hull & Grimsby) Ltd., to Marfleet Refining Co. Ltd., Hull, England. 521,082, ren. 5–12–70. Cl. 46.
Brizard, Marie, et Roger, Inc., New York, N.Y. 891,027, pub. 2–24–70. Cl. 49.
Broadmoor Industries, Ltd., Des Plaines, Ill. 890,831, pub. 2–24–70. Cl. 21.
Brookwood Farms, Inc., Siler City, N.C. 891,001, pub. 2–24–70. Cl. 46.
Bublick, Joseph, & Sons, to Morris Bublick, Max Bublick & David V. Holland, Chicago, Ill. 511,222, ren. 5–12–70. Cl. 39.
Bublick, Max : *See*—
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Bublick, Morris : *See*—
Bublick, Joseph, & Sons.
Buckeye Steel Castings Co., The, Columbus, Ohio. 523,599, ren. 5–12–70. Cl. 19.
Bucks County Bank & Trust Co., Perkasie, Pa. 891,107, pub. 2–24–70. Cl. 102.
Buffalo Oil Paint & Varnish Co., Buffalo, to Bisonite Co., Inc., Tonawanda, N.Y. 76,307, ren. 5–12–70. Cl. 16.
Butterfield, Fred, & Co., Inc., New York, N.Y., to Cone Mills Corp., Greensboro, N.C. 269,073, ren. 5–12–70. Cl. 42.
Cable Electric Products Inc., Providence, R.I. 890,834, pub. 2–24–70. Cl. 21.
California State Electronics Association, Hawthorne, Calif. 891,124, pub. 2–24–70. Cl. 200.
Camp & McInnes, Inc., Reading, Pa. 890,958, pub. 2–24–70. Cl. 39.
Campana Sales Co., d.b.a. Anjou & Parfums Anjou, New York, N.Y., to Purex Corp., Ltd., Lakewood, Calif. 525,489, ren. 5–12–70. Cl. 51.
Campbell-Ewald Co., Detroit, Mich. 522,431, ren. 5–12–70. Cl. 101.
Caprini Shoe Corp., New York, N.Y. 767,224, canc. Cl. 39.
Carlisle Chemical Works, Inc., Reading, Ohio. 890,733, pub. 7–2–68. Cl. 6.
Carlson, Chesley F., Co., Minneapolis, Minn. 767,192, canc. Cl. 37.
Carlyle Shirt Co., Inc., New York, N.Y. 890,956, pub. 12–9–69. Cl. 39.
Cassandra, Inc., Pasadena, Calif. 767,215, canc. Cl. 39.
Castle & Cooke, Inc. : *See*—
Paulus Bros. Packing Co.
Caulk, L. D., Co., The, Milford, Del., to Dentsply International Inc., York, Pa. 520,815, ren. 5–12–70. Cl. 26.
Cavanagh, John, Ltd., to Hat Corp. of America, New York, N.Y. 270,725, ren. 5–12–70. Cl. 39.
Caxton Chocolate Co. Ltd., London, England. 890,987, pub. 3–25–69. Cl. 46.
Cello Chemical Co., The, Baltimore, Md. 890,742, pub. 2–24–70. Cl. 6.
Central Cheese Co., to Central Sales & Investment, Inc., Marshfield, Wis. 518,229, ren. 5–12–70. Cl. 46.
Central Sales & Investment, Inc. : *See*—
Central Cheese Co.

Centriline Corp., to Raymond International Inc., New York, N.Y. 524,529–30, ren. 5–12–70. Cl. 103.
Cerro Corp., New York, N.Y. 890,837, pub. 2–24–70. Cl. 21.
Char-Lynn Co., Eden Prairie, Minn. 890,855, pub. 2–24–70. Cl. 23.
Charter Industries, Inc., New Brunswick, N.J. 766,944, canc. Multiple Class (Classes 1 and 39).
Chatten Drug & Chemical Co.: *See*—
Brayten Pharmaceutical Co.
Chemgas of America, Inc., St. Petersburg, Fla. 890,745, pub. 2–24–70. Cl. 6.
Chemical Associates, Inc., Houston, Tex. 891,067, pub. 2–24–70. Cl. 52.
Chemtrust Industries Corp., Maywood, Ill. 890,787, pub. 2–24–70. Cl. 16.
Chemway Corp., Wayne, N.J. 891,044, pub. 2–24–70. Cl. 51.
Cherberg Co., Inc., Philadelphia, Pa. 767,230, canc. Cl. 39.
Chesebrough-Pond's Inc., New York, N.Y. 891,064, pub. 2–24–70. Cl. 51.
Chicago Steel Service Co., Chicago, Ill. 767,204, canc. Cl. 38.
Children's Village, Inc., The, Dobbs Ferry, N.Y. 890,927, pub. 2–24–70. Cl. 38.
Children's Village, Inc., The, Dobbs Ferry, N.Y. 891,094, pub. 2–24–70. Cl. 100.
Church, Bruce, Inc., d.b.a. BC Seeds, Salinas, Calif. 890,721, pub. 2–24–70. Cl. 1.
Circus Circus, Inc., Las Vegas, Nev. 891,114, pub. 2–24–70. Cl. 107.
Clements Mfg. Co., Chicago, Ill. 527,628, ren. 5–12–70. Cl. 21.
Cleveland Twist Drill Co., The, Cleveland, Ohio. 527,655, ren. 5–12–70. Cl. 23.
Clinique Laboratories, Inc., New York, N.Y. 891,036–7, pub. 2–24–70. Cl. 51.
Clinton Engines Corp., Maquoketa, Iowa. 767,101, canc. Cl. 23.
Cluett, Peabody & Co. Inc.: *See*—
Gibbs & Co.
Colgate-Palmolive Co.: *See*—
Colgate-Palmolive-Peet Co.
Colgate-Palmolive-Peet Co., Chicago, Ill., to Colgate-Palmolive Co., New York, N.Y. 269,034, ren. 5–12–70. Cl. 51.
Collins & Aikman Corp., New York, N.Y. 767,246, canc. Cl. 42.
Colprovia Roads, Inc., Rochester, N.Y. 267,807, ren. 5–12–70. Cl. 12.
Columbia Broadcasting System, Inc., New York, N.Y. 890,731, pub. 2–24–70. Multiple Class (Classes 4, 21, and 36).
Columbus McKinnon Corp., Tonawanda, N.Y. 890,874, pub. 2–24–70. Cl. 23.
Colvilles Ltd., Glasgow, Scotland. 777,702, cor. Cl. 14.
Commander, II Charles J., New Orleans, La. 891,084, pub. 2–24–70. Cl. 100.
Compania Insular Tabacalera, S.A., Canaria, Canary Islands. 890,788, pub. 2–24–70. Cl. 17.
Computer Control Systems, Inc., Dallas, Tex. 890,883, pub. 2–24–70. Cl. 26.
Cone Mills Corp.: *See*—
Butterfield, Fred, & Co., Inc.
Conroy Aircraft Corp., Goleta, Calif. 890,816, pub. 2–24–70. Cl. 19.
Consolidated Papers, Inc., Wisconsin Rapids, Wis. 776,635. Am. 7(d). Cl. 37.
Consumer Specialties Corp., Atlanta, Ga. 766,932, canc. Cl. 1.
Continental Distilling Corp., Philadelphia, Pa. 891,025, pub. 1–20–70. Cl. 49.
Continental Elastic Corp., to Stalastic-Smith, Inc., New Bedford, Mass. 520,401, ren. 5–12–70. Cl. 40.
Cooper Laboratories, Inc., Bedford Hills, N.Y. 890,802, pub. 2–24–70. Cl. 18.
Cooper-Atlon, Inc., Ann Arbor, Mich. 890,846–7, pub. 2–24–70. Cl. 22.
Cort Cosmetics, Inc., Stamford, Conn. 767,290, canc. Cl. 51.
Cortland Produce Co., Toledo, Ohio. 766,816, cor. Cl. 46.
Cory Corp., Chicago, Ill. 890,933, pub. 2–24–70. Cl. 38.
Cosmetically Yours, Inc.: *See*—
ABC Films, Inc.
Cowles Detergent Co., The, Stauffer Chemical Co., New York, N.Y. 266,052, Am. 7(d). Cl. 52.
Crackin' Good Bakers, Inc., Valdosta, Ga. 891,006, pub. 2–24–70. Cl. 46.
Crane Packing Co., Morton Grove, Ill. 890,900, pub. 2–24–70. Cl. 35.
Crest Art, Inc., Atlanta, Ga. 890,908, pub. 2–24–70. Cl. 37.
Crompton Co., New York, N.Y. 522,417, ren. 5–12–70. Cl. 42.
Crompton Co., New York, N.Y. 522,419, ren. 5–12–70. Cl. 42.
Crown Nut Co., Inc., Kingston, Pa. 767,259, canc. Cl. 46.
Crumrine, Harold A.: *See*—
Thorpe, Harry F.
Cuculo Imports, Ltd., New York, N.Y. 890,952–3, pub. 2–24–70. Cl. 39.
Curley-Bates Co., Burlingame, Calif. 890,844, pub. 2–24–70. Cl. 22.
Current History, Inc., Philadelphia, Pa. 890,937, pub. 2–24–70. Cl. 38.
Danby Imported Cigar Corp., d.b.a. Danby Imported Cigars Corp., New York, N.Y. 890,789, pub. 2–24–70. Cl. 17.
D'Arc, Jean, Ltd., Chicago, Ill. 887,615, cor. Cl. 51.
Dart Industries Inc., d.b.a. The Seamless Rubber Co., from Rexall Drug & Chemical Co., d.b.a. The Seamless Rubber Co., Los Angeles, Calif. 890,841, pub. 9–23–69. Cl. 22.
Dart Industries Inc., d.b.a. Vanda Beauty Counselor, Los Angeles, Calif. 890,931, pub. 2–24–70. Cl. 38.
Data Processing Management Association, Park Ridge, Ill. 767,303, canc. Cl. 100.
Davis, E. E., d.b.a. E. E. Davis Packing Co., to Davis Packing Co., Phoenix, Ariz. 523,465, ren. 5–12–70. Cl. 46.
Davis Packing Co.: *See*—
Davis, E .E.
Davis Paint Co., to Davis Paint Co., Kansas City, Mo. 444,-135, ren. 5–12–70. Cl. 16.
Davison, Lawrence L., d.b.a. Cinch-O-Matic Sales Co., Houston, Tex. 890,851, pub. 2–24–70. Cl. 22.
Dawe's Laboratories, Inc., Chicago, Ill. 890,801, pub. 12–2–69. Cl. 18.
Dearborn Motors Corp., Detroit, to Ford Motor Co., Dearborn, Mich. 521,728, ren. 5–12–70. Cl. 23.
Decorator Industries, Inc., Pittsburgh, Pa. 890,963, pub. 1–21–69. Cl. 42.
Delatour, E. & Cie, S.A., St. Croix, Virgin Islands. 891,026, pub. 2–24–70. Cl. 49.
Delfino, Joseph, d.b.a. Joseph Delfino & Sons, to Joseph Delfino & Sons Inc., Port Chester, N.Y. 443,602, ren. 5–12–70. Cl. 46.
Delta Brush Mfg. Corp., New York, N.Y. 524,470, ren. 5–12–70. Cl. 29.
Delta Prime Water Conditioner Co., Mountain View, Calif. 890,889, pub. 2–24–70. Cl. 31.
Delta Products, Inc., Grand Junction, Colo. 890,833, pub. 12–2–69. Cl. 21.
Demos, Stanley J., d.b.a. Stanley Demos, Cincinnati, Ohio. 891,000, pub. 2–24–70. Cl. 46.
Dentsply International Inc.: *See*—
Caulk, L. D., The.
Detroit Hockey Club, Inc., The, Detroit, Mich. 891,121, pub. 2–24–70. Cl. 107.
Deytron Co., The, Odessa, Tex. 766,962, canc. Cl. 6.
Di Monique Wigs Inc., Bronx, N.Y. 890,962, pub. 2–24–70. Cl. 40.
Directional Industries, Inc., New York, N.Y. 890,891, pub. 2–24–70. Cl. 32.
Ditisheim & Cie, to Fabrique des Montres Vulcain et Studio S.A., La Chaux-de-Fonds, Switzerland. 524,140, ren. 5–12–70. Cl. 27.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 890,912, pub. 1–13–70. Cl. 37.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 890,915, pub. 1–6–70. Cl. 37.
Dobson, Grace W., d.b.a. Whataburger Drive Inns, Corpus Christi, Tex. 891,082, pub. 2–24–70. Cl. 100.
Dockson Corp., Detroit, Mich. 524,128, ren. 5–12–70. Cl. 26.
Douglas Dynamics Corp., Milwaukee, Wis. 890,859, pub. 2–24–70. Cl. 23.
Dow Corning Corp., Midland, Mich. 890,715–16, pub. 2–24–70. Cl. 1.
Dow Corning Corp., Midland, Mich. 890,738, pub. 2–24–70. Cl. 6.
Dow Corning Corp., Midland, Mich. 890,786, pub. 2–24–70. Cl. 16.
Drackett Co., The, Cincinnati, Ohio. 890,730, pub. 2–24–70. Cl. 4.
Drackett Co., The, Cincinnati, Ohio. 891,074–5, pub. 2–24–70. Cl. 52.
Drew Chemical Corp., New York, N.Y. 890,741, pub. 2–24–70. Cl. 6.
Driver-Harris Co.: *See*—
Driver-Harris Wire Co.
Driver-Harris Wire Co., to Driver-Harris Co., Harrison, N.J. 77,049, ren. 5–12–70. Cl. 14.
Drummond Instrument Co., Broomall, Pa. 890,885, pub. 2–24–70. Cl. 26.
Duggan, Ben, Breckinridge, Okla. 766,984, canc. Cl. 12.
Dunhill, Alfred, Ltd., London, England. 527,207, ren. 5–12–70. Cl. 8.
Duoflex Piston Ring Co., Philadelphia, Pa. to Gould Inc., St. Paul, Minn. 270,464, ren. 5–12–70. Cl. 35.
Duplate Corp., to PPG Industries, Inc., Pittsburgh, Pa. 272,-530–1, ren. 5–12–70. Cl. 33.
Duplex Inc., Los Angeles, Calif. 521,478, ren. 5–12–70. Cl. 13.
Dura Business Machines, Inc., Oak Park, Mich. 767,148, canc. Cl. 26.
Dynamics Corp. of America, Garden City, N.Y. 890,881, pub. 2–24–70. Cl. 26.
Dynascan Corp., Chicago, Ill. 890,828, pub. 2–24–70. Multiple Class (Classes 21 and 26).
Eagle, Sid, Associates, Inc., New York, N.Y. 890,957, pub. 2–24–70. Cl. 39.
Earnhardt, Adrienne R., Cocoa, Fla. 890,998, pub. 2–24–70. Cl. 46.
East Texas Pulp & Paper Co., Silsbee, Tex. 766,930, canc. Cl. 1.
Eastman Kodak Co., Rochester, N.Y. 767,000, canc. Cl. 15.
Eaton Crane & Pike Co., to Textron Inc., Pittsfield, Mass. 272,106, ren. 5–12–70. Cl. 37.
Edinburgh Corp., to Morgan Mills, Inc., Laurel Hill, N.C. 527,390, ren. 5–12–70. Cl. 42.
Edison Bros. Stores, Inc., St. Louis, Mo. 890,959, pub. 2–24–70. Cl. 39.
Eelbeck Milling Co., Inc., d.b.a. Juniper Milling Co., Columbus, Ga. 767,265, canc. Cl. 46.
Eisenstadt Mfg. Co., St. Louis, Mo. 522,507, ren. 5–12–70. Cl. 28.
El Diario Publishing Co., Inc., New York, N.Y. 890,926, pub. 2–24–70. Cl. 38.
Electric Products Co., The, Cleveland, Ohio, to Portec, Inc., d.b.a. The Electric Product Co., Oak Brook, Ill. 524,359, ren. 5–12–70. Cl. 21.
Elmcraft, Inc., d.b.a. E-C Art, Chicago, Ill. 890,930, pub. 2–24–70. Cl. 38.
Eltra Corp.: *See*—
U.S. Refractories Corp.
Engelhard Hanovia, Inc.: *See*—
Welch, W. W., Co.
Engelhard Minerals & Chemical Corp.: *See*—
Baker & Co., Inc.
Erinac Equipment Corp., New York, N.Y. 767,112, canc. Cl. 23.
Ernst, Inc., San Francisco, Calif. 890,939, pub. 2–24–70. Cl. 39.
Eutectic Corp., Flushing, N.Y. 890,895, pub. 2–24–70. Cl. 34.

Evans', L. B., Son Co., Wakefield, Mass. 890,946, pub. 2–24–70. Cl. 39.
Everyouth Inc., Bronx, N.Y. 891,065, pub. 2–24–70. Cl. 51.
Excelled Sheepskin & Leather Coat Co., Inc., New York, N.Y. 890,945, pub. 12–9–69. Cl. 39.
Ex-Cell-O Corp., Detroit, Mich. 767,145, canc. Cl. 26.
F & F Laboratories, Inc., Chicago, Ill. 891,010, pub. 2–24–70. Cl. 46.
Faberge Inc., to Faberge, Inc., New York, N.Y. 519,646, ren. 5–12–70. Cl. 51.
Fabriksaktiebolaget Victoria, Halsingborg, Sweden. 891,071, pub. 2–24–70. Cl. 52.
Fabrique des Montres Vulcain et Studio S.A.: *See*—
Ditisheim & Cie.
Farah Mfg. Co., Inc., El Paso, Tex. 890,940, pub. 10–1–68. Cl. 39.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany. 890,728, pub. 1–20–70. Multiple Class (Classes 3, 7, 12, 22, 35, 39, 42, 43, and 19).
Farm Fresh Cream Wip Corp., Lynbrook, N.Y. 891,011, pub. 12–23–69. Cl. 46.
Farmer Bros. Co., Torrance, Calif. 891,007, pub. 2–3–70. Cl. 46.
Farmers Regional Cooperative, Fort Dodge, Iowa. 890,997, pub. 2–24–70. Cl. 46.
Farrel Corp., Ansonia, Conn. 767,088, canc. Cl. 23.
Fashion Two Twenty, Inc., Aurora, Ohio. 891,047, pub. 2–24–70. Cl. 51.
Federal Phosphorus Co., Birmingham, Ala., to Monsanto Co., St. Louis, Mo. 271,947, ren. 5–12–70. Cl. 6.
Federal Sign & Signal Corp.: *See*—
Hayes Track Appliance Co.
Felsway Shoe Corp., The, New York, N.Y. 890,955, pub. 2–24–70. Cl. 39.
Fenton Mfg. Co., Gardena, Calif. 890,785, pub. 2–24–70. Cl. 16.
Flex-O-Glass, Inc., d.b.a. Warp Brothers, Chicago, Ill. 890,-825, pub. 2–24–70. Cl. 20.
Florasynth, Inc.: *See*—
Florasynth Laboratories, Inc.
Florasynth Laboratories, Inc., New York, to Florasynth, Inc., Bronx, N.Y. 524,677, ren. 5–12–70. Cl. 45.
Foam Fashion Forum, Newark, N.J. 891,083, pub. 2–24–70. Cl. 100.
Ford Motor Co.: *See*—
Dearborn Motors Corp.
Formfit Co., The, Chicago, Ill., to Genesco Inc., Nashville, Tenn. 521,116, ren. 5–12–70. Cl. 39.
Formulabs Industrial Inks, Inc.: *See*—
Berol Corp.
Fortifiber Corp.: *See*—
Sherman Paper Products Corp.
Foundry Equipment Manufacturers Association, Washington, D.C. 891,123, pub. 2–24–70. Cl. 200.
"42" Products, Inc., d.b.a. Windsor House, Ltd., Empro Intangibles, Inc., Chicago, Ill. 412,107, Am. 7(d). Cl. 51.
Freeman-Toor Corp., Beloit, Wis. 890,960, pub. 2–24–70. Cl. 39.
Frito-Lay, Inc., Dallas, Tex. 890,936, pub. 2–24–70. Cl. 38.
Fuji Spinning Co., Ltd., Tokyo, Japan. 890,972, pub. 2–24–70. Cl. 42.
Furane Plastics, Inc., Los Angeles, Calif. 890,717, pub. 2–24–70. Cl. 1.
G & O Mfg. Co., The, New Haven, Conn. 890,899, pub. 2–24–70. Cl. 34.
Gaslite Illinois, Inc., Argo, Ill. 890,771, pub. 2–24–70. Cl. 18.
Geigy Chemical Corp., Ardsley, N.Y. 890,746–8, pub. 2–24–70. Cl. 6.
General Appliance Mfg. Co., Omaha, Nebr. 890,875, pub. 2–24–70. Cl. 23.
General Binding Corp., from Rotobond, Inc., Northbrook, Ill. 890,554, pub. 8–27–69. Cl. 23.
General Devices, Inc., Princeton, N.J. 767,052, canc. Cl. 21.
General Electric Co., East Cleveland, Ohio. 890,880, pub. 2–24–70. Cl. 26.
General Features Corp., New York, N.Y. 528,488, ren. 5–12–70. Cl. 38.
General Mills, Inc., Minneapolis, Minn. 891,015, pub. 2–24–70. Cl. 46.
General Preserve Co., Inc., Brooklyn, N.Y. 782,940, new cert. Cl. 46.
Genesco Inc.: *See*—
Formfit Co., The.
Gibbs & Co., Chicago, Ill., to Cluett, Peabody & Co., Inc., Troy, N.Y. 268,013, ren. 5–12–70. Cl. 39.
Gibson Greeting Cards, Inc., Cincinnati, Ohio. 890,779, pub. 2–24–70. Cl. 15.
Gilbert Paper Co., Menasha, Wis., to The Mead Corp., Dayton, Ohio. 524,708, ren. 5–12–70. Cl. 37.
Gillette Co., The, Boston, Mass. 767,283, canc. Cl. 51.
Given Mfg. Co., to Waste King Corp., Los Angeles, Calif. 521,-488, ren. 5–12–70. Cl. 21.
Glad Hatter, Inc., New York, N.Y. 767,212, canc. Cl. 39.
Glenhaven Ltd., New York, N.Y. 767,233, canc. Cl. 39.
Golden Dawn Hosiery Shops, Wilmington, Del., to Golden Dawn Shops, Inc., Philadelphia, Pa. 271,381, ren. 5–12–70. Cl. 39.
Golden Dawn Shops, Inc.: *See*—
Golden Dawn Hosiery Shops.
Gomco Surgical Mfg. Co., Buffalo, N.Y. 529,039, ren. 5–12–70. Cl. 44.
Goodway, Inc., Philadelphia, Pa. 891,108, pub. 2–24–70. Cl. 101.
Gould Inc.: *See*—
Duoflex Piston Ring Co.
Grace, W. R. & Co., New York, N.Y. 891,004, pub. 2–24–70. Cl. 46.
Graham, Elton R., d.b.a. Graham Chemical Co., Detroit, Mich., to Bonne Bell, Inc., Lakewood, Ohio. 267,865, ren. 5–12–70. Cl. 18.
Granchei Medicine Co., Inc., The, Sabana Llana, Puerto Rico. 890,800, pub. 2–24–70. Cl. 18.
Great Lakes Carbon Corp., New York, N.Y. 766,979, canc. Cl. 12.
Great Lakes Foundry Sand Co., Detroit, Mich. 890,719, pub. 2–24–70. Cl. 1.
Grossniklaus, Alice J., d.b.a. Alpha Cheese Co., Wilmot, Ohio. 521,292, ren. Cl. 46.
Guthrie, Robert David, Fullerton, Calif. 886,495, cor. Cl. 101.
Hakko Metal Industries, Ltd., Osaka, Japan. 890,898, 2–24–70. Cl. 34.
Hall, George P., Inc., New York, N.Y. 767,234, canc. Cl. 39.
Hang Ups Sportswear, Ltd., New York, N.Y. 890,944, pub. 2–24–70. Cl. 39.
Hanna, Daniel C., d.b.a. Hanna Construction Co., Portland, Oreg. 890,858, pub. 2–24–70. Cl. 23.
Hardward, D. P. Harris & Mfg. Co., Inc., New York, N.Y. 890,-823, pub. 2–24–70. Cl. 19.
Harnell, Inc., Venice, Calif. 767,059, canc. Cl. 22.
Hasbro Industries, Inc., Pawtucket, R.I. 890,909–11, pub. 2–24–70. Cl. 37.
Hat Corp. of America: *See*—
Cavanagh, John, Ltd.
Hayes Track Appliance Co., Richmond, Ind., to Federal Sign & Signal Corp., Chicago, Ill. 522,602, ren. 5–12–70. Cl. 23.
Heinemann Electric Co., Trenton, N.J. 528,383, ren. 5–12–70. Cl. 21.
Heggblade-Margueas Co., San Francisco, Calif. 767,269, canc. Cl. 46.
Helwig & Leitch, Baltimore, Md., to Mount Olive Pickle Co., Inc., Mount Olive, N.C. 267,115, ren. 5–12–70. Cl. 46.
Hershey Foods Corp., Hershey, Pa. 890,991, pub. 2–24–70. Cl. 46.
Herz Mfg. Corp., New York, N.Y., to Sanita Paper Products Co., Inc., Hicksville, N.Y. 520,853, ren. 5–12–70. Cl. 44.
Heublein, G. F., & Bro. Heublein, Inc., Hartford, Conn. 46,616. Am. 7(d). Cl. 49.
Hickory Mountain Farms, Inc., Siler City, N.C. 891,002, pub. 2–24–70. Cl. 46.
Hill, E. W., d.b.a. The Webb Co., Evanston, Ill. 521,568, ren. 5–12–70. Cl. 51.
Hi-Shear Corp., Torrance, Calif. 890,768, pub. 2–24–70. Cl. 13.
Holes-Webway Co., St. Cloud, Minn. 890,913, pub. 2–24–70. Cl. 37.
Holland, David V.: *See*—
Bublick, Joseph, & Sons.
Holloway, W. C., Mexia, Tex. 890,981, pub. 9–3–68. Cl. 46.
Holly Stores, Inc., New York, N.Y. 890,948, pub. 2–24–70. Cl. 39.
Horan, William L., d.b.a. Dixie Cheer-O-Rama, Leesburg, Fla. 891,118, pub. 2–24–70. Cl. 107.
Hubbard-Hall Chemical Co., The, Waterbury, Conn. 766,974, canc. Cl. 10.
Hudson Products, Inc., to Block Drug Co., Inc., Jersey City, N.J. 444,018, ren. 5–12–70. Cl. 51.
Hunt, Philip A., Chemical Corp., Palisades Park, N.J. 890,743, pub. 2–24–70. Cl. 6.
Hunter Industries, d.b.a. Hunter Tools, Santa Fe Springs, Calif. 890,871, pub. 2–27–70. Cl. 23.
Hydro Corp.: *See*—
Lockwood Corp.
Hygrade Food Products Corp.: *See*—
Venice Maid Co., Inc.
IDD, Inc., New York, N.Y. 890,929, pub. 2–24–70. Cl. 38.
ITT Sheraton Corp. of America, Boston, Mass. 891,095, pub. 2–10–70. Cl. 100.
Ideal Industries, Inc., Sycamore, Ill. 890,829, pub. 9–30–69. Multiple Class (Classes 21, 23, and 26).
Imperial International Corp., New York, N.Y. 890,872, pub. 2–24–70. Cl. 23.
Imperial Knife Associated Companies, Inc., Imperial, R.I. 890,870, pub. 2–24–70. Cl. 23.
Infinite Products, Inc., Fort Lauderdale, Fla. 891,073, pub. 2–24–70. Cl. 52.
Institute of Appliance Manufacturers, Washington, D.C. 767,206, canc. Cl. 38.
Insulite Co., The, Minneapolis, Minn., to Boise Cascade Corp., Boise, Idaho. 266,837, ren. 5–12–70. Cl. 12.
International Acheson Graphite Co., Niagara Falls, N.Y., to Acheson Industries, Inc., Port Huron, Mich. 78,519, ren. 5–12–70. Cl. 15.
International Telephone & Telegraph Corp., Chicago, Ill. 767,139, canc. Cl. 26.
Interstate Department Stores, Inc., to Plymouth Wholesale Corp., New York, N.Y. 268,465, ren. 5–12–70. Cl. 42.
Invention Development Co., Santa Fe, N. Mex. 767,181, canc. Cl. 34.
Jackson, Ollie W., d.b.a. Jackson Fish Lure Mfg. Co., Birmingham, Ala. 890,852, pub. 2–24–70. Cl. 22.
Jadow, B., & Sons, Inc., New York, N.Y. 890,867, pub. 2–24–70. Cl. 23.
Jeffrey Galion Inc.: *See*—
Jeffrey Mfg. Co., The.
Jeffrey Galion Inc., Columbus, Ohio. 890,724, pub. 2–24–70. Cl. 2.
Jeffrey Mfg. Co., The, to Jeffrey Galion Inc., Columbus, Ohio. 518,857, ren. 5–12–70. Cl. 21.
Jenn-Air Corp., Indianapolis, Ind. 890,896, pub. 2–24–70. Cl. 34.
Jensen Bros. Mfg. Co. Inc., Coffeyville, Kans. 767,081, canc. Cl. 23.

John, Robert, Co., King of Prussia, Pa. 890,890, pub. 2-24-70. Cl. 32.
Johnson & Johnson, d.b.a. Baritan Laboratories, New Brunswick, N.J. 890,977, pub. 2-10-70. Cl. 44.
Just Desserts Inc., Cicero, Ill. 891,003, pub. 2-24-70. Cl. 46.
K-M Products, Inc., Troy, Mich. 890,773, pub. 2-24-70. Cl. 13.
Kadison Laboratories, Inc., Chicago, Ill. 890,984, pub. 2-24-70. Cl. 46.
Kaiser Aluminum & Chemical Corp.: *See*—
Permanente Metals Corp., The.
Kamen Enterprises, Inc., Miami, Fla. 767,068, canc. Cl. 22.
Kappa Networks, Carteret, N.J. 890,838, pub. 2-24-70. Cl. 21.
Kastor Oy, Helsinki, Finland. 890,893, pub. 2-24-70. Cl. 34.
Kathi Originals Inc., New York, N.Y. 767,227, canc. Cl. 39.
Keil-Dot Industries, Inc., Wichita, Kans. 767,103, canc. Cl. 23.
Keltec, Inc., Elkhart, Ind. 890,860-1, pub. 2-24-70. Cl. 23.
Kendall Co., The, Walpole, Mass. 890,965, pub. 2-24-70. Cl. 42.
Kendermann, Hermann, Wiesbaden, Germany. 891,020, pub. 1-6-70. Cl. 47.
Keolyn Plastics, Inc., Chicago, Ill. 891,099, pub. 5-27-69. Cl. 101.
Kessler, Stuart P., d.b.a. Stuart P. Kessler Co., Mukwonago, Wis. 767,119, canc. Cl. 23.
King Bros. Shoe Co., Bristol, Tenn. 527,567, ren. 5-12-70. Cl. 39.
Kingsbacher-Murphy Co., Los Angeles, Calif. 890,906, pub. 12-24-68. Cl. 37.
Kinnee, Grace E., d.b.a. H. E. Kinnee Co., Detroit, Mich. 767,060, canc. Cl. 22.
Kit Mfg. Co., Long Beach, Calif. 890,822, pub. 2-24-70. Cl. 19.
Klopman Mills, Inc., Rockleigh, N.J. 890,966-71, pub. 1-6-70. Cl. 42.
Knapp-Monarch Co. Hunter Products Corp., San Antonio, Tex. 443,764. Am. 7(d). Cl. 6.
Knotter, J. De Witt: *See*—
Thorpe, Harry F.
Knowles, Crompton & Corp., Worcester, Mass. 890,723, pub. 2-24-70. Multiple Class (Classes 2, 6, 12, 18, 19, and 23).
Koscot Interplanetary, Inc., Orlando, Fla. 891,042, pub. 2-3-70. Cl. 51.
Kraftco Corp., now by change of name from National Dairy Products Corp., New York, N.Y. 886,819, cor. Cl. 46.
Kraftco Corp., now by; change of name from National Dairy Products Corp., New York, N.Y. 887,240, cor. Cl. 46.
Kuhlman Corp., Troy, Mich. 890,836, pub. 2-24-70. Cl. 21.
Kwikie Duplicating, Inc., Southfield, Mich. 891,102, pub. 2-24-70. Cl. 101.
Kwit-Smoke Inc., Atlanta, Ga. 810,588, canc. Cl. 18.
Kwit-Smoke Inc., Atlanta, Ga. 816,368, canc. Cl. 18.
L & F Heating & Air Conditioning Co., Pittsburgh, Pa. 767,184, canc. Cl. 34.
Laboratoire Garnier S.A., Paris, France. 891,045, pub. 2-24-70. Cl. 51.
Lakeside Central Co., Chicago, Ill. 767,195, canc. Cl. 37.
Lamont, James H., & Co., Ltd., to James H. Lamont & Co. Ltd., Edinburgh, Scotland. 267,338, ren. 5-12-70. Cl. 13.
Landers, Frary & Clark, New Britain, Conn. 767,046, canc. Cl. 21.
Lander, Archibald, & Co., Ltd., Glasgow, to Archibald Lauder & Co., Ltd., Dumbarton, Scotland. 526,233, ren. 5-12-70. Cl. 49.
Laurent, J., Corp., New York, N.Y. 767,284, canc. Cl. 51.
Leeds, Philip R., New York, N.Y. 767,245, canc. Cl. 39.
Leisure Group, Inc., The: *See*—
Alleen, S. L., & Co., Inc.
Lestoil Products, Inc., Holyoke, Mass. 767,298, canc. Cl. 52.
Lever Brothers Co., New York, N.Y. 891,066, pub. 2-24-70. Cl. 51.
Lever Brothers Co., New York, N.Y. 891,076, pub. 2-24-70. Cl. 52.
Lilly, Eli, & Co., Indianapolis, Ind. 890,749, pub. 2-24-70. Cl. 6.
Lilly-Tulip Cup Corp., New York, N.Y. 890,904, pub. 2-24-70. Cl. 37.
Little Switzerland Brewing Co., Huntington, W.Va. 891,023, pub. 2-24-70. Cl. 48.
Live Food Products Co., Burbank, Calif. 890,811, pub. 2-24-70. Cl. 18.
Lockwood Corp., Gering, Nebr., from Hydro Corp., Amarillo, Tex. 890,864, pub. 2-24-70. Cl. 23.
Loesch Laboratory Consultants, Inc., d.b.a. Loesch, Houston, Tex. 890,793, pub. 2-24-70. Cl. 18.
L'Oreal, Paris, France. 891,028, pub. 2-24-70. Cl. 51.
L'Oreal, Paris, France. 891,048, pub. 2-24-70. Cl. 51.
Lorillard Corp., New York, N.Y. 890,790-1, pub. 2-24-70. Cl. 17.
Lowell Industries, Inc., Boston, Mass. 890,713, pub. 2-24-70. Cl. 1.
Lowenstein, M., & Sons, Inc., New York, N.Y. 767,247, canc. Cl. 42.
Lubrizol Corp., The, Cleveland, Ohio. 890,739, pub. 2-24-70. Cl. 6.
Lucky Stores, Inc., San Leandro, Calif. 891,014, pub. 2-24-70. Cl. 46.
Lusk Candy Co., Davenport, Iowa. 890,985, pub. 2-24-70. Cl. 46.
M & E Nut Co., Inc., St. Joseph, Mo. 767,260, canc. Cl. 46.
M. H. H. Engineering Co. Ltd., Bramley, Surrey, England, from Torque Controls, Inc., South El Monte, Calif. 890,853, pub. 11-7-67. Cl. 23.
M. H. H. Engineering Co. Ltd., Surrey, England. 890,856, pub. 3-19-68. Cl. 23.
M. H. H. Engineering Co. Ltd., Bramley, Surrey, England, from Torque Controls, Inc., South El Monte, Calif. 890,876, pub. 3-19-68. Cl. 26.
M & T Chemicals Inc., New York, N.Y. 890,840, pub. 2-24-70. Cl. 21.
Madison Chemical Corp., Maywood, Ill. 891,068, pub. 2-24-70. Cl. 52.
Magazine Management Co., Inc., from Magazine Management Co., d.b.a. Marvel Comics Group, New York, N.Y. 890,916-22, pub. 2-24-70. Cl. 38.
Magnavox Co., The, Fort Wayne, Ind. 890,903, pub. 2-24-70. Cl. 36.
Magnesium Co. of America, Detroit, Mich. 890,818, pub. 2-24-70. Cl. 19.
Maison Barriasson, Cognac (Charente), France. 891,024, pub. 2-24-70. Cl. 49.
Maple Leaf Milling Co. Ltd., to Maple Leaf Mills Ltd., Toronto, Ontario, Canada. 268,633, ren. 5-12-70. Cl. 46.
Maple Leaf Mills Ltd.: *See*—
Maple Leaf Milling Co. Ltd.
Marco Industries Co., Anaheim, Calif. 767,047, canc. Cl. 21.
Marfleet Refining Co. Ltd.: *See*—
British Cod Liver Oils (Hull & Grimsby) Ltd.
Market Fur Dressing Corp., New York, N.Y. 891,110, pub. 2-24-70. Cl. 106.
Marks Polarized Corp., Whitestone, N.Y. 890,783, pub. 2-24-70. Cl. 16.
Marks & Spencer Ltd., London, England. 524,628, ren. 5-12-70. Cl. 39.
Marrow Fabric Co., West Reading, Pa., to Wyomissing Corp., Reading, Pa. 526,326, ren. 5-12-70. Cl. 40.
Marshall Enterprises, Inc., Hialeah, Fla. 890,778, pub. 2-24-70. Cl. 15.
Martin, Joe Industries, Inc., Detroit, Mich. 767,180, canc. Cl. 34.
Martin, Maison E. Remy, & Co., Societe Anonyme, Cognac, France. 878,823, cor. Cl. 49.
Mathews, Abe W., Engineering Co., Hibbing, Minn. 767,082, canc. Cl. 19.
Matmakers, Inc., New York, N.Y. 767,279, canc. Cl. 50.
Mattel, Inc., Hawthorne, Calif. 767,189, canc. Cl. 36.
Mattel, Inc., from Mattel, Inc., Hawthorne, Calif. 890,722, pub. 4-15-69. Cl. 2.
Mattel, Inc., Hawthorne, Calif. 890,845, pub. 9-2-69. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 890,907, pub. 4-1-69. Cl. 37.
Mavest Inc., to Mavest, Inc., New York, N.Y. 528,138, ren. 5-12-70. Cl. 39.
Mayfield Mfg., Co., Inc., Birmingham, Ala. 890,764, pub. 2-24-70. Cl. 12.
McGraw-Hill, Inc., New York, N.Y. 890,938, pub. 2-24-70. Cl. 38.
McLeish, Wm., to Advance Car Mover Co., Inc., Appleton, Wis. 77,477, ren. 5-12-70. Cl. 23.
Mead Corp., The: *See*—
Gilbert Paper Co.
Medicredit, Inc., Narberth, Pa. 891,101, pub. 2-24-70. Cl. 101.
Medi-Synth, Inc., Los Angeles, Calif. 767,016, canc. Cl. 18.
Mediterranean Importing Co., Inc., Long Island City, N.Y. 772,465, canc. Cl. 47.
Merck & Co. Inc., Rahway, N.J. 766,978, canc. Cl. 10.
Meridian Engineering, Inc., Philadelphia, Pa. 891,081, pub. 2-24-70. Cl. 100.
Metra Electronics Corp., Brooklyn, N.Y. 890,832, pub. 2-24-70. Cl. 21.
Mexiglo Co., Los Angeles, Calif. 891,043, pub. 2-24-70. Cl. 51.
Microlectron, Inc., Santa Monica, Calif. 767,043, canc. Cl. 21.
Milbank-Hardy Inc.: *See*—
Minnis, Hilbank Hardy, Inc.
Milchem Inc., Houston, Tex. 890,744, pub. 2-24-70. Cl. 6.
Miles Laboratories, Inc.: *See*—
Takamine Laboratory, Inc.
Mills Publications, Inc., Hoopeston, Ill. 767,205, canc. Cl. 38.
Milprint, Inc., Milwaukee, Wis. 523,283, ren. 5-12-70. Cl. 38.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 767,115, canc. Cl. 23.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 767,173, canc. Cl. 33.
Minnis, Milbank Hardy, Inc., from Milbank-Hardy Inc., New York, N.Y. 890,964, pub. 2-24-70. Cl. 42.
Miquel y Costas & Miquel, S.A., Barcelona, Spain. 890,752, pub. 2-24-70. Cl. 8.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 528,805, ren. 5-12-70. Cl. 6.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 529,035, ren. 5-12-70. Cl. 1.
Monsanto Chemical Works, to Monsanto Co., St. Louis, Mo. 273,144, ren. 5-12-70. Cl. 1.
Monsanto Co.: *See*—
Federal Phosphorus Co.
Monsanto Chemical Works.
Monterey House, Houston, Tex. 891,087-9, pub. 2-24-70. Cl. 100.
Moore, Samuel, & Co., Mantua, Ohio. 890,770, pub. 2-24-70. Cl. 13.
Morgan Mills, Inc.: *See*—
Edinburgh Corp.
Morrison Garment Co., St. Paul, Minn. 528,086, ren. 5-12-70. Cl. 39.
Morton International, Inc., Chicago, Ill. 890,999, pub. 2-24-70. Cl. 46.
Mount Olive Pickle Co., Inc.: *See*—
Helwig & Leitch.
Muradian, Jerry, d.b.a. Jerry Murad, Niles, Ill. 891,113, pub. 2-24-70. Cl. 107.
Murphy, G. W., Industries, Inc.: *See*—
Breco Mfg. Co.
Nalco Chemical Co., Chicago, Ill. 767,006, canc. Cl. 15.
National Association of Real Estate Boards, Chicago, Ill. 891,122, pub. 2-24-70. Cl. 200.

National Automotive Parts Association, Chicago, Ill. 890,814, pub. 2-24-70. Cl. 19.
National Biscuit Co., New York, N.Y. 891,013, pub. 2-24-70. Cl. 46.
National Bundle Tyer Co. SOS Consolidated Inc., Birmingham, Mich. 126,564. Am. 7(d). Cl. 23.
National Dairy Products Corp. Kraftco Corp., Chicago, Ill. 883,441. Am. 7(d). Cl. 46.
National Vulcanized Fibre Co., Wilmington, Del. 767,190, canc. Cl. 37.
Nelson Sales Co., Kansas City, Mo. 890,842, pub. 7-22-69. Cl. 22.
Newspaper Enterprises Association, Inc., Cleveland, Ohio. 890,935, pub. 2-24-70. Cl. 38.
Nielsen Saw & Mfg. Co., d.b.a. Nielsen Corp., Eugene, Oreg. 767,114, canc. Cl. 23.
Norcross, Inc., New York, N.Y. 890,750, pub. 2-24-70. Cl. 7.
Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 521,472, ren. 5-12-70. Cl. 51.
Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 767,812, canc. Cl. 51.
North American Dynamics Corp., Paterson, N.J. 890,982, pub. 4-1-69. Cl. 46.
North American Philips Corp.: *See*—
Ohmite Mfg. Co.
North American Rockwell Corp., El Segundo, Calif. 890,815, pub. 2-24-70. Cl. 19.
North American Rockwell Corp., Pittsburgh, Pa. 890,819, pub. 2-24-70. Cl. 19.
Northern Petro-Chemical Co., Omaha, Nebr. 890,734, pub. 5-27-69. Cl. 6.
Norwich Pharmacal Co., The, Norwich, N.Y. 890,928, pub. 2-24-70. Cl. 38.
Ogden, Stanley D., d.b.a. Aqua-O Products Co., Glendale, Calif. 890,767, pub. 2-24-70. Cl. 13.
Ohmite Mfg. Co., Chicago, Ill. to North American Philips Corp., Skokie, Ill. 523,146, ren. 5-12-70. Cl. 21.
Oil-Dri Corp. of America, Chicago, Ill. 890,754, pub. 2-24-70. Cl. 10.
Olson Bros., Inc., North Hollywood, Calif. 890,988, pub.
Omnione, Inc., Miami, Fla. 891,055-8, pub. 2-24-70. Cl. 51. 2-24-70. Cl. 46.
Omni-Pharm S.A., Basel, Switzerland. 890,993, pub. 2-24-70. Cl. 46.
Ore-Lube Corp., College Point, N.Y. 890,782, pub. 2-24-70. Cl. 5.
Organic Compost Corp., Germantown, Wis. 890,753, pub. 2-24-70. Cl. 10.
Organon Inc., West Orange, N.J. 890,810, pub. 2-24-70. Cl. 18
Originalities of N.Y., Inc., New York, N.Y. 767,193, canc. Cl. 37.
Owens-Corning Fiberglas Corp., Toledo, Ohio. 890,757, pub. 12-9-69. Cl. 12.
Oxo Ltd., London, England. 890,995, pub. 7-8-69. Cl. 46.
Oxford Electric Corp., to Oxford Speaker Co., Chicago, Ill. 512,411. Am. 7(d). Cl. 21.
Oxy-Dry Sprayer Corp., Chicago, Ill. 524,366, ren. 5-12-70. Cl. 21.
PPG Industries, Inc.: *See*—
Duplate Corp.
PPG Industries, Inc.: *See*—
Pittsburgh Plate Glass Co.
Pacific Industries, Inc., d.b.a. Midland Mfg. Co., San Francisco, Calif. 767,048, canc. Cl. 21.
Pacific Technology, Inc., Renton, Wash. 890,878, canc. Cl. 26.
Packaging Corp. of America, Evanston, Ill. 890,914, pub. 2-24-70. Cl. 37.
Pagan Laboratories, Inc., College Point, N.Y. 891,032, pub. 2-24-70. Cl. 51.
Pak-Liter Co., San Francisco, Calif. 766,971, canc. Cl. 8.
Paniplus Co., The, Rye, N.Y. 890,989, pub. 5-27-69. Cl. 46.
Paramed Inc., New York, N.Y. 891,080, pub. 8-20-68. Cl. 100.
Patterson International Corp., Cincinnati, Ohio. 891,104, pub. 2-24-70. Cl. 101.
Paulus Bros. Packing Co., Salem, Oreg., to Castle & Cooke, Inc., d.b.a. Hawaiian Pineapple Co., Honolulu, Hawaii. 525,617-19. ren. 5-12-70. Cl. 46.
Pax-Products, Des Moines, Iowa. 766,980, ren. 5-12-70. Cl. 12.
Peay, Ray d.b.a. Terry Farms, Indio, Calif. 767,268, canc. Cl. 46.
Peek Frean & Co. Ltd., London, to Associated Biscuits Ltd., d.b.a. Huntley & Palmers, and as W. & R. Jacobs & Co., & as Peek, Frean & Co., Reading, England. 266,051, ren. 5-12-70. Cl. 46.
Peerless Lithographing Co., Chicago, Ill. 767,202, canc. Cl. 38.
Peerless Robes & Sportswear, Inc., Waterville, Maine. 890,941, pub 2-24-70. Cl. 39.
Peninsular Paper Co., Ypsilanti, Mich. 767,194, canc. Cl. 37.
Penn Bros., Inc., Sioux Falls, S. Dak. 523,705, ren. 5-12-70. Cl. 46.
Perforated & Expanded Metal Supply, Inc., Hillside, Ill. 890,776, pub. 2-24-70. Cl. 14.
Permanente Metals Corp., The, to Kaiser Aluminum & Chemical Corp., Oakland, Calif. 522,885, ren. 5-12-70. Cl. 14.
Pet Inc.: *See*—
Vinson, Harold S.
Pet Inc., St. Louis, Mo. 891,009, pub. 2-24-70. Cl. 46.
Petera Shoe Co., to Interco Inc., St. Louis, Mo. 46,043. Am. 7(d). Cl. 39.
Petit, Geo. I., Inc., Doylestown, Ohio. 890,983, pub. 11-5-68. Cl. 46.
Pettibone Corp.: *See*—
Pettibone Mulliken Corp.
Pettibone Mulliken Corp., to Pettibone Corp., Chicago, Ill. 525,280, ren. 5-12-70. Cl. 23.
Pfaff & Kendall, Newark, N.J. 767,053, canc. Cl. 21.
Phillips Petroleum Co., Bartlesville, Okla. 890,974, pub. 2-24-70. Cl. 43.
Picture Corp., Minneapolis, Minn. 890,923, pub. 2-24-70. Cl. 38.
Piscitelli, C. P. d.b.a. Seneca Novelty & Printing Co., Seneca Falls, N.Y., to The Acme Shear Co., Bridgeport, Conn. 523,187, ren. 5-12-70. Cl. 26.
Pitney-Bowes, Inc.: *See*—
Tickometer Co., The
Pittsburgh Plate Glass Co., to PPG Industries, Inc., Pittsburgh, Pa. 526,212, ren. 5-12-70. Cl. 16.
Plantation Foods Corp., Miami, Fla. 891,096, pub. 11-25-69. Cl. 101.
Plastics, Inc., St. Paul, Minn. 890,725, pub. 2-24-70. Cl. 2.
Plymouth Wholesale Corp.: *See*—
Interstate Dept. Stores, Inc.
Police Officers Mobile Auxiliary, Kansas City, Mo. 891,125, pub. 2-24-70. Cl. 200.
Polk Miller Products Corp., to A. H. Robins Co., Inc., Richmond, Va. 521,242, ren. 5-12-70. Cl. 18.
Poly Repro International, Ltd., Garden City, N.Y. 767,151, canc. Cl. 26.
Portec, Inc.: *See*—
Electric Products Co., The
Potlatch Forests, Inc., San Francisco, Calif. 890,760, pub. 2-24-70. Cl. 12.
Precision Diamond Tool Co., Elgin, Ill. 890,729, pub. 2-24-70. Multiple Class (Classes 4 and 23).
Professional Dental Products, Inc., to Block Drug Co., Inc., Jersey City, N.J. 444,052, ren. 5-12-70. Cl. 51.
Programming Methods Inc., New York, N.Y. 890,925, pub. 2-24-70. Cl. 38.
Project Physics, Cambridge, Mass. 891,116, pub. 2-24-70. Cl. 107.
Puig Antonio S.A., Barcelona, Spain. 891,070, pub. 2-24-70. Cl. 52.
Purex Corp., Ltd.: *See*—
Campana Sales Co.
Purex Corp, Ltd.: *See*—
Turco Products Inc.
Purex Corp., Ltd., Wilmington, Calif. 766,955, canc. Cl. 4.
Purex Corp., Ltd., Lakewood, Calif. 890,740, pub. 11-11-69. Cl. 6.
Pyle-National Co., The, Chicago, Ill. 527,450, ren. 5-12-70. Cl. 21.
Pyle-National Co., The, Chicago, Ill. 527,474, ren. 5-12-70. Cl. 21.
QRK Electronic Products Inc., Fresno, Calif. 890,902, pub. 2-24-70. Cl. 36.
Quaker Oats Co., The, Chicago, Ill., 891,008, pub. 2-24-70. Cl. 46.
Quality Products Co., Fort Wayne, Ind. 891,077, pub. 2-24-70. Cl. 52.
Questron America, Inc., Ellenville, N.Y. 766,952, canc. Cl. 2.
Questron America, Inc., Ellenville, N.Y. 767,106, canc. Cl. 23.
Rainbow Crafts, Inc., Cincinnati, Ohio. 890,849-50, pub. 2-24-70. Cl. 22.
Ratsey Safety Belts, Inc., New York, N.Y. 767,037, canc. Cl. 19.
Raymond International Inc.: *See*—
Centriline Corp.
Raytheon Co.: *See*—
Raytheon Mfg. Co.
Raytheon Mfg. Co., Newton, to Raytheon Co., Lexington, Mass. 521,083, ren. 5-12-70. Cl. 26.
Red Owl Stores, Inc., Minneapolis, Minn. 891,016-17, pub. 2-24-70. Cl. 46.
Reeves Instrument Corp., Garden City, N.Y. 767,127, canc. Cl. 26.
Releasall Ltd., Montreal, Quebec, Canada. 890,777, pub. 2-24-70. Cl. 15.
Renk, Wm. F. & Sons Co., Inc., Sun Prairie, Wis. 890,714, pub. 2-24-70. Cl. 1.
Republic-Transcon Industries, Inc., d.b.a. Republic Air Conditioning Co., Beverly Hills, Calif. 767,178, canc. Cl. 34.
Research Specialties Co., Richmond, Calif. 767,155, canc. Cl. 26.
Resident, Inc., The, Port Washington, N.Y. 890,932, pub. 2-24-70. Cl. 38.
Rexall Drug & Chemical Co.: *See*—
Dart Industries Inc.
Richardson-Merrell Inc., New York, N.Y. 890,808, pub. 2-24-70. Cl. 18.
Robbins, A. H., Co., Inc.: *See*—
Polk Miller Products Corp.
Robeson Rochester Corp., Rochester, N.Y. 767,041, canc. Cl. 21.
Rockwell Mfg. Co., Pittsburgh, Pa. 767,098, canc. Cl. 23.
Rogers Bros. Corp., Albion, Pa. 528,658, ren. 5-12-70. Cl. 19.
Rohm & Haas Co., Philadelphia, Pa. 766,933, canc. Cl. 1.
Rohto Pharmaceutical Co., Ltd., Osaka, Japan. 890,792, pub. 2-24-70. Cl. 18.
Rollins, Inc., Atlanta, Ga. 891,098, pub. 7-8-69. Multiple Class (Classes 101, 102, 103, and 104).
Rolor Corp., The, Syosset, N.Y. 767,129, canc. Cl. 26.
Rosenthal, Paul, Inc., Great Neck, N.Y. 890,886, pub. 2-24-70. Cl. 26.
Rotobond, Inc.: *See*—
General Binding Corp.
Rowntree Mackintosh Ltd., by change of name from Rowntree and Co. Ltd., York, England. 887,231, cor. Cl. 46.
Royal London, Ltd., New York, N.Y. 886,650, cor. Cl. 22.
Royal London, Ltd., New York, N.Y. 890,751, pub. 2-24-70. Cl. 8.
Rubinow, Roger, d.b.a. Sonny Rogers, Middletown, Conn. 891,119, pub. 2-24-70. Cl. 107.

Rucker Pharmacal Co., Inc., Shreveport, La. 890,796, pub. 2–24–70. Cl. 18.
Rychlik Enterprises Inc., Chicago, Ill. 767,109, canc. Cl. 23.
SW Industries, Inc., Newton, Mass. 890,865, pub. 2–24–70. Cl. 28.
Safdie Moshe, Montreal, Quebec, Canada. 891,093, pub. 2–24–70. Cl. 100.
Sandoz, Inc.: *See*—
Sandoz-Wander, Inc.
Sandoz-Wander, Inc., from Sandoz, Inc., Hanover, N.J. 890,794, pub. 12–23–69. Cl. 18.
Sanita Paper Products Co., Inc.: *See*—
Hers Mfg. Corp.
Save Way Barber Beauty Supplies, Inc., North Miami Beach, Fla. 890,862, pub. 2–24–70. Multiple Class (Classes 23, 29, 40, and 51).
Schappe Ltd., Geneva, Switzerland. 890,951, pub. 2–24–70. Cl. 39.
Schappe Ltd., Geneva, Switzerland. 890,973, pub. 2–24–70. Cl. 42.
Schawk Graphics, Inc., Chicago, Ill. 890,924, pub. 2–24–70. Cl. 38.
Schlumberger Technology Corp., New York, N.Y. 890,827, pub. 2–24–70. Cl. 21.
Sea-Air Chemical Corp., Long Island City, N.Y. 890,784, pub. 2–2–70. Cl. 16.
Searer, Harold J., d.b.a. Searer Rubber Co., Akron, Ohio. 887,072, cor. Cl. 22.
Sears, Roebuck & Co., Chicago, Ill. 767,219, canc. Cl. 39.
Seattle Door Co., Inc., Kirkland, Wash. 890,758, pub. 2–24–70. Cl. 12.
Seaway Foods, Inc., Bedford Heights, Ohio. 890,986, pub. 2–24–70. Cl. 46.
Seiden, Ad, & Son Inc., Elk Grove Village, Ill. 886,799, cor. Cl. 46.
Svenska Turbinfabriks Aktiebolaget Ljungstrom, to Stal-Laval Turbin Aktiebolag, Finspong, Sweden. 523,345, ren. 5–12–70. Cl. 23.
Sexauer, J. A. Mfg. Co., Inc., White Plains, N.Y. 890,775, pub. 2–24–70. Cl. 13.
Seymour, Earl F., New York, N.Y. 767,133, canc. Cl. 26.
Shakespeare Co., by merger from Shakespear Co., Kalamazoo, Mich. 884,087–8, cor. Cl. 22.
Sherman Bros., Inc., New York, N.Y. 767,235, canc. Cl. 39.
Sherman Paper Products Corp., Newton, Mass., to Fortifiber Corp., Los Angeles, Calif. 522,032, ren. 5–12–70. Cl. 2.
Sig: Inc., Cleveland, Ohio. 890,803, pub. 12–30–69. Cl. 18.
Simmons Co., New York, N.Y. 524,621, ren. 5–12–70. Cl. 32.
Simmons Co., New York, N.Y. 525,694–5, ren. 5–12–70. Cl. 32.
Sky-Climer, Inc., Gardena, Calif. 881,661, cor. Cl. 23.
Slamon, Walter W., Grandview, Mo. 890,759, pub. 2–24–70. Cl. 12.
Slayton, Robert, Venice, Calif. 890,947, pub. 2–3–70. Cl. 39.
Silmorama International Corp., New York, N.Y. 891,063, pub. 2–24–70. Cl. 51.
Smith Kline & French Laboratories, Philadelphia, Pa. 272,377 ren. 5–12–70. Cl. 18.
Smucker, J. M. Co., The, Orrville, Ohio. 890,992, pub. 2–24–70. Cl. 46.
Societe Anonyme Automobiles Citroen, Paris, France. 890,817, pub. 2–24–70. Cl. 19.
Societe N. Napoleon & Cie, Marseilles, France. 788,245. Am. 7(d). Cl. 47.
Soderhamns Verkstader Aktiebolag, Soderhamn, Sweden. 767,088, canc. Cl. 23.
Software Sciences Corp., New York, N.Y. 891,115, pub. 2–24–70. Cl. 107.
Sound of Youth, Inc., The, New York, N.Y. 891,111, pub. 2–24–70. Cl. 107.
Southeastern Personnel, Inc., d.b.a. Amcell Personnel Service, Atlanta, Ga. 891,097, pub. 12–2–69. Cl. 101.
Southern Enterprises, Inc., d.b.a. The Whopper-Burger Shop, Hopewell, Va. 791,918, canc. Cl. 46.
Space-Craft Trailer Manufacturers, Inc., Kansas City, Mo. 767,030, canc. Cl. 19.
Spanjer Brothers, Inc., Chicago, Ill. 767,277, canc. Cl. 50.
Spartans Industries, Inc., New York, N.Y. 890,737, pub. 2–24–70. Cl. 6.
Spe-De-Way Products Co., Inc., Portland, Oreg. 890,780, pub. 3–11–69. Cl. 16.
Sperry Rand Corp., New Holland, Pa. 890,857, pub. 2–24–70. Cl. 23.
Sporn, Walter Co., Chicago, Ill. 767,167, canc. Cl. 29.
Springfield Grocer Co., Springfield, Mo. 524,311, ren. 5–12–70. Cl. 46.
Squar-Buff, Inc., Danvers, Mass. 890,863, pub. 2–24–70. Cl. 23.
Squibb, E. R. & Sons, Inc., New York, N.Y. 890,804, pub. 2–24–70. Cl. 18.
Squibb, E. R. & Sons, Inc., New York, N.Y. 890,978, pub. 2–24–70. Cl. 44.
Squirt Co., The, Sherman Oaks, Calif. 528,806, ren. 5–12–70. Cl. 45.
Stalastic-Smith, Inc.: *See*—
Continental Elastic Corp.
Stal-Laval Aktiebolag: *See*—
Sevenska Turbinfabriks Aktiebolaget Ljungstrom.
Standard Oil Co. of Calif., San Francisco, Calif. 891,078, pub. 2–24–70. Cl. 52.
Staymark, Inc., New York, N.Y. 766,931, canc. Cl. 1.
Stein, A. & Co., Inc., Chicago, Ill. 767,220, canc. Cl. 39.
Steinle, Charles, Dallas, Tex. 891,120, pub. 2–24–70. Cl. 107.
Steinway & Sons, Long Island City, N.Y. 522,479, ren. 5–12–70. Cl. 38.
Sterling Drug Inc., New York, N.Y. 891,079, pub. 2–24–70. Cl. 52.
Stoddard, Meryl L., Scottsdale, Ariz. 891,022, pub. 2–24–70. Cl. 46.
Stral Processing Co., Greensboro, Ala. 891,005, pub. 2–24–70. Cl. 46.
Stratmar Systems Inc., New York, N.Y. 891,105, pub. 2–24–70. Cl. 101.
Streit, Aron Inc., New York, N.Y. 891,012, pub. 2–24–70. Cl. 46.
Studio Girl-Hollywood, Inc., Chicago, Ill. 891,112, pub. 2–24–70. Cl. 107.
Stulz-Sickles Co., Elizabeth, N.J. 527,359, ren. 5–12–70. Cl. 14.
Suburban Metal Industries Ltd., Scarboro, Ontario, Canada. 890,765, pub. 4–29–69. Cl. 13.
Suburban Sanitation Service, Akron, Ohio. 891,108, pub. 2–24–70. Cl. 103.
Summit Products Co., Uniontown, Pa. 890,726, pub. 2–24–70. Cl. 2.
Sumthin' Sweet, Inc., Huntington Station, N.Y. 842,652, canc. Cl. 46.
Sun Chemical Corp., New York, N.Y. 890,756, pub. 1–6–70. Cl. 11.
Sun Oil Co., Philadelphia, Pa. 512,577, ren. 5–12–70. Cl. 15.
Sun Oil Co., Philadelphia, Pa. 521,645, ren. 5–12–70. Cl. 38.
Sunbeam Corp., Chicago, Ill. 767,160–61, canc. Cl. 27.
Super Valu Stores, Inc., Hopkins, Minn. 767,264, canc. Cl. 46.
Super-Crafts, Inc., New York, N.Y. 890,888, pub. 2–24–70. Cl. 30.
Sybron Corp., Rochester, N.Y. 890,772, pub. 2–24–70. Cl. 13.
Syndicate Products (1964) Ltd., Winnipeg, Manitoba, Canada. 890,887, pub. 2–24–70. Cl. 29.
T.A.C. Systems, Inc., Sterling, Colo. 890,879, pub. 2–24–70. Cl. 26.
T.G.&Y. Stores Co., Oklahoma City, Okla. 890,712, pub. 2–24–70. Cl. 1.
Takamine Laboratory, Inc., Clifton, N.J. to Miles Laboratories, Inc., Elkhart, Ind. ren. 5–12–70. Cl. 6.
Tani Farms, Santa Maria, Calif. 891,018–19, pub. 2–24–70. Cl. 46.
Technology Corp., Jamaica, N.Y. 766,983, canc. Cl. 12.
Tersis, George C., Pittsburgh, Pa. 890,994, pub. 10–14–69. Cl. 46.
Textron Inc.: *See*—
Eaton, Crane & Pike Co.
Therm-O-Lab Corp., North Hollywood, Calif. 890,830, pub. 2–24–70. Cl. 21.
Thetford Engineering Corp., Ann Arbor, Mich. 890,735, pub. 6–3–69. Cl. 6.
Thorpe, Harry F., to Harold A. Crumrine & J. De Witt Knotter, d.b.a. Thorpe Rolling Pin Co., Cheshire, Conn. 520,743, ren. 5–12–70. Cl. 23.
Thorpe Rolling Pin Co.: *See*—
Thorpe, Harry F.
Thrift Interstate Corp., Pittsburgh, Pa. 891,106, pub. 1–2–68. Cl. 102.
Tickometer Co., The, Cleveland, Ohio, to Pitney-Bowes, Inc., Stamford, Conn. 517,772, ren. 5–12–70. Cl. 26.
Timken Roller Bearing Co., The, Canton, Ohio. 527,512, ren. 5–12–70. Cl. 23.
Todd Chemical Co., Inc., Great Neck, N.Y. 890,782, pub. 2–24–70. Cl. 16.
Todd, Percy, Mfg. Co., Cleveland, Tenn. 890,727, pub. 2–24–70. Cl. 2.
Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan. 890,884, pub. 2–24–70. Cl. 26.
Tomkins Bros., Newark, N.J. 520,245, ren. 5–12–70. Cl. 12.
Torque Controls, Inc.: *See*—
M.H.H. Engineering Co. Ltd.
Transia Ltd., New York, N.Y. 890,961, pub. 11–12–68. Cl. 40.
Transpharma, Inc., New York, N.Y. 767,207, canc. Cl. 38.
Transport Pool, Inc., Fairless Hiss, Pa. 891,090, pub. 2–24–70. Cl. 100.
Tremco Mfg. Co., The, Cleveland, Ohio. 269,117. Am. 7(d). Cl. 12.
Tremco Mfg. Co., The, Cleveland, Ohio. 270,849. Am. 7(d). Cl. 16.
Trent Laboratories (Canada) Ltd., Toronto, Ontario, Canada. 891,046, pub. 1–6–70. Cl. 51.
Turco Products Inc., Los Angeles, to Purex Corp. Ltd., Lakewood, Calif. 270,966, ren. 5–12–70. Cl. 52.
Ultrasonic Industries, Inc., Plainview, N.Y. 767,175, canc. Cl. 34.
Ultra-Violet Products, Inc., San Gabriel, Calif. 890,835, pub. 1–6–70. Cl. 21.
Unil-It S.p.A., Milan, Italy. 890,996, pub. 2–24–70. Cl. 46.
Union Oil Co. of California, Los Angeles, Calif. 528,718, ren. 5–12–70. Cl. 15.
Uniroyal, Inc., from United States Rubber Co., New York, N.Y. 890,711, pub. 2–24–70. Multiple Class (Classes 1, 2, 5, 6, 10, 12, 13, 15, 16, 19, 20, 21, 22, 23, 32, 35, 39, 42, 43, and 50).
United Marine Industries, Inc., Kansas City, Mo. 890,820–1, pub. 2–24–70. Cl. 19.
United States Crown Corp., Saddle Brook, N.J. 767,311, canc. Cl. 50.
U.S. Expansion Bolt Co., York, Pa. 890,769, pub. 2–24–70. Cl. 13.
United States Gypsum Co., Chicago, Ill. 523,849, ren. 5–12–70. Cl. 12.
U.S. Health Club, Inc., Yonkers, N.Y. 890,799, pub. 2–24–70. Cl. 18.
United States Refractories Corp., Mount Union, Pa., to Eltra Corp., New York, N.Y. 266,875, ren. 5–12–70. Cl. 12.
U.S. Rubber Co.: *See*—
Uniroyal, Inc.
United States Tobacco Co., New York, N.Y. 520,389, ren. 5–12–70. Cl. 17.
United States Tobacco Co., New York, N.Y. 521,178–9, ren. 5–12–70. Cl. 17.

United States Tobacco Co., New York, N.Y. 521,181, ren. 5–12–70. Cl. 17.
Unitek Corp., Monrovia, Calif. 890,975, pub. 8–12–69. Cl. 44.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 519,706, ren. 5–12–70. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 519,796, ren. 5–12–70. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 520,074, ren. 5–12–70. Cl. 18.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 523,126, ren. 5–12–70. Cl. 18.
Valentine Laboratories Inc.: *See*—
Walgreen Co.
Varner Ward Leasing Co., San Francisco, Calif. 891,086, pub. 2–24–70. Cl. 100.
Velocitronics Co., The, Monmouth, Ill. 767,137, canc. Cl. 26.
Venice Maid Co., Inc., Vineland, N.J., to Hygrade Food Products Corp., Detroit, Mich. 516,784, ren. 5–12–70. Cl. 46.
Venus Pen & Pencil Corp., New York, N.Y. 767,191, canc. Cl. 37.
Viatron Computer Systems Corp., Burlington, Mass. 891,085, pub. 2–24–70. Cl. 100.
Vidal Sassoon, Inc., New York, N.Y. 891,050, pub. 2–24–70. Cl. 51.
Vinson, Harold S., d.b.a. Crystal Studio, Ottumwa, Iowa, to Pet Inc., St. Louis, Mo. 269,399, ren. 5–12–70. Cl. 46.
Virginia Chemicals & Smelting Co., West Norfolk, Va. 767,293, canc. Cl. 52.
Visual Graphics Corp., New York, N.Y. 766,964, canc. Cl. 6.
Visual Graphics Corp., New York, N.Y. 767,111, canc. Cl. 23.
Vogarell Products, Inc., Los Angeles, Calif. 890,806, pub. 2–24–70. Cl. 18.
Voi-Shan Industries, Inc. VSI Corp., Pasadena, Calif. 767,404. Am. 7(d). Cl. 13.
Vulcan Fusee Co., Los Angeles, Calif. 766,940, canc. Cl. 1.
Vulcan, Inc., Latrobe, Pa. 890,824, pub. 12–2–69. Cl. 20.
Wacoal Inc., Kyoto, Japan. 890,949, pub. 2–24–70. Cl. 39.
Wahl Clipper Corp., Sterling, Ill. 527,562, ren. 5–12–70. Cl. 23.
Waindle, Roger, d.b.a. Technometallurgical Co., Detroit, Mich. 766,995, canc. Cl. 14.
Wales-Strippit Corp., North Tonawanda, N.Y. 767,070, canc. Cl. 28.
Wales-Strippit Corp., North Tonawanda, N.Y. 767,072, canc. Cl. 23.
Wales-Strippit Corp., North Tonawanda, N.Y. 767,075–6, canc. Cl. 23.
Walgreen Co., d.b.a. Valentine Laboratories Inc., to Valentine Laboratories Inc., Chicago, Ill. 268,051, ren. 5–12–70. Cl. 51.
Ward Baking Co., to Ward Foods, Inc., New York, N.Y. 269,936, ren. 5–12–70. Cl. 46.
Ward Baking Co., to Ward Foods, Inc., New York, N.Y. 523,886–7, ren. 5–12–70. Cl. 46.
Ward Foods, Inc.: *See*—
Ward Baking Co.
Warner & Swasey Co., The, Cleveland, Ohio. 890,866, pub. 2–24–70. Cl. 23.
Warner-Lambert Research Institute, Morris Plains, N.J. 890,807, pub. 2–24–70. Cl. 18.
Wass Food Sales, Inc., d.b.a. Wass Food Sales Co., Chicago, Ill. 677,071, canc. Cl. 46.
Waste King Corp.: *See*—
Given Mfg. Co.
Waterlac Finish Co., Inc., Danvers, Mass. 890,781, pub. 6–18–68. Cl. 16.
Wayne Chemical Co., Columbus, Ohio. 891,069, pub. 1–6–70. Cl. 52.
Weber, Eldima, & Co. Ag. Zurich, Zurich, Switzerland. 767,044, canc. Cl. 21.
Welch, W. W. Co., Cincinnati, Ohio, to Engelhard Hanovia, Inc., Newark, N.J. 520,602, ren. 5–12–70. Cl. 21.
Wells Mfg. Co., Inc., New Vienna, Ohio. 890,843, pub. 2–24–70. Cl. 22.
White Motor Corp.: *See*—
Atlas Imperial Diesel Engine Co.
Whitehead & Kales Co., Detroit, Mich. 522,689, ren. 5–12–70. Cl. 50.
Widdicomb Furniture Co., The, Grand Rapids, Mich. 767,172, canc. Cl. 32.
Wild, Dale Sarcoxie Nurseries, Inc., Sarcoxie, Mo. 890,720, pub. 2–24–70. Cl. 1.
Williamson, T. D. Inc., Tulsa, Okla. 890,766, pub. 5–27–69. Multiple Class (Classes 13 and 23).
Willis, K. I. Corp., Milan, Ill. 527,085, ren. 5–12–70. Cl. 23.
Wilroy Inc., New York, N.Y. 890,954, pub. 2–24–70. Cl. 39.
Windbreaker-Danville Co., Danville, Ill. 767,221, canc. Cl. 39.
Winer, Arthur Inc., Gary, Ind. 890,942–3, pub. 2–24–70. Cl. 39.
Wings & Wheels Express, Inc., Flushing, N.Y. 891,109, pub. 2–24–70. Cl. 105.
Wisconsin Machine Corp., Chicago, Ill. 890,863, pub. 2–24–70. Cl. 23.
Wise Potato Chip Co.: *See*—
Borden, Inc.
Witherby Tool Co., Inc., Trumbull, Conn. 890,882, pub. 2–24–70. Cl. 26.
Wohlfert, Fred B., d.b.a. Wander Wagon Trailers, North Canaan, Conn. 767,028, canc. Cl. 19.
Worcester Pressed Aluminum Corp., Worcester, Mass. 890,774, pub. 2–24–70. Multiple Class (Classes 13 and 34).
Word, Inc., The, Boston, Mass. 890,934, pub. 2–24–70. Cl. 38.
World Cuisine, Inc., Washington, D.C. 891,100, pub. 2–24–70. Cl. 101.
Wright's Underwear Corp., to Wright's Knitwear Corp., New York, N.Y. 520,197, ren. 5–12–70. Cl. 39.
Wurlitzer Co., The: *See*—
Wurlitzer, Rudolph Co., The.
Wurlitzer, Rudolph Co., The, to The Wurlitzer Co., Chicago, Ill. 522,270, ren. 5–12–70. Cl. 21.
Wyandotte Chemicals Corp., Wyandotte, Mich. 523,053, ren. 5–12–70. Cl. 52.
Wyandotte Chemicals Corp., Wyandotte, Mich. 891,072, pub. 2–24–70. Cl. 52.
Wyomissing Corp.: *See*—
Marrow Fabric Co.
Yale, Inc., Minneapolis, Minn. 890,894, pub. 2–24–70. Cl. 34.
Yardley of London, Inc., New York, N.Y. 891,031, pub. 2–24–70. Cl. 51.
Yardley of London, Inc., New York, N.Y. 891,051, pub. 2–24–70. Cl. 51.
Yardley of London, Inc., New York, N.Y. 891,061–2, pub. 2–24–70. Cl. 51.
Zagoria, Sam, New York, N.Y. 890,950, pub. 2–24–70. Cl. 39.
Zayre Corp., Natick, Mass. 767,164, canc. Cl. 28.
Zollo Ruiz-Mateos, S.A., Cadiz, Spain. 891,021, canc. 2–24–70. Cl. 47.

U.S. GOVERNMENT PRINTING OFFICE: 0——1970

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Official Gazette of the United States Patent Office

May 19, 1970 Volume 874 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1970

Examiner affirmed	142
Examiner affirmed in part	17
Examiner reversed	36
Total	195

Foreign Patents Received in the Search Center as of March 31, 1970

Source	Date received	Highest number
Australia:		
(*Abstracts*)	Mar. 5, 1970	63,251/69
(*Patents*)	Sept. 8, 1969	288,438
Austria	Feb. 12, 1970	276,485
Belgium	Mar. 9, 1970	685,650
Canada	Dec. 16, 1969	824,340
Czechoslovakia	Feb. 5, 1970	131,300
Denmark:		
(*Applications*)	Mar. 4, 1970	115,980
(*Patents*)	Feb. 28, 1970	114,994
East Germany	Mar. 19, 1970	71,282
Finland:		
(*Applications*)	Mar. 9, 1970	42,044
(*Patents*)	Mar. 9, 1970	37,420
France:		
(*Patents*)	Mar. 11, 1970	2,005,650
(*Additions*)	Mar. 23, 1970	94,750
(*Medicaments*)	Feb. 5, 1970	6,550 M
Germany:		
(*Auslegeschriften*)	Feb. 5, 1970	1,815,403
(*Offenlegungsschriften*)	Feb. 16, 1970	1,915,154
(*Patentschriften*)	Sept. 22, 1969	1,282,547
Great Britain	Mar. 2, 1970	1,176,002
India	June 18, 1969	102,055
Ireland	Mar. 16, 1970	28,731
Italy	Mar. 3, 1969	700,000
Japan	Mar. 24, 1970	5,160/70
Korea	Sept. 12, 1969	234/69
Netherlands:		
(*Applications*)	Mar. 12, 1970	5,718/69
(*Patents*)	Mar. 3, 1970	128,043
Norway:		
(*Applications*)	Mar. 9, 1970	118,702
(*Patents*)	Mar. 19, 1970	118,844
Poland	Mar. 3, 1970	59,052
Rumania	Mar. 11, 1970	52,087
Sweden:		
(*Applications*)	Jan. 8, 1970	318,399
(*Patents*)	Dec. 16, 1969	317,742
Switzerland	Nov. 7, 1969	477,042
U.S.S.R.	Mar. 19, 1970	247,877

Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1052 and 91,901/1959
Hungary: First received 5,792/1896
Latest 140,582/1951
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958

Service by Publication

Arno C. Schwarz

In accordance with Rule 47 of the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on June 10, 1968, of an application for patent entitled "Control Column for Terrain Vehicle," on behalf of Arno C. Schwarz, whose last known address is 55 Oakmount Road, Apt. 1503. Toronto 5, Ontario, Canada. The application was made in compliance with Rule 47(a) and 35 U.S.C. 116 by Joachim Wappler without execution by the said Arno C. Schwarz. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said Arno C. Schwarz in connection with the said application must be taken within forty-five days of the publication of this notice.

RICHARD A. WAHL,
Assistant Commissioner of Patents.

Certificates of Correction for the Week of May 19, 1970

D. 216,022	3,454,766	3,464,197	3,472,164
3,314,794	3,455,120	3,465,007	3,472,198
3,371,199	3,455,707	3,465,187	3,472,274
3,413,146	3,456,395	3,465,206	3,472,349
3,414,587	3,456,621	3,465,761	3,472,369
3,415,223	3,457,537	3,465,809	3,472,559
3,415,821	3,458,321	3,466,095	3,472,767
3,416,860	3,458,548	3,467,666	3,472,864
3,419,553	3,458,553	3,467,753	3,472,904
3,425,694	3,458,635	3,468,742	3,473,007
3,429,598	3,459,131	3,468,859	3,473,019
3,432,277	3,459,399	3,468,871	3,473,390
3,433,938	3,459,484	3,468,874	3,473,529
3,435,743	3,459,526	3,469,010	3,473,582
3,436,230	3,459,916	3,469,774	3,474,102
3,438,178	3,460,572	3,470,171	3,474,120
3,440,193	3,461,053	3,470,224	3,474,495
3,442,937	3,461,123	3,470,229	3,474,817
3,443,101	3,461,130	3,470,236	3,475,232
3,444,728	3,461,147	3,470,802	3,475,391
3,447,978	3,461,307	3,470,749	3,475,429
3,448,102	3,461,327	3,470,954	3,475,437
3,449,032	3,462,246	3,470,971	3,475,592
3,449,269	3,462,278	3,471,043	3,475,751
3,449,667	3,462,284	3,471,313	3,475,776
3,449,751	3,462,499	3,471,484	3,476,753
3,452,640	3,462,521	3,471,618	3,476,742
3,453,225	3,462,663	3,471,696	3,478,437
3,453,246	3,462,759	3,471,794	3,478,631
3,453,391	3,463,060	3,472,089	3,479,182
3,453,835	3,463,747		

New Applications Received During January 1970

Patents	7396
Designs	438
Plant Patents	11
Reissues	11
Total	7856

Issue—May 19, 1970

Patents	1302	No. 3,512,179 to No. 3,513,480, incl.
Designs	72	No. 217,582 to No. 217,653, incl.
Reissues	12	No. 26,879 to No. 26,890, incl.
Def. Pub.	6	No. T874,005 to No. T874,010, incl.
Total	1392	

File History of Applications Affected by Postal Emergency

As a result of the postal emergency, the time for taking any action or paying any fee in the U.S. Patent Office expiring between the dates of March 16, 1970 and April 15, 1970, both dates inclusive, was automatically extended for one month, provided it did not exceed a maximum period for response provided in the Statutes. (See O.G. of March 24, 1970 or March 31, 1970, 872 O.G. 1383 and April 7, 1970, 873 O.G. TM 2.)

Since this extension of time was automatic there will be nothing in the individual files to indicate that a paper filed during that period was, in fact, timely though it was received later than its apparent due date.

In order to provide a complete history in the affected files and to dispel any question as to abandonment in the record of a patented file, applicants or their attorneys are requested to file a paper explaining these circumstances. A separate paper should be filed in each case so affected (identified by Serial No., filing date, title and applicant's name) and may be merely a copy of the notice which authorized the one-month extension or should specifically refer to and identify that notice.

RICHARD A. WAHL,
Assistant Commissioner of Patents.

Apr. 27, 1970.

Erratum

All references to Patent No. 3,508,897 to Eizo Goto, Method and Apparatus for Sealing With Glass Portions To Be Sealed, appearing in the OFFICIAL GAZETTE of April 28, 1970, should be deleted as the application was withdrawn from issue and the patent was not issued.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter 1—Patent Office, Department of Commerce

SUBCHAPTER A—GENERAL

PART 5—SECRECY OF CERTAIN INVENTIONS AND LICENSES TO FILE APPLICATIONS IN FOREIGN COUNTRIES

Requirements of Other Agencies Relating to Export of Technical Data

Sections 5.18 and 5.19 of Title 37, Code of Federal Regulations, are hereby revised as set forth below.

The revised sections provide a summary and cross-reference to the recently published regulations of both the Department of State and the Bureau of International Commerce of the Department of Commerce. (See 35 F.R. 1008 and 35 F.R. 3029.)

Since the revision imposes no burden on any person, notice, and public procedure thereon are deemed unnecessary.

§ 5.18 *Arms, ammunition, and implements of war.*

(a) The exportation of technical data relating to arms, ammunition, and implements of war generally is subject to the International Traffic in Arms Regulations of the Department of State (22 CFR Parts 121–128); the articles designated as arms, ammunition, and implements of war are enumerated in the U.S. Munitions List, 22 CFR 121.01. However, if a patent applicant complies with regulations issued by the Commissioner of Patents under 35 U.S.C. 184, no separate approval from the Department of State is required unless the applicant seeks to export technical data exceeding that used to support a patent application in a foreign country. This exemption from Department of State regulations is applicable regardless of whether a license from the Commissioner is required by the provisions of §§ 5.11 and 5.15 (22 CFR 125.04(b), 125.20(b)).

(b) When a patent application containing subject matter on the Munitions List (22 CFR 121.01) is subject to a secrecy order under § 5.2 and a petition is made under § 5.5 for a modification of the secrecy order to permit filing abroad, a separate request to the Department of State for authority to export classified information is not required (22 CFR 125.05(d)).

§ 5.19 *Export of technical data.*

(a) Under regulations established by the U.S. Department of Commerce, a validated export license from the Bureau of International Commerce may be required for the foreign filing of a patent application, under certain conditions. The pertinent regulations are set forth in 15 CFR Parts 370–372 and 379.

(b) A validated export license is required for the foreign filing of patent applications:

(1) Containing certain technical data, unless such foreign filing is in accordance with the regulations of the U.S. Patent Office (15 CFR 379.4(c), (d)); or

(2) In certain designated countries or areas,[1] if the application contains any restricted technical data[2] not exportable under provisions of 15 CFR 379.3.

(c) A validated export license is not required for the foreign filing of a patent application in any case where:

(1) The data contained in the patent application is generally available to the public in any form (15 CFR 379.3(a)); or

(2) The foreign filing is in accordance with the regulations of the U.S. Patent Office and (i) the patent application has been previously filed abroad in one of the "early publication countries,"[3] or (ii) the data contained in the application is the same as that in an application for which the U.S. Patent Office has issued a notice that the patent has been scheduled for printing and publication (15 CFR 379.3(c)(2)).

[1] Albania, Bulgaria, China (Mainland) [including Inner Mongolia, the provinces of Tsinghai and Sikang, Sinkiang, Tibet, and Manchuria (includes the former Kwantung Leased Territory, the present Port Arthur Naval Base Area, and Liaoning Province), but excluding Republic of China (Taiwan) (Formosa) and Outer Mongolia], Communist-controlled area of Vietnam, Cuba, Czechoslovakia, East Germany (Soviet Zone of Germany and the Soviet Sector of Berlin), Estonia, Hungary, Latvia, Lithuania, North Korea, Outer Mongolia, Poland (including Danzig), Rumania, Southern Rhodesia, and Union of Soviet Socialist Republics (15 CFR Part 370, Supplement No. 1)

[2] 15 CFR 379.4(a), (b).

[3] Belgium, Costa Rica, Denmark, Ecuador, Finland, France, Honduras, Iceland, Jamaica, Luxembourg, Netherlands, Nicaragua, Norway, Panama, Portugal, Sweden, Trinidad, Turkey, Republic of South Africa, Uruguay, Venezuela, and West Germany (Federal Republic of Germany) (15 CFR 379.3(c)(2)).

(d) A validated export license is not required for data contained in a patent application prepared wholly from foreign origin technical data where such application is beng sent to the foregn inventor to be executed and returned to the United States for subsequent filing in the U.S. Patent Office (15 CFR 379 3(c)(1)).

(e) Inquiries concerning the export control regulations for the foreign filing of patent applications should be made to the Office of Export Control, Bureau of International Commerce, Department of Commerce, Washington, D.C. 20230.

(Sec. 1, 66 Stat. 793; 35 U.S.C. 6)

Effective date. These revisions shall become effective upon publication in the Federal Register.

WILLIAM E. SCHUYLER, Jr.,
Commissioner of Patents.

Approved: April 14, 1970.

MYRON TRIBUS,
Assistant Secretary for Science and Technology.

[F.R. Doc. 70-4859; Filed, Apr. 21, 1970; 8:45 a.m.]

Published in 35 F.R. 6430, Apr. 22, 1970

U.S. Department of Commerce Field Offices To Serve as Receiving Stations Only in Declared Emergencies

During the recent postal emergency, Field Offices of the U.S. Department of Commerce were designated as receiving stations for the U.S. Patent Office (according to the Notices of March 19, 1970, 872 O.G. 1383 and March 26, 1970, 873 O.G. TM 2). In view of the subsequent resumption of normal postal operations, that emergency arrangement was discontinued in accordance with the notice of March 27, 1970, 873 O.G. 319. After April 15, 1970, the normal practice with respect to the filing of all letters and other papers relating to patent and trademark matters in the U.S. Patent Office was resumed.

The Patent Office has received suggestions proposing that the Field Offices continue to serve as receiving stations for the U.S. Patent Office. These suggestions have received careful and sympathetic consideration. However, it has been concluded that any activities of the Field Offices in this connection must be restricted, in the future, to any emergency officially announced by the Patent Office as requiring such action.

RICHARD A. WAHL,
Acting Commissioner of Patents.

Apr. 27, 1970.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MAY 5, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
*Denotes oldest new application.	
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	5-20-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*1-12-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-16-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	4-17-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	3-01-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	2-06-69
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6-03-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	5-09-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	8-21-68
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	*5-07-68
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	8-01-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-26-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*8-06-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	9-27-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	4-02-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	1-14-69

Total number of pending applications (excluding Designs)	181,943
Total number of Design applications pending	3,566

Expiration of patents: The patents within the range of numbers indicated below expire during May 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 600, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 82nd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,637,029 to 2,640,194, inclusive
Plant Patents	Numbers 1,182 to 1,190, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE HENRI-GEORGES DOLL

No. 8223. Decided January 8, 1970

[57 CCPA —; 419 F.2d 925; 164 USPQ 219]

1. REISSUE—BROADENED CLAIMS—35 U.S.C. 251.

Held, with respect to the language in the fourth paragraph of 35 U.S.C. 251 regarding broadened reissues, that "it appears to us free of ambiguity."

2. SAME—SAME—SAME.

Upon considering the view of the Board of Appeals that the language in the fourth paragraph of 35 U.S.C. 251 "could just as well mean that no reissue patent shall be granted enlarging the scope of the claims of the original patent, unless said claims are applied for within two years of the grant of the original patent," *Held* that "we are unable to ascertain from the * * * [legislative history] any intent similar to the interpretation placed on section 251 by the Board; and that 'To the contrary, it appears clear that the language "applied for" refers to filing of an application.'"

APPEAL from Patent Office. Serial No. 694,700.

REVERSED.

Brumbaugh, Graves, Donohue & Raymond (*Arthur S. Tenser*, of counsel) for appellant.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and RAO, *Chief Judge*, sitting by designation

ALMOND, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claims 32–35, 42 and 43 in appellant's application for a reissue patent [1] on the grounds that the claims are barred by the fourth paragraph of 35 U.S.C. 251 and not supported by an oath complying with Patent Office Rule 175.

The invention relates to method and apparatus for oil well logging, with which information about the nature of earth formations surrounding a borehole is obtained. More important than an understanding of the invention here is the history of the application before the Patent Office presenting the development of the issues before us. The following facts are not in dispute.

On October 31, 1957, a year and ten months after issuance of his original patent, appellant filed the instant reissue application with the 19 claims of the original patent and 12 additional claims (claims 20–31), *broader* than the 19 original claims, copied for interference purposes from a patent to one Waters. After termination of an interference arising from the above action, appellant presented, during ex parte prosecution, four claims (32–35) copied from a patent to one Piety. The date of submission of those claims was July 28, 1960. Subsequently, during the duly declared Piety interference, appellant presented claims 36–41 copied from a third patent to Alder. On October 16, 1962, claims 32–35 were amended and claims 42 and 43 were presented. No oath other than the original reissue application oath

[1] Serial No. 694,700, filed October 31, 1957, for reissue of Patent No. 2,728,047, granted December 20, 1955, for "Method and Apparatus for Logging Spontaneous Potentials in Wells."

was of record prior to the Board's decision. Claims 32–43 are conceded to be broader than any of the original patent claims. All claims were found by the Board to be for the invention disclosed in the original patent, and claims 36–41 were further found to be more limited in scope than claim 20 submitted at the time of filing of the reissue application. Claims 32–35, 42 and 43, the only claims before us, are conceded by appellant to be "broader than the claims originally submitted with the appellant's timely filed application for a broadened reissue patent."

Thus, the issues presented for determination in this appeal are:

(1) Whether claims presented in a reissue application filed within two years of the original patent grant are barred by 35 U.S.C. 251 when such claims are not submitted until more than two years after the grant and are broader in scope than both the original patent claims and the broadening reissue claims originally submitted, and

(2) Whether the reissue oath originally filed with the reissue applicaton is adequate to support the newly submitted claims.

As a corollary to (2) above, appellant contends than an issue before us is whether the Board erred in refusing to consider, on petition for reconsideration, whether the original reissue oath can be supplemented after the two-year statutory period prescribed by 35 U.S.C. 251.

The essence of the Patent Office's position is set forth in the opinion of the Board as follows:

> The fourth paragraph of 35 U.S.C. 251, which reads as follows "No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent" makes no direct mention of an application. Thus, it seems to us that the language could just as well mean that no reissue patent shall be granted enlarging the scope of the claims of the original patent, unless said claims are applied for within two years of the grant of the original patent.
>
> Patent Office Rule 175 requires the reissue oath to particularly specify the errors relied upon, which appellant has done in this case by referring particularly to FIG. 4 in his oath, and the fact that he had failed to claim the invention in the breadth set forth in claims 20 to 31, inclusive. Thus, it appears that the two-year period in which to file for broadened reissue claims is granted for the purpose of enabling the patentee to discover particular deficiencies in the breadth of the claims as originally granted, and not as a period in which to decide whether or not he should spread a net to catch any broad subject matter which he may later decide should have been captured.
>
> * * * * * * *
>
> [Claims 32–35, 42 and 43] are drawn essentially to the uphole mechanisms shown in FIGS. 4 and 5, and nowhere do they require the specific instrumentalities set forth in the reissue oath and the device covered by claim 20. Therefore, these claims stand without an adequate reissue oath, and as claims broader than the patent claims for which no reissue claim was made within the two-year period allowed by the statute.

In support of this position, the Solicitor contends, are the decisions in *La Maur, Inc.* v. *DeMert & Dougherty, Inc.*, 265 F. Supp. 961 (N.D. Ill. 1965), 148 USPQ 59, aff'd at 152 USPQ 163 (7th Cir. 1966) and *Stohr et al.* v. *Brenner*, 157 USPQ 675 (D.D.C. 1968), aff'd at 162 USPQ 73 (D.C. Cir. 1969). Among the district court's 23 "Conclusions of Law" in *La Maur* is:

> 19. The reissue claims are also invalid because they are broader than the original claims and broader than the reissue claims originally presented and the doubly broadened subject matter was not claimed until more than two years after the original patent had been granted. Title 35 U.S.C. Sec. 251.

To similar effect is the court's conclusion and holding in *Stohr*, involving "doubly broadened" claims presented in a reissue application filed more than four years after the original patent grant, such application alleged to be, however, a continuation of a reissue application filed within two years of the issue date of the patent. Neither appellate court made any reference to the above ground in their respective affirmances.

We agree with appellant that the above-cited decisions are of little assistance to us in deciding the issues squarely presented to this court. Neither opinion does more than acknowledge the issue and state a conclusion. No analysis pertinent thereto is set forth. In *La Maur* the conclusion of law is but one of many conclusions drawn in the main from those submitted by the prevailing party, and in *Stohr* other factors, possibly relevant, are present.

[1] Although the language of 35 U.S.C. 251 appears to us free of ambiguity, the above decisions, despite the absence of logic or rationale justifying the courts' interpretations of 35 U.S.C. 251, have prompted us to consider the legislative history pertaining to the enactment of 35 U.S.C. 251 to ascertain whether there was any intent contrary to the apparent meaning of the language therein.

Senate Report No. 1979 on H.R. 7794, the patent bill, 1952 U.S. Code Cong. & Adm. News 2394, 2419, repeats in substance House Report No. 1923 (p. 26) and explains the fourth paragraph of section 251 merely as follows (Report, p. 26):

> A two year period of limitation on applying for broadened reissues is added, codifying the present rule of decision with a fixed period.

P. J. Federico, in his "Commentary on the New Patent Law" in 35 USCA following page 1, states (page 44 of commentary):

> The new statute enacts a fixed period of two years from the grant of the original patent, within which to apply for a reissue "enlarging the scope of the claims of the original patent." Such a reissue cannot be obtained on an application filed more than two years after the date of the original patent, and presumably is timely if applied for within two years as far as the reissue requirements are concerned.

[2] We are unable to ascertain from the above any intent similar to the interpretation placed on section 251 by the Board. To the contrary, it appears clear that the language "applied for" refers to filing of an application. The Solicitor further makes reference to rights of the public. We have considered that argument but believe it unnecessary to comment thereon in detail in view of our interpretation of section 251 except to note, as does appellant, that 35 U.S.C. 252 provides safeguards for the public by virtue of its intervening rights provisions.

With respect to the rejection based on lack of an adequate reissue oath, it appears to us from the language employed by the Board in its opinion that the affirmance of that rejection was based substantially on the view that the claims were barred by 35 U.S.C. 251. While Patent Office Rule 175 sets out requirements for reissue oaths, including that the applicant make a statement "distinctly specifying the excess or insufficiency in the claims," we do not see where there has been a lack of compliance therewith in this case. The original reissue application oath specifies:

> None of the patent claims affords for the embodiment of FIG. 4 patent coverage of the scope possessed by claims 20–31, inclusive, which form part of the foregoing specification, nor were claims of comparable scope ever presented dur-

ing the pendency of the original application on which said Letters Patent were granted.

If the claims on appeal are broader in scope than claims 20–31, originally presented, as all agree, it is clear that none of the patent claims afforded patent coverage of the scope of claims 32–35, 42 and 43 either. We are unable to perceive any other objections by the Board to the oath in question. No particular defect has been singled out or commented upon by the Board. On this record, we agree with appellant that the oath is adequate.

The decision of the Board is, accordingly, reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

SOUTHERN ENTERPRISES, INC., DOING BUSINESS AS THE WHOPPER-BURGER SHOP *v.* BURGER KING OF FLORIDA, INC.

No. 8227. Decided January 8, 1970

[57 CCPA —; 417 F.2d 460; 164 USPQ 204]

1. TRADEMARK — CONFUSING SIMILARITY — SERVICE MARKS — "WHOPPABURGER," "WHOPPER," AND "HOME OF THE WHOPPER" FOR SANDWICHES AND AS SERVICE MARKS.

"Appellee's case here [for cancellation of appellant's registered mark 'Whoppaburger' for sandwiches] * * * does not depend on its proving that it made *trademark* [emphasis added] use of the expression 'Whopper.' It is sufficient if we find a likelihood of confusion between 'Whoppaburger' and appellee's [prior used and] registered service mark 'Home of the Whopper.'"

2. SAME—SAME—SAME—SAME.

"* * * we have considered Southern's arguments that 'Whoppaburger' and 'Home of the Whopper' differ in appearance, sound and meaning; that 'Home of the Whopper' is a 'weak' mark; and that it is somehow 'significant' that no evidence of actual confusion has been adduced by Burger King. Those arguments, however, do not convince us of error in the Board's decision. We are satisfied that purchasers familiar with appellee's drive-in restaurants operating under the service mark 'Home of the Whopper' wherein 'Whopper' burger-type sandwiches are sold would, on encountering appellant's 'Whoppaburger' sandwiches, be likely to assume by reason of confusion, mistake or deception that a common source or origin existed. It is not necessary, of course, to demonstrate actual confusion in trade in order to establish a likelihood thereof."

APPEAL from Patent Office. Cancellation No. 8,530.

AFFIRMED.

Goldman & Moller, G. Turner Moller, Edward L. Goldman, Robert N. Roley, for appellant.

Irons, Birch, Swindler and McKie, John R. Swindler, for appellee.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and RAO, *Chief Judge*, sitting by designation

RAO, *Chief Judge*, delivered the opinion of the court.

Southern Enterprises, Inc., d.b.a. The Whopper-Burger Shop, appeals from the decision of the Trademark Trial and Appeal Board [1] granting the petition of Burger King of Florida, Inc., brought under section 14 of the Lanham Act (15 U.S.C. 1064), to cancel Southern's registration [2] of "Whoppaburger" for "sandwiches."

The Board granted cancellation on the basis of Burger King's prior use of "Whopper" in connection with its sales of burger-type sandwiches in its Burger King restaurants as well as its service-mark registration [3] of "Home of the Whopper" for drive-in restaurant services,[4] concluding:

In our opinion the use of "Whoppaburger" by respondent in connection with sandwiches concurrently with petitioner's use of "Whopper" and "Home of the Whopper" in connection with the sale of hamburger sandwiches is likely to cause confusion or mistake or deception. * * *

Southern does not—indeed, cannot—seriously question Burger King's priority of *use* of either "Whopper" or "Home of the Whopper" in connection with the sale of burger-type sandwiches. Nor does it question the Board's conclusion that the goods are substantially the same. Rather Southern urges that the Board erred in considering the use by Burger King of the expression "Whopper" at all. In Southern's view, Burger King did not prove the *trademark* usage of "Whopper" which it alleged in its petition for cancellation, and thus did not establish that the registration sought to be cancelled will cause Burger King any damage.

[1] Appellee's case here, however, does not depend on its proving that it made trademark use of the expression "Whopper." It is sufficient if we find a likelihood of confusion between "Whoppaburger" and appellee's registered service mark "Home of the Whopper."

[2] Turning to that question, we have considered Southern's arguments that "Whoppaburger" and "Home of the Whopper" differ in appearance, sound and meaning; that "Home of the Whopper" is a "weak" mark; and that it is somehow "significant" that no evidence of actual confusion has been adduced by Burger King. Those arguments, however, do not convince us of error in the Board's decision. We are satisfied that purchasers familiar with appellee's drive-in restaurants operating under the service mark "Home of the Whopper" wherein "Whopper" burger-type sandwiches are sold [5] would, on encountering appellant's "Whoppaburger" sandwiches, be likely to assume by reason of confusion, mistake or deception that a common source or origin existed. It is not necessary, of course, to demonstrate actual confusion in trade in order to establish a likelihood thereof. *Salem Commodities, Inc.* v. *Miami Margarine Co.*, 44 CCPA 932, 244 F.2d 729, 114 USPQ 124 (1957).

The decision is affirmed.

AFFIRMED.

[1] Reported at 153 USPQ 688.
[2] Registration No. 791,918, issued June 29, 1965.
[3] Registration No. 782,990, issued January 5, 1965.
[4] The record supports the Board's findings that: The restaurants operating under the name "Burger King" are self-service restaurants specializing in a limited menu comprising hamburgers, fish sandwiches, hot dogs, french fries, milk shakes, soft drinks, coffee, and milk. The main item of sale is a hamburger which is sold under the designation "Whopper" and "Whopper" hamburger sandwiches have been sold in "Burger King" restaurants since 1958. And since that same time, "Burger King" restaurants have featured the service mark "Home of the Whopper."
[5] As appears from an earlier decision of the Board, appellee's service mark, which identifies its restaurant services and distinguishes them from those of others, has been construed to refer to the place where not only appellee's restaurant services are rendered but also where its goods—here "Whopper" hamburger sandwiches—are sold. See *In re Burger King of Florida, Inc.*, 136 USPQ 396 (TTAB, 1963).

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

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2,813,185, R. V. Smith, HEATING DEVICES; 2,956,143, L. H. Schall, MICROWAVE OVENS; 3,182,164, R. Ironfield, ELECTROMAGNETIC ENERGY SEAL, filed Jan. 9, 1970, D.C., N.D. Ill (Chicago), Doc. 70c52, *Raytheon Company* v. *Sanyo Denki, KK. et al.*

2,933,662. (See 2,763,822.)

2,956,143. (See 2,813,185.)

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3,009,660, Symons and Werner, RELEASE AND ADJUSTMENT FOR GYRATORY CRUSHERS; 3,133,706, Bond, Gasparac and Balmer, LOCKING MECHANISM FOR CONE CRUSHERS AND THE LIKE; 3,140,835, Balmer and Gasparac, BOWL CLAMPING MECHANISM FOR CONE CRUSHERS; 3,162,387, L. G. Symons, HYDRAULIC BOWL RELEASE FOR CONE CRUSHERS; 2,687,257, H. H. Rumpel, GYRATORY CRUSHER, filed Jan. 10, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c67, *Nordberg Manufacturing Company* v. *Barber-Greene Company.* Cause stricken without prejudice with leave to reinstate on notice and motion by either party, Jan. 19, 1970.

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3,133,706. (See 3,009,660.)

3,140,835. (See 3,009,660.)

3,162,387. (See 3,009,660.)

3,182,164. (See 2,813,185.)

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3,319,273, L. Solin, GYMNASIUM MATS, filed May 26, 1967, D.C., S.D.N.Y., Doc. 67–C–2082, *The Program Aids Company, Inc. et ano.* v. *Sport-Tech Corporation et ano.* Order dismissing complaint and counterclaim for lack of prosecution, Feb. 4, 1970.

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3,412,562, S. C. Doughty, STRUCTURAL WALL AND METHOD, filed Dec. 19, 1969, D.C., N.D. Calif. (San Francisco), Doc. C–69–630–WTS, *Santa-Fe-Pomeroy, Inc.* v. *P & Z Co., Inc. et al.*

3,422,189, J. A. Rider, METHOD AND COMPOSITIONS FOR THE TREATMENT OF GASTRO-INTESTINAL DISORDERS, filed Feb. 27, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c475, *Moraine Products, Inc.* v. *Plough, Inc.*

3,436,851, J. J. Gilbert, HAND ELECTRIC STEAMING AND PRESSING DEVICE TO TOUCH-UP HANGING GARMENTS, filed Dec. 22, 1969, D.C., E.D.N.Y. (Brooklyn), Doc. 69–C–1605, *Franzus Industries, Inc.* v. *Abraham & Straus, Inc. et al.*

3,486,127, Beck and Garelick, INSTRUMENTATION CIRCUIT WITH D-C AMPLIFIER HAVING TEMPERATURE STABILIZATION, filed Feb. 13, 1970, D.C., S.D. Tex. (Houston), Doc. 70–H–126, *Transmation, Inc.* v. *Gay Engineering & Sales Co. and Acromag, Inc.*

Re. 25,402, M. Myerberg, MAKE-UP MIRROR, filed Nov. 5, 1962, D.C., S.D.N.Y., Doc. 62–C–3653, *Eugene K. Barnes* v. *Michael Myerberg et ano.* Judgment, patent invalid and void under T. 35 U.S. Code, Sec. 103. Complaint dismissed, Feb. 17, 1970.

D. 197,836, S. B. Gross, FORCE CUP, filed Nov. 24, 1969, D.C. Md. (Baltimore), Doc. 21456, *Hancock Gross, Inc.* v. *Scully Rubber Manufacturing Co., Inc.* Case dismissed without prejudice, Feb. 27, 1970.

D. 203,419, M. Liberman, CONTAINER FOR AN ELECTRIC LAMP, filed Feb. 11, 1970, D.C., E.D.N.Y. (Brooklyn), Doc. 70–C–183, *W. A. Baum Co., Inc.* v. *Propper Manufacturing Co.*

D. 206,662, K. N. Karol, MOLDED SHROUD FOR PLUG CONNECTOR; 3,366,917, same, PLUG CONTACTOR, filed Aug. 7, 1969, D.C., W.D. Va. (Harrisonburg), Doc. 69–C–27–H, *AMP Incorporated* v. *Virginia Panel Corporation.* Consent decree, plaintiff owner of U.S. patents; defendant infringed and hereby enjoined, Feb. 26, 1970.

DEFENSIVE PUBLICATIONS

PUBLISHED MAY 19, 1970

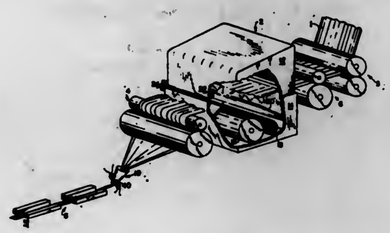
Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T874,005
APPARATUS FOR APPLYING PLASTICIZER TO FILTER TOW

Theodore C. Fritz and Robert W. Wagner, both of P.O. Box 511, Kingsport, Tenn. 37662

Filed Aug. 12, 1968, Ser. No. 752,052
Int. Cl. B05c *5/00, 11/16*
U.S. Cl. 118—7
1 Sheet Drawing. 10 Pages Specification



Apparatus for making tobacco smoke filters including a plasticizer applicator located within a spray enclosure. The applicator includes a rotatably mounted brush roll positioned adjacent a dip roll which is partially immersed in liquid in the bottom of the enclosure. The rotating brush roll flings the liquid carried by the dip roll onto filamentary tow passing through openings in the side of the enclosure.

T874,006
REGENERATION OF PHOTOGRAPHIC BLEACH BATHS BY TREATMENT WITH OZONE

Bernard A. Hutchins, Livonia, N.Y. (1669 Lake Ave., Rochester, N.Y. 14650), and James J. Wade, Rochester, N.Y. (59 W. Buffalo Road, Churchville, N.Y. 14428)

Filed Feb. 3, 1969, Ser. No. 796,189
Int. Cl. G03c *5/32*
U.S. Cl. 96—60
No Drawing. 10 Pages Specification

Spent ferricyanide bleach solutions which have been used in photographic processing are regenerated by treatment with ozone. The ozone serves to oxidize the ferrocyanide which is formed in use to ferricyanide. Oxidation of ferrocyanide by the action of ozone may also be utilized as a method of preparing fresh ferricyanide bleach.

The pH of the spent bleach solution should be in the range from about 6 to about 10, and more preferably from about 7 to about 9, during introduction of the ozone. Control of the pH is achieved by addition of acid to the solution and it is preferred to employ hydrobromic acid for this purpose and thereby furnish bromide to the solution to compensate for the depletion of bromide which occurs in use. The ozone should be employed in an amount of not more than about one gram of ozone for every nine grams of ferrocyanide.

Regeneration of spent ferricyanide bleach solution by treatment with ozone may be effectively accomplished as a continuous process in which portions of the beach solution are removed continuously or at selected intervals from the processing tank, treated with ozone while maintaining the pH at about 6 to about 10 by addition of acid, and then returned to the processing tank.

T874,007
PHOTOCONDUCTIVE ELEMENTS CONTAINING LIGHT-SENSITIVE POLYMERIC BINDERS

Lawrence E. Contois, Webster, N.Y. (Kodak Park, Rochester, N.Y. 14650)

Filed June 30, 1969, Ser. No. 837,916
Int. Cl. G03g *5/06, 7/00*
U.S. Cl. 96—1.5
No Drawing. 39 Pages Specification

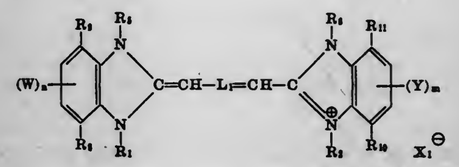
Novel photoconductive elements comprise an electrically conducting support bearing a layer of a novel photoconductive composition comprising a photoconductor and a binder therefor which is an electrically insulating, film-forming light-sensitive polymer. The light-sensitive polymer acts as a combined binder and sensitizer. The photoconductive composition can contain additional sensitizers as well as other addenda. Particularly useful photoconductors include organic photoconductors such as arylamine photoconductors, e.g., triphenylamine, 4,4'- benzylidene-bis - (N,N-diethyl-m-toluidine), bis-4-diethylaminotetraphenylmethane, etc., and particularly useful light-sensitive polymers include polyesters (including polycarbonates) containing the styryl ketone group such as those described in Borden et al. U.S. Pat. 3,453,237, issued July 1, 1969, e.g., the polyester condensation product of divanillal cyclopentanone, tetrachloro Bisphenol A and neopentyl bischloroformate.

T874,008
SUPERSENSITIZED SILVER HALIDE PHOTOGRAPHIC EMULSIONS

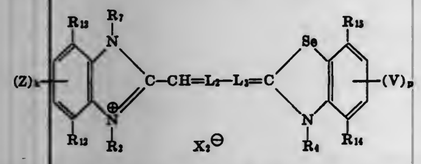
Cynthia G. Ulbing, Fairport, and Mary Jane W. Brizee, Pittsford, N.Y. (both of Kodak Park, Rochester, N.Y. 14650)

Filed Dec. 12, 1969, Ser. No. 884,701
Int. Cl. G03c *1/28*
U.S. Cl. 96—104
No Drawing. 18 Pages Specification

Photographic silver halide emulsions are spectrally sensitized with a dye combination comprising (1) a benzimidazolocarbocyanine dye and (2) a benzimidazoloselenacarbocyanine dye. A preferred dye combination comprises (1) a benzimidazolocarbocyanine dye having the formula:



and (2) a benzimidazoloselenacarbocyanine dye having the formula:



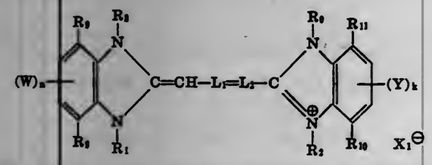
wherein *n*, *m*, *k* and *p* each represents a positive integer of from 1 to 2; L_1, L_2 and L_3 each represents a methine linkage; R_1, R_2, R_3 and R_4 each represents an alkyl group; R_5, R_6 and R_7 each represents an unsubstituted lower alkyl group; R_8, R_9, R_{10}, R_{11}, R_{12}, R_{13}, R_{14} and R_{15} each represents a member selected from the group consisting of a hydrogen atom and a halogen atom; X_1 and X_2 each represents an acid anion; V represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a sulfo group, an alkyl group, an alkoxy group and an aryl group; and W, Y and Z each represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a cyano group, an alkyl group, an alkoxy group, an acyl group of a monobasic fatty acid, an alkylaminocarbonyl group, a trifluoroalkyl group and a trifluoroalkylsulfonyl group. A typical example comprises a gelatin silver bromoiodide emulsion containing the dye combination of (1) anhydro-5,5',6,6'-tetrachloro-1,1'-diethyl-3,3'-di(3-sulfobutyl)benzimidazolocarbocyanine hydroxide and (2) anhydro - 5,6-dichloro-1,3-diethyl-5'-methoxy-3'-(3-sulfopropyl)benzimidazoloselenacarbocyanine hydroxide.

T874,009
SUPERSENSITIZED SILVER HALIDE PHOTOGRAPHIC EMULSIONS

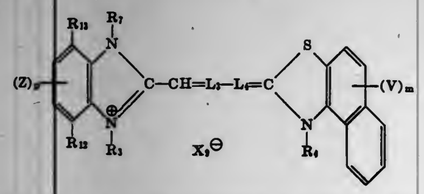
Cynthia G. Ulbing, Fairport, and Mary Jane W. Brizee, Pittsford, N.Y. (both of Kodak Park, Rochester, N.Y. 14650)

Filed Dec. 12, 1969, Ser. No. 884,704
Int. Cl. G03c *1/28*
U.S. Cl. 96—104
No Drawing. 18 Pages Specification

Photographic silver halide emulsions are spectrally sensitized with a dye combination comprising (1) a benzimidazolocarbocyanine dye and (2) a benzimidazolonaphthothiacarbocyanine dye. A preferred dye combination comprises (1) a benzimidazolocarbocyanine dye having the formula:



and (2) the 4',5'-benzimidazolothiacarbocyanine dye having the formula:



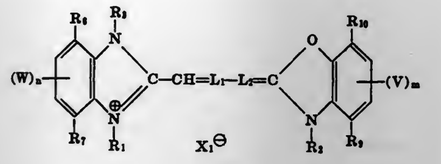
wherein *n*, *k* and *p* each represents a positive integer of from 1 to 2; L_1, L_2, L_3 and L_4 each represents a methine linkage; *m* represents a positive integer of from 1 to 4; R_1, R_2, R_3 and R_4 each represents an alkyl group; R_5, R_6 and R_7 each represents an unsubstituted lower alkyl group; R_8, R_9, R_{10}, R_{11}, R_{12} and R_{13} each represents a member selected from the group consisting of a hydrogen atom and a halogen atom; X_1 and X_2 each represents an acid anion; V represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a sulfo group, an alkyl group, an alkoxy group and an aryl group; and W, Y and Z each represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a cyano group, an alkyl group, an alkoxy group, an acyl group of a monobasic fatty acid, an alkylaminocarbonyl group, a trifluoroalkyl group and a trifluoroalkylsulfonyl group.

T874,010
SUPERSENSITIZED SILVER HALIDE PHOTOGRAPHIC EMULSIONS

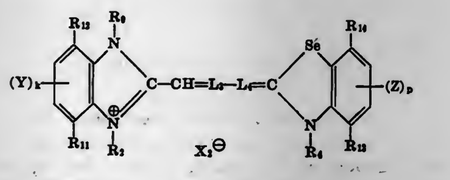
Cynthia G. Ulbing, Fairport, and Mary Jane W. Brizee, Pittsford, N.Y. (both of Kodak Park, Rochester, N.Y. 14650)

Filed Dec. 12, 1969, Ser. No. 884,746
Int. Cl. G03c *1/28*
U.S. Cl. 96—104
No Drawing. 18 Pages Specification

Photographic silver halide emulsions containing a sensitizing dye combination comprising (1) a benzimidazoloxacarbocyanine dye and (2) a benzimidazoloselenacarbocyanine dye which extends the sensitivity of the emulsion into the minus blue region of the spectrum. Preferred dye combinations include those represented by (1) a dye having the formula:



and (2) a dye having the formula:



wherein *n*, *m*, *k* and *p* each represents a positive integer of from 1 to 2; R_1, R_2, R_3 and R_4 each represents an alkyl group; R_5 and R_6 each represents an unsubstituted lower alkyl group; R_7, R_8, R_9, R_{10}, R_{11}, R_{12}, R_{13} and R_{14} each represents a member selected from the group consisting of a hydrogen atom and a halogen atom; X_1 and X_2 each represents an acid anion; V and Z each represents a member selected from the group consisting of a hydrogen atom, a halogen atom, an alkyl group, an alkoxy group and an aryl group; L_1, L_2, L_3 and L_4 each represents a methine linkage; and W and Y each represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a cyano group, an unsubstituted alkyl group, an alkoxy group, an acyl group of a monobasic fatty acid, an alkylaminocarbonyl group, a trifluoroalkyl group and a trifluoroalkylsulfonyl group.

REISSUES

MAY 19, 1970

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,879
PROCESS FOR MAKING METAL BONDED DIAMOND TOOLS EMPLOYING SPHERICAL PELLETS OF METALLIC POWDER-COATED DIAMOND GRITS

John G. Kelso, Schenectady, N.Y., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Original No. 3,316,073, dated Apr. 25, 1967, Ser. No. 128,895, Aug. 2, 1961. Application for reissue Apr. 22, 1969, Ser. No. 822,076
Int. Cl. B24d *3/02*; B24b *1/00*
U.S. Cl. 51—295 **2 Claims**



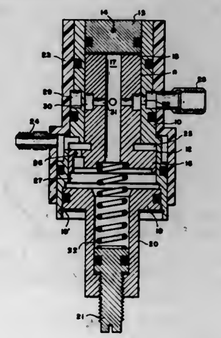
1. A method of forming bonded abrasive shapes comprising forming a plurality of generally spherical pellets consisting of a single central primary diamond particle surrounded by a sinterable particulate mass of powdered metallic bonding material adapted to weld together to form a bond upon the application of heat, and forming said plurality of generally spherical pellets to shape by the application of pressure to break down the spherical shape and compact the pellets and heat to sinter the bond.

2. A mass of spherical pellets for making a diamond abrasive tool each pellet consisting of an individual diamond abrasive grain of grit 60 or coarser surrounded by a temporarily self-sustaining powdered unsintered tungsten carbide-cobalt powder, the bulk of the pellets having a bond volume to abrasive volume of at least [9] 5 to 1.

26,880
DEVICE FOR CONTROLLING THE RATE OF FLOW OF FLUIDS

Frank Welty, 4962 Lockwood Blvd., Youngstown, Ohio 44511

Original No. 3,351,087, dated Nov. 7, 1967, Ser. No. 442,054, Mar. 23, 1965. Application for reissue June 24, 1968, Ser. No. 748,576
Int. Cl. F16k *17/30*
U.S. Cl. 137—504 **6 Claims**



A device for controlling the rate of flow of fluids under varying pressure and having a biased valving element controlling the flow of fluid therethrough, the fluid path through said device arranged to effect differential control pressures on the opposite sides of said valving element.

26,881
METHOD OF PRODUCING AN ORTHO-DIRECTED PHENOLIC RESIN BY CONDENSING PHENOL AND HCHO IN THE PRESENCE OF A BIVALENT METAL ION AND THEN ADDING RESORCINOL, AND THE RESULTANT PRODUCT

Roland E. Kreibich, Harlan G. Freeman, and Gene F. Baxter, Seattle, Wash., and Karl F. Kumli, Chico, Calif., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

No Drawing. Original No. 3,422,068, dated Jan. 14, 1969, Ser. No. 528,772, Feb. 25, 1966. Application for reissue July 10, 1969, Ser. No. 846,988
Int. Cl. C08g *5/10*
U.S. Cl. 260—52 **7 Claims**

A process of manufacturing ortho-directed, phenol-formaldehyde resins, modified with resorcinol or other polyhydroxy aromatic compounds which have a relatively long shelf life and relatively short cure time by condensing phenol and formaldehyde to near completion under reflux conditions in the presence of bivalent metal ion catalyst, adding resorcinol or other polyhydroxy aromatic compounds to the reaction product of phenol and formaldehyde, and continuing heating of the mixture under reflux condition until the reaction is substantially complete. The molecular ratio of phenol to formaldehyde is between 0.55 to 1.2 moles formaldehyde per mole of phenol and the molecular ratio of resorcinol or other polyhydroxy aromatic compound to phenol ranges between 0.2 to 0.8 moles.

The final copolymer has a predominantly linear backbone of ortho-directed phenol-formaldehyde modified by resorcinol or other polyhydroxy aromatic compound forming methylene bridges cross-linking molecules to adjacent molecules to provide an infusible final product.

26,882
ARROW-HELICOPTER TOY

Lloyd S. Turner, Los Gatos, Calif., assignor, by direct and mesne assignments, to Basic Products Development Company, Inc., Oakland, Calif., a corporation of California

Original No. 3,390,480, dated July 2, 1968, Ser. No. 558,358, June 17, 1966. Application for reissue Nov. 21, 1968, Ser. No. 782,494
Int. Cl. A63h *27/14*
U.S. Cl. 46—75 **3 Claims**

This aerial toy includes a shaft-like body and a pair of wings formed of a single strip of pliable sheet material. The toy will ascend as an arrow with the wings extending to the rear, and with a rudder vane protruding through an opening in each wing. The wings with the rudder vanes

protruding therethrough will provide arrow-like tail fins with mutually perpendicular surfaces for stable flight.



The toy will descend as a helicopter with the wings curled outwardly away from the body.

26,883

PROCESS FOR THE REDUCTION OF THE AROMATIC CONTENT OF PETROLEUM DISTILLATES

Joseph Eugene Marcel Marechal, Watermael-Boitsfort, Henri Robert Debus, Meise, and Raymond Marc Cahen, Woluwe-St. Pierre, Belgium, assignors to Labofina S.A., Bruxelles, Belgium

No Drawing. Original No. 3,269,939, dated Aug. 30, 1966, Ser. No. 357,317, Apr. 3, 1964. Application for reissue Aug. 26, 1968, Ser. No. 760,385

Int. Cl. C10g *23/04*; C07c *5/02*

U.S. Cl. 208—143 **11 Claims**

This invention is directed to a process for the reduction of the aromatic content of petroleum distillates having a high sulphur content by hydrogenating with a platinum catalyst upon a silica and alumina carrier, each in major quantity.

26,884

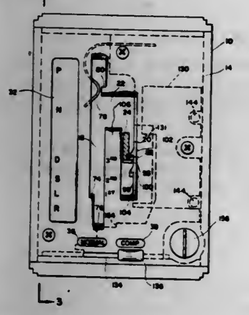
GEAR SHIFTING APPARATUS

George H. Hurst, Jr., Jenkintown, and William G. Campbell, Chalfont, Pa., assignors to Hurst Performance, Inc., Warminster, Pa., a corporation of Pennsylvania

Original No. 3,292,450, dated Dec. 20, 1966, Ser. No. 321,977, Nov. 6, 1963. Application for reissue Dec. 19, 1968, Ser. No. 787,302

Int. Cl. G05g *1/00*

U.S. Cl. 74—473 **13 Claims**



A gear shift assembly includes a shift-stick, a first operating channel defined by a slot in a top plate, a second operating channel substantially parallel to the first one and also defined by a slot in the plate with a transverse channel permitting movement of the stick from one channel to the other. A manually movable gate closure plate is provided which, in one position, prevents the stick from moving into the second channel. Also, in at least one of the channels there is a spring-urged member which prevents movement of the stick transverse to its usual shifting path into a predetermined stick position but enables movement of the stick into the predetermined position when the stick is moved along its usual path.

26,885

RESISTANCE HEATING ELEMENTS AND METHOD OF CONDITIONING THE HEATING SURFACES THEREOF

Darrel M. Harris, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Original No. 3,406,044, dated Oct. 15, 1968, Ser. No. 423,066, Jan. 4, 1965, which is a continuation-in-part of application Ser. No. 308,859, Sept. 13, 1963. Application for reissue Dec. 23, 1968, Ser. No. 841,636

Int. Cl. B44d *1/18*

U.S. Cl. 117—215 **18 Claims**

Graphite heating elements which are used in epitaxial silicon furnaces and which are presently coated in order to prevent outgassing by vapor depositing a first layer of silicon on the bridge. The bridge is heated above the melting point of silicon causing the silicon to melt and fuse to the bridge and the temperature of the bridge is thereafter lowered. Silicon carbide is thereafter vapor deposited and becomes bonded to the silicon layer. A final coating of silicon is thereafter applied to the silicon carbide.

26,886

PbTe+Cr THERMOELECTRIC MATERIAL AND THERMOELECTRIC DEVICE

Abner B. Turner, Greensburg, Pa., and Richard D. Lamb, Neosho, Mo., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Original No. 3,321,336, dated May 23, 1967, Ser. No. 261,780, Feb. 28, 1963. Application for reissue Sept. 12, 1968, Ser. No. 765,708

Int. Cl. H01v *1/15*

U.S. Cl. 136—238 **8 Claims**

This disclosure relates to chromium-doped lead telluride thermoelectric material having the formula PbTe+Cr wherein lead comprises from 60 to 63 weight percent and chromium 0.1 to 1.0% by weight of the lead telluride composition.

26,887

PROPORTIONAL NAVIGATION SYSTEM FOR A SPINNING BODY IN FREE SPACE

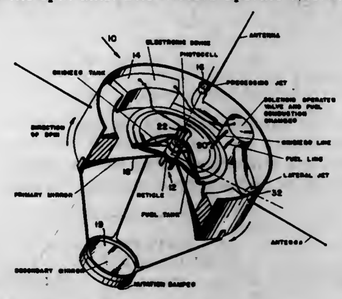
William B. McLean, China Lake, Calif., assignor to Walter G. Finch, Baltimore, Md.

Original No. 3,216,674, dated Nov. 9, 1965, Ser. No. 818,979, June 8, 1959. Application for reissue May 15, 1967, Ser. No. 646,745

Int. Cl. B64g *1/20*

U.S. Cl. 244—3.16 **48 Claims**

The direction of a radiation source is detected to provide signals to control jet motors, one of which is oriented to produce a precessing torque on a spinning vehicle; another of which is oriented to provide an acceleration lateral to the spin axis. The motors operate intermittently



in synchronism with the spin of the vehicle. A nutation damper damps out nutational movements.

26,888

PROCESS FOR FLUORESCENCE DETECTION OF EXTREMELY THIN TRACER FILMS

James R. Alburger, 5007 Hillard Ave., La Canada, Calif. 91011

Original No. 3,386,920, dated June 4, 1968, Ser. No. 492,674, Oct. 4, 1965, which is a continuation-in-part of application Ser. No. 323,529, Nov. 13, 1963, which is a continuation-in-part of application Ser. No. 149,061, Oct. 31, 1961, which in turn is a continuation-in-part of application Ser. No. 82,374, Jan. 13, 1961. Application for reissue May 19, 1969, Ser. No. 830,903

Int. Cl. C09k *1/02*; G01n *21/38*

U.S. Cl. 252—301.2 **23 Claims**

A fluorescence inspection process for the detection of extremely thin films of fluorescent tracers. Conventional fluorescent tracer processes have utilized solutions of fluorescent dyes which exhibit dimensional thresholds of fluorescence response larger than about 250 millimicrons. In newly discovered supersensitive fluorescent tracer processes, where it is desired to exhibit the presence of thin layers of tracer material, smaller than about 250 millimicrons, certain tracer compositions may be formulated using one or more fluorescent "sensitizer" dyes, with or without color former dyes, dissolved in a carrier liquid at a concentration greater than about 15 grams per pint, and the thus-formulated tracer compositions may be applied to test surfaces for thin-film fluorescence detection.

26,889

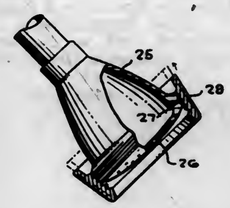
ADJUSTABLE SPRAY HEAD

Clyde V. Hindman, 1385 Eastern Ave., Morgantown, W. Va. 26505

Original No. 3,402,893, dated Sept. 24, 1968, Ser. No. 568,293, July 27, 1966. Application for reissue Apr. 7, 1969, Ser. No. 824,002

Int. Cl. B05b *15/00*

U.S. Cl. 239—546 **4 Claims**



A spray head consisting of a shell and a resilient, apertured face plate, which may be separate from, or integral with, the shell. Threaded means are provided for engagement with threads carried by the shell which, when rotated, will cause the face plate to flex and change its contour and thereby vary the angular relationship of the apertures in the face plate to change the water spray pattern.

26,890

3-SUBSTITUTED METHYLENE AND HALOMETHYLENE PREGNANES

Alexander D. Cross, Mexico City, Mexico, and Colin C. Beard, Freeport, Grand Bahama Island, Bahamas, assignors to Syntex Corporation, Panama, Republic of Panama, a corporation of Panama

No Drawing. Original No. 3,365,446, dated Jan. 23, 1968, Ser. No. 616,209, Feb. 15, 1967, which is a continuation-in-part of application Ser. No. 530,326, Feb. 28, 1966. Application for reissue Apr. 1, 1969, Ser. No. 826,742

Int. Cl. C07c *173/00*

U.S. Cl. 260—239.55 **21 Claims**

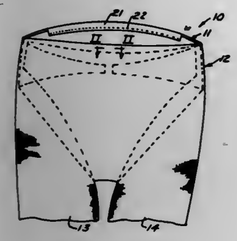
3β-hydroxy-, -tetrahydropyran-2-yloxy, and -acyloxy-pregnanes of the progestational and corticoid series having a cyclopropyl or halocyclopropyl group fused to at least one of positions C–1,2 and C–6,7 which are useful for their anabolic, progestational and corticoid activity. 3-keto-1,2-methylene-6,7-difluoromethylenepregnane intermediates and anabolic and progestational agents.

PATENTS

GRANTED MAY 19, 1970

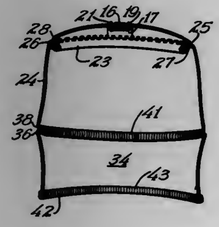
GENERAL AND MECHANICAL

3,512,179
BATHING SUIT WITH SECURITY BELT
John Demetrios Stamatiou, 8 Agiritou St., Ilissia, Athens, Greece
Filed June 5, 1967, Ser. No. 643,422
Claims priority, application Greece, June 3, 1966, 30,310
Int. Cl. A41d *5/00*
U.S. Cl. 2—67 — 3 Claims



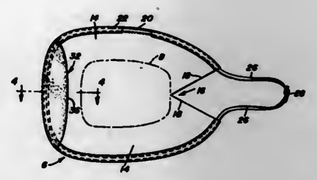
A bathing garment construction wherein a security belt is provided including waist-encircling means of a relatively heavy material adapted to be secured to and to be disposed inside a bathing suit of a relatively light material such as bathing trousers, and being adapted to tightly encircle the waist of the wearer and to resist removal of the bathing suit in the event of a sudden plunge into the water or in the event of failure of holding means of the suit. Preferably, crotch means are provided adapted to extend under the crotch of the wearer and most preferably, the waist-encircling and crotch means are formed from a one-piece blank of fabric material.

3,512,180
CAP
Chaim Bonk, 716 Mount Curve Blvd., St. Paul, Minn. 55116, and Samuel Rafowitz, 1604 Rome Ave., St. Paul, Minn. 55116
Filed Jan. 10, 1967, Ser. No. 608,311
Int. Cl. A42b *1/06*
U.S. Cl. 2—172 — 4 Claims



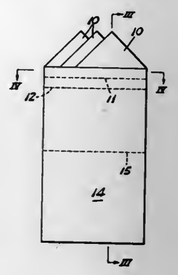
A cap having a crown portion, a side wall and rear wall portion, a visa and a warming band. The crown portion is stretchable laterally, the sidewall rearwall portions, as well as the warming band are stretchable in the direction of their longest dimension. Resilient stretch stitches connect the side wall and warming band to permit longitudinal stretching of the seam connecting the same.

3,512,181
DISPOSABLE CAP
Marvin J. Osborne, Casper, Wyo., (P.O. Box 1822, Salt Lake City, Utah 84410)
Filed Jan. 19, 1968, Ser. No. 699,136
Int. Cl. A42b *1/02*
U.S. Cl. 2—195 — 1 Claim



A snug-fitting one-piece cap without a peak. It is used a single time, is made of disposable cloth or paper, can be economically discarded. It features a crown portion marginally bordered by a depending head encircling rim having a hem and drawstring and an inverted V-notch at its rear. The free ends of the drawstring can be tied to hold the cap in place. A sponge rubber insert at the front provides a perspiration absorbing pad.

3,512,182
POCKET HANDKERCHIEF CARD
Joseph L. Bezanilla, 1611 Electric Ave., Lackawanna, N.Y. 14218
Filed Feb. 27, 1967, Ser. No. 618,930
Int. Cl. A41b *15/00*
U.S. Cl. 2—279 — 4 Claims

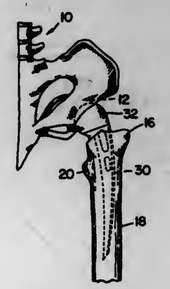


A handkerchief simulating article having cloth elements folded to simulate the projecting portions of a breast pocket handkerchief with double faced adhesive strips along both sides of the lower edges of the cloth elements to hold them in folded relation, and cardboard members overlying the lower edges of the cloth elements at opposite sides and held by the outer faces of the adhesive strips.

3,512,183
BIOELECTRIC POLYURETHANE AND USE OF SAME IN INTERNAL PROSTHESES
William V. Sharp, Cuyahoga Falls, David L. Gardner, Akron, and Gilbert J. Andresen, Stow, Ohio, assignors to the United States of America as represented by the Assistant Secretary, Health and Scientific Affairs, Department of Health, Education, and Welfare
No Drawing. Filed June 8, 1967, Ser. No. 644,481
Int. Cl. A61f *1/24*
U.S. Cl. 3—1 — 5 Claims

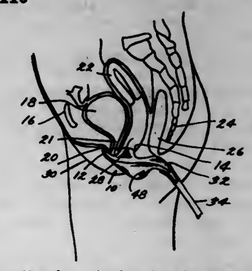
A composition comprising a bioelectric polyurethane having a negative static potential of from about 200 to 300 millivolts, and internal prostheses made thereof. Specifically a polyurethane composition containing 10 percent by weight of a conductive carbon black uniformly distributed therein. Artificial blood vessels made of a bioelectric polyurethane approximate natural blood vessels in physical and electrical characteristics.

3,512,184
HIP PROSTHESIS
Ned M. Grove, 654 N. El Camino Real, San Mateo, Calif. 94401
Filed Feb. 19, 1968, Ser. No. 706,476
Int. Cl. A61f *1/24, 5/04*
U.S. Cl. 3—1 — 12 Claims



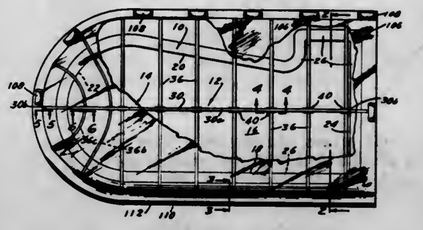
A prosthetic device, for replacing an irregularly-shaped skeletal component, having an outer configuration substantially corresponding to the outer configuration of the skeletal component. The device is formed by first surgically removing the skeletal component from the patient, forming a mold of the component, and thereafter modifying the outer configuration of a stock prosthesis to provide a composite prosthesis exhibiting the desired configuration. The composite device is then inserted, as a replacement for the skeletal component, in the patient.

3,512,185
URINARY COLLECTION DEVICE
Jacob P. Ellis, 1705 W. Cedar, El Dorado, Ark. 71730
Filed Nov. 9, 1967, Ser. No. 681,657
Int. Cl. A61g *9/00*; A61f *5/44*
U. S. Cl. 4—110 — 7 Claims



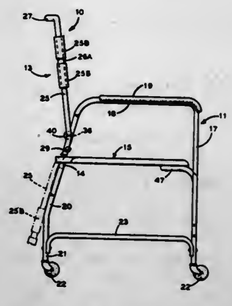
A urinary collection device is disclosed which is impressed against the vaginal introitus to produce a urine pool in introital and distal vaginal areas, causing the urine to drain easily and comfortably into said device with minimal, if any, leakage or spillage of urine onto cutaneous parts.

3,512,186
APPARATUS FOR COVERING SWIMMING POOLS
George N. Sanford, 4820 Faculty Ave., Long Beach, Calif. 90808
Filed Aug. 21, 1967, Ser. No. 662,056
Int. Cl. E04h *3/18*
U.S. Cl. 4—172.12 — 9 Claims



Swimming pool covering apparatus having a skeleton frame mountable over a swimming pool and a flexible plastic sheet for disposition over the frame. A peripheral portion of the cover is anchored, and another peripheral portion is weighted but adapted to be lifted.

3,512,187
SHOWER BATH CHAIR
Morton I. Thomas, Monroe, and Donald W. Edwards, New York, N.Y. (both of 125 South St., Passaic, N.J. 07055)
Filed Jan. 5, 1968, Ser. No. 696,058
Int. Cl. A47k *3/12*; A47c *1/00*
U.S. Cl. 4—185 — 9 Claims

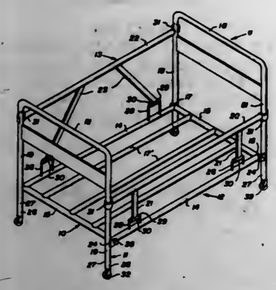


A portable shower bath chair for conveying individuals in hospitals or the like to and from a shower bath for bathing operations, including constructional details for facilitating the bathing operations for an individual using the same.

3,512,188
FOLDABLE AND ERECTABLE ENCLOSURES
Alexander Salamandyk and Metro Mihychuk, Winnipeg, Manitoba, Canada, assignors to Flatfold Articles Manufacturing Limited, Winnipeg, Manitoba, Canada
Filed Dec. 12, 1967, Ser. No. 689,964
Int. Cl. E03d *13/00*
U.S. Cl. 5—99 — 1 Claim

A foldable enclosure having a base with a pair of side components pivotally secured thereto and a front and rear components which are also pivoted to the base. The piv-

otal arrangement is such that the side and front and rear components can be folded inwardly upon the base so that they fold flat in overlapping planar relationship and also



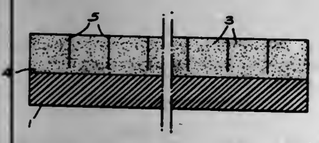
include means whereby when they are erected, they can be secured to one another without the use of tools or nuts and bolts.

3,512,189
PATIENT'S AID DEVICE
Carmen A. Swanson, 957 N. Mariposa Ave., Los Angeles, Calif. 90029
Filed May 15, 1967, Ser. No. 638,268
Int. Cl. A47c *21/00*
U.S. Cl. 5—327 5 Claims



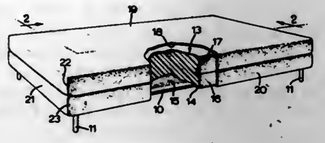
The application discloses a substantially rigid, thin, L-shaped support for bed patients.

3,512,190
CUSHION CONSTRUCTION
Fred Bull, Paramus, N.J., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware
Filed July 24, 1967, Ser. No. 655,341
Int. Cl. A47c *23/00, 25/00, 27/00*
U.S. Cl. 5—345 8 Claims



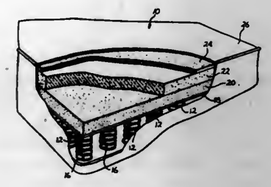
This specification describes a cushion construction in which a resilient support such as a mattress is formed to contain a number of contiguous segments rising from a common base. Each segment is capable of substantially independent response to the application of a weight with the result that the functional surface will be irregularly deflected when a body of irregular contour is placed thereon so as to substantially reproduce the contour.

3,512,191
FURNITURE CUSHION AND UPHOLSTERY
John Franklin Wall, Oakville, Ontario, Canada, and Imre Jack Smith, 43 Brucewood Crescent, Toronto 19, Ontario, Canada; said Wall, assignor to said Smith
Filed Oct. 23, 1967, Ser. No. 677,342
Int. Cl. A47c *27/08*
U.S. Cl. 5—345 5 Claims



This specification discloses an article of covered upholstery such as a pillow, cushion, chair, bed or the like in which the upholstery pad is provided with a retaining slit, generally located in a side wall, and in which the cover is provided with side panels dimensioned to overlap such side walls, and pleats formed in said side panels and oriented to fit within said retaining slit to hold the cover firmly in position on the pad.

3,512,192
FIRE RESISTANT MATTRESS
George Simon, Los Angeles, Calif., assignor to United Bedding Corporation, Los Angeles, Calif., a corporation of California
Filed June 3, 1968, Ser. No. 734,103
Int. Cl. A47c *23/00, 27/00*
U.S. Cl. 5—345 16 Claims

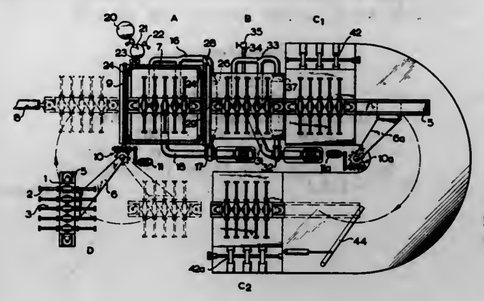


A mattress constructed so as to render it resistant to ignition by a glowing source as well as ignition by a flaming source.

3,512,193
APPARATUS FOR DYEING STRINGS OF YARN AND METHOD OF OPERATING SAME
Curt Kronsbein, 69 Turmstrasse, Hagen-Boelerheide, Germany
Original application Mar. 26, 1964, Ser. No. 354,844. Divided and this application July 26, 1967, Ser. No 666,531
Claims priority, application Germany, Mar. 27, 1963, M 56,276
Int. Cl. D06f *35/00;* D06p *7/00*
U.S. Cl. 8—155.2 1 Claim

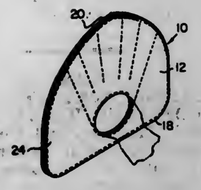
This disclosure provides an apparatus and a method for dyeing strings of textile material. The particular method of this disclosure is directed to the dyeing of textile material that is wound up to form a packed condition in the textile material. This textile material is placed in a pressure dyeing zone where a source of dye liquor is pumped to pass through the yarn. The flow of dye liquor is maintained at an amount effective to keep

substantially no accumulation of dye liquor in the dyeing zone. The flow of liquor is maintained at a relatively large amount to increase the frequency of passage of the said liquor through the yarn. A further step of the proc-



ess involves raising the temperature within the dyeing zone as quickly as possible to a point sufficient to establish substantially the same absorption conditions for all components of the dye liquor.

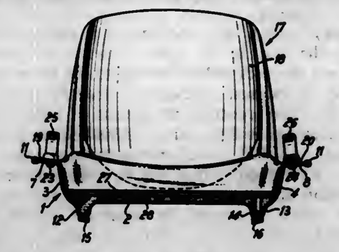
3,512,194
SWIMMING MITT
Gerald W. Wolfe, Mesa East, 145 E. 18th St., Costa Mesa, Calif. 92627
Filed July 18, 1968, Ser. No. 745,864
Int. Cl. A63p *31/02*
U.S. Cl. 9—308 4 Claims



A swimming mitt comprising two substantially delta shaped pieces of water resistant, flexible sheet peripherally sewed together and partially peripherally reinforced by a wire rib. A wrist opening is provided in the uppermost of the sheets near the trailing edge thereof to permit the insertion of the swimmer's hand prior to using the device.

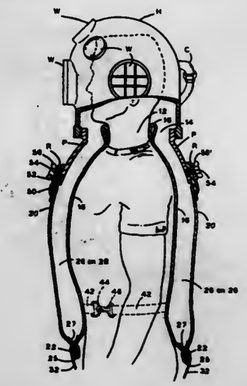
3,512,195
SPORT ARTICLE
Ferdinand Alexander Porsche, Doflingen, Kreis Boblingen, Germany, assignor to Firma Dr. Ing. h.c. F. Porsche KG, Stuttgart-Zuffenhausen, Germany
Continuation of application Ser. No. 597,635, Nov. 29, 1966. This application May 26, 1969, Ser. No. 828,015
Claims priority, application Germany, Jan. 14, 1966, 1,505,819
Int. Cl. A63c *15/00;* B62b *13/06*
U.S. Cl. 9—310 3 Claims

A sport article for gliding in snow and water which is made of synthetic plastic resin material and includes an approximately trough-shaped form body having essentially upright side walls, which in turn possess horizontally disposed wall rim parts provided with apertures for the securing of accessories of the sport article. A seat provided with a back portion is secured at its opposite sides, along with handles, to the rim parts only by means of readily detachable fasteners so that it is spaced from the



floor of the article, which floor is provided with a laminated construction having a foam material.

3,512,196
BUOYANCY VEST FOR COMMERCIAL DIVING
Joseph J. Carroll and John B. Galletti, Jr., Pasadena, Tex., assignors to J & J Marine Diving Company, Pasadena, Tex., a corporation of Texas
Filed Dec. 26, 1968, Ser. No. 786,878
Int. Cl. B63c *11/14, 9/08*
U.S. Cl. 9—342 16 Claims



A garment to be worn by commercial divers as a substitute for a full diving suit. The vest is essentially a thin bag of water impervious material, having a length twice that of a man's torso and substantially equal to it in width. A pair of centrally located, registering openings permit the diver to pull the vest over his head so that half of it drapes over his chest and abdomen while the other half lies against his back. An elastic collar bonded to the bag area adjacent the lower opening extends transversely of the bag and fits snugly around the diver's neck to form a seal therewith.

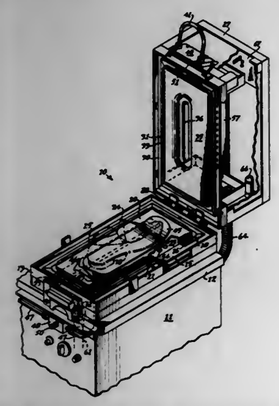
The bag material adjacent and surrounding the upper opening in the bag wall is adapted by various means to fit any of the commercially available diver's helmets, e.g., by a thickened reinforcing strip pierced with a series of holes to fit the studs of the breastplate which supports the type of helmet used with a full diving suit, or a termination fitting as a seal between the locking ring and sidewall of the type helmet supported on the diver's head.

The vest or bag is preferably provided with straps, and connecting eyes and hooks, the straps being secured to the lower edges of the bag so that one set may be run under the diver's crotch and fastened together to hold both vest and helmet against the buoyant force of the water the diver is working in. The crotch straps thus replace longer

crotch straps used with a helmet and a wet suit, and minimize the possibility of entanglement in the straps. Girth straps and connectors may also be provided to keep the vest from flapping.

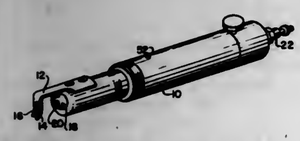
With this construction, the helmet is always flow connected to the bag, in the space between the upper bag opening and the neck collar bonded to the lower opening. No supply or exhaust connections need be made to the vest, as the diver controls the extent of inflation of his vest by adjusting the flow valves of his helmet, principally the exhaust valve. If he leaves the exhaust valve adjustment at a wide open setting, the vest remains uninflated, the condition appropriate for working on bottom. When the diver wishes to ascend, he closes his helmet exhaust valve to reduce the rate of exhaust, causing the bag to inflate. By proper adjustment of such valve the diver may control his buoyancy to rise to the surface or to remain suspended at any desired intermediate depth between bottom and surface.

3,512,197
SHOE MAKING MACHINE
Harold S. Carr, Sr., Hermitage, Tenn. (2819 Lebanon Road, Nashville, Tenn. 37214)
Filed Apr. 24, 1968, Ser. No. 723,697
Int. Cl. A43d *89/00*
U.S. Cl. 12—4.2 4 Claims



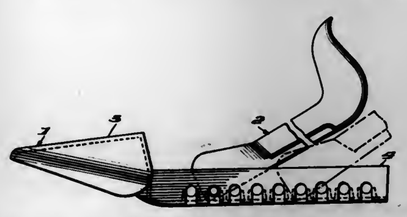
A shoemaking machine including upper and lower membranes adapted to receive a lasted shoe therebetween with the peripheries of the membranes in air-tight sealing engagement, and means for evacuating the air between the membranes so that the membranes adhere tightly around the exterior surface of the shoe.

3,512,198
PNEUMATIC PIERCING TOOL
Maurice J. Goldman, 382 Massapoag Ave., Sharon, Mass. 02067
Filed May 28, 1969, Ser. No. 828,675
Int. Cl. A43d *5/00*
U.S. Cl. 12—103 4 Claims



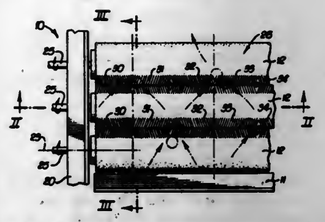
A piercing tool especially useful for interconnecting shoes with minimum manual effort and in an extremely safe manner. A snubbing member is slidably disposed in a housing and a needle assembly is coaxially disposed within the snubbing member. By pneumatic action, the snubbing member is caused to move axially into clamping engagement with a rigid foot and the needle assembly then caused to move axially beyond the snubbing member to pierce work clamped between the member and the foot.

3,512,199
SHOE TREE
Abraham Messinger, 50 Park Ave., New York, N.Y. 10016
Filed Apr. 16, 1968, Ser. No. 721,803
Int. Cl. A43d *5/00, 15/00, 19/00, 95/00*
U.S. Cl. 12—117.4 8 Claims



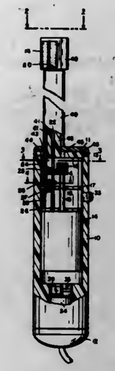
A shoe tree including a toe part and a heel part each of unitary construction, which parts are constructed to include means to connect the parts together in a plurality of positions to accommodate different length shoes, the said means including trunnion means on one part and longitudinally spaced, transversely aligned pairs of apertures and bearing surfaces incorporated with the apertures having an axial extent greater than the wall thickness of the part adjacent the aperture and where the shoe tree is for women's shoes the heel part is constructed to cooperate with women's shoes having either a closed heel or an open heel.

3,512,200
ARTICLE TREATING APPARATUS AND BRUSH ROLL CONSTRUCTION THEREFOR
Richard B. English, Pasadena, and Donald E. Scruggs, El Monte, Calif., assignors to Industrial Brush Company, Pomona, Calif., a corporation of California
Filed May 9, 1968, Ser. No. 727,981
Int. Cl. A23n *13/00*; A46b *9/02*
U.S. Cl. 15—3.17 19 Claims



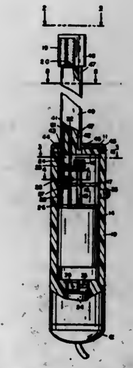
An apparatus and a brush roll construction for treating fruit, produce, globular articles and the like comprising a plurality of brush rolls having brush filament sections arranged in a selected pattern, each section comprising filament elements inclined longitudinally in the direction of the axis of the brush roll and also inclined in the direction of rotation of the brush roll whereby the path of travel of an article is substantially determined and during said travel the surface of said article is subjected to vigorous cleaning and treatment by the filament elements, the article being actively and vigorously tumbled by said brush rolls.

3,512,201
POWER TOOTHBRUSH
Theodore L. Taylor, 4813 Woodburn Drive, Madison, Wis. 53711
Filed Apr. 25, 1967, Ser. No. 633,556
Int. Cl. A46b *13/02*; A61c *17/00*
U.S. Cl. 15—23 15 Claims



A power toothbrush with dual motion brush head. The primary motion is rotary, the head being driven by a motor through a gear train. The brush head shaft is also coupled to the plunger of a reciprocating solenoid. A timed rotary cam switch in the motor and solenoid circuits alternately closes and opens the circuits, so that the brush head rotates for a predetermined period, then reciprocates for a short period. With the user pressing the brush bristles against the teeth or gingiva, the short stroke reciprocation of the head excites a vibratory bristle response, or "vibrato," pressure on the tips holding them stationary.

3,512,202
POWER TOOTHBRUSH AND GUARD THEREFOR
Theodore L. Taylor, 4813 Woodburn Drive, Madison, Wis. 53711
Continuation-in-part of application Ser. No. 633,556, Apr. 25, 1967. This application May 31, 1968, Ser. No. 733,436
Int. Cl. A61c *17/00*; A46b *13/02*
U.S. Cl. 15—23 11 Claims



A reversible, rotary power toothbrush with reversible guard. When the motor reversing switch is actuated to energize the motor for rotation of brush in selected direction, a rod extending from the switch plate to a dual guard automatically turns the guard to correct position for shielding the brush from user's cheeks and lips, corresponding to the brushing position for selected brush rotation. When the switch is actuated for reversal of brush rotation and corresponding change in brushing position, the guard is automatically reversed correspondingly.

3,512,203
MOPHEAD
Van P. McClellan, Jr., 608 Scott Ave., Greensboro, N.C. 27403
Filed Nov. 6, 1967, Ser. No. 680,664
Int. Cl. A47l *13/24*
U.S. Cl. 15—229 3 Claims



This invention relates to mopheads, and more particularly, to a mophead wherein the mid-portions of the strands forming the mophead are bonded together with a suitable plastic material which surrounds and penetrates the strands to completely secure them together, and there is also provided a novel means for attaching the mophead to a handle.

3,512,204
SCRUBBER AND SCRAPER DISK WITH ROPE WIPER ELEMENT
Zigmund J. Jagiel, Toledo, Ohio, assignor to Hugh A. Kirk, Toledo, Ohio
Filed Mar. 25, 1968, Ser. No. 715,640
Int. Cl. A47l *11/16*
U.S. Cl. 15—230.16 5 Claims

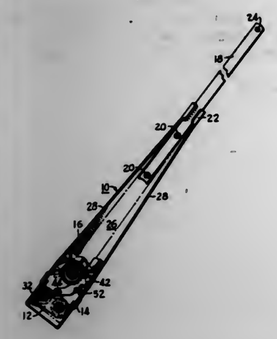


A detachable plate or rotary disk-type rug or carpet scrubber and/or floor scraper for a floor-type scrubbing machine, which scrubber comprises a rigid plate which has on its bottom surface at least a peripheral marginal flat portion and may also have a central concave portion, and also has spaced slots. A locking hub may be centrally or eccentrically mounted on the top surface of the plate or disk for removable attachment to a moving or rotating means on the scrubbing machine. An easily replaceable rope may be interwoven in between some of the slots of the plate or disk to provide scouring ribs on its bottom surface. Also rigid U-shaped blades or scrapers with cutting edges substantially parallel to the floor or surface being scraped may be removably attached to the disk through the slots.

3,512,205
WINDSHIELD WIPER ARM

William C. Riester, Williamsville, and Raymond A. Delbel, Cheektowaga, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.

Filed July 5, 1968, Ser. No. 747,763
Int. Cl. B60a *1/04*
U.S. Cl. 15—250.34 7 Claims

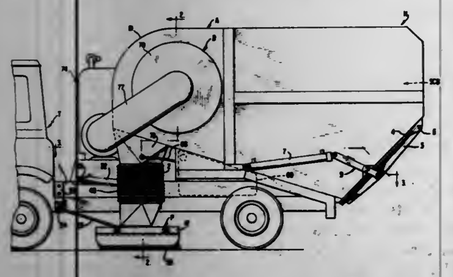


A windshield wiper arm includes a mounting head having a mounting head cover enveloping the mounting head and pivoted thereto. A pair of compression springs recessed in the mounting head bear against the web of the mounting head cover to urge the arm against a windshield of a motor vehicle. A recess in the mounting head receives a pivot shaft drive burr in driving engagement. A latch pivoted to the arm head engages the edge of one flange of the mounting head cover in the installation position. In the latching position the latch underlies the drive burr to retain it in the recess. A second form of latch comprises a lever transversely slidable in the mounting head, spring biased to a position where a portion engages the edge of the flange of the arm head cover member to maintain the arm in an installation attitude. In the latching position a portion of the lever underlies the drive burr retaining it in the drive burr recess of the mounting head.

3,512,206
AIR FLOW SURFACE CLEANING APPARATUS

Bernard W. Young, P.O. Box 2369, Waco, Tex. 76701

Filed Aug. 30, 1966, Ser. No. 576,063
Int. Cl. A47l *5/14*; E01h *1/08*
U.S. Cl. 15—346 17 Claims

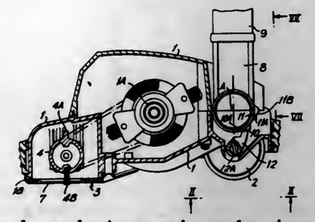


An air flow surface cleaning apparatus includes a pick-up head mounted for movement in a path in the direction of cleaning progress over a surface to be cleaned. A suction chamber within the pick-up head extends transversely of said path. Air under pressure is discharged through orifice means at an inclination forwardly and downwardly along a line adjacent a transverse edge of the suction chamber so as to be deflected from the surface being cleaned into the suction chamber substantially throughout the entire width of the suction chamber. The air is exhausted from one end of the suction chamber so that air flows therein transversely of the cleaning path as well as longitudinally thereof.

3,512,207
SUCTION CLEANER

Ian Geoffrey Ettridge, Barton-le-Clay, England, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed Oct. 25, 1967, Ser. No. 677,954
Claims priority, application Sweden, Oct. 26, 1966, 14,734/66
Int. Cl. A47l *5/34*
U.S. Cl. 15—361 1 Claim

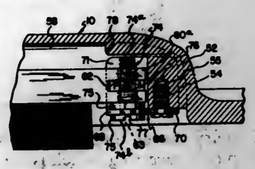


A suction cleaner having a casing and a pivotally connected upright handle for manipulating the casing over a surface to be cleaned, the casing having a motor-driven brush at the vicinity of an air inlet and a motor-fan unit for moving air through the casing from the air inlet to an outlet from which air is discharged by the motor-fan unit and flows to a dust collector. First and second parts respectively carried by the handle and the casing cooperate with one another and function to lift the front end of the casing when the handle is manually moved downward from a vertical position about its axis. The first part carried by the handle is formed with a sloping cam surface and the second part carried by the casing comprises a cam which is mounted for movement thereon and operable to ride on the sloping cam surface with downward manual movement of the handle from its vertical position. The sloping cam surface resists movement of the cam riding thereon and develops sufficient resistance to lift the front end of the casing when the handle is moved vertically downward about its axis through a predetermined angle. The resistance developed by the cooperation of the sloping cam surface and the cam is of such magnitude that it is insufficient to stop downward manual movement of the handle about its axis past the predetermined angle.

3,512,208
ADJUSTMENT MEANS FOR TOOL BRUSH IN VACUUM CLEANER

Donald B. Spencer, Cincinnati, Ohio, assignor to Haley Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 1, 1968, Ser. No. 717,857
Int. Cl. A47l *9/06*
U.S. Cl. 15—368 8 Claims

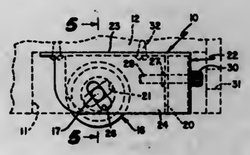


A cleaning tool with an adjustable brush, adapted for use with a vacuum cleaner such as a canister-type vacuum cleaner, comprising a housing adapted for connection to an operating handle. The housing comprises a suction chamber with the brush generally centrally mounted in the suction chamber and extending transversely thereof. A clip-like support member of generally U-shaped configuration is mounted at each end of the suction chamber and mounts rotatable screw-like means thereon which threadedly engage nuts on the brush and adjustably mount the brush in the chamber, providing for selectively raising and lowering the brush with respect to the housing upon rotation of the screw-like means.

3,512,209
ADJUSTABLE ROLLER SUPPORT FOR SLIDING DOORS

Bruno Povoden, Rexdale, Ontario, Canada, assignor, by mesne assignments, to Microdot Inc., New York, N.Y., a corporation of California

Filed July 9, 1965, Ser. No. 470,772
Int. Cl. E05d *13/02*
U.S. Cl. 16—105 3 Claims



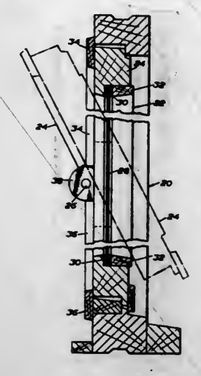
1. A device for use with a sliding door panel and a rail along which the door panel rides, said device comprising a main housing having an open bottom and adapted to be recessed in the door panel, said main housing having a pair of parallel laterally spaced sidewalls and an end wall, a yoke housing within said main housing for sliding movements therein, said yoke housing having parallel laterally spaced sidewalls closely adjacent the inside of the sidewalls of said main housing and an end wall spaced from said end wall of said main housing, diagonal slots in each of said sidewalls, the slots of the yoke housing sidewalls inclining vertically in one direction and the slots in the side walls of said main housing inclining in the opposite direction, and adjacent slots of the respective housings being in partial alignment, a roller assembly between the sidewalls of said yoke housing with a portion of the roller projecting below both housings for engagement with the rail, an axle part projecting from each side of the roller assembly into the respective partially aligned slots, a rigid nut on said end wall of said yoke housing, there being a hole in said main housing end wall in alignment with said nut, a bolt extending through said hole into threaded engagement with said nut, and a head on said bolt on the outer side of said hole whereby turning of said bolt shifts said yoke housing to cause said roller to project a greater or lesser extent from said main housing due to the cooperative action of said diagonal slots and axle parts.

3,512,210
WINDOW MOUNTINGS

Arnold Ratcliffe, 74 Manchester Road, Haslingden, Rossendale, Lancashire, England

Filed Nov. 21, 1967, Ser. No. 684,757
Claims priority, application Great Britain, Nov. 22, 1966, 52,129/66
Int. Cl. E05d *11/10*
U.S. Cl. 16—139 5 Claims

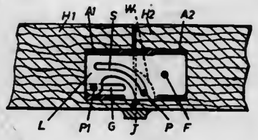
A pivot mounting for a swingable part of a building such as a widow includes a hydraulic damper comprising a housing defining an arcuate chamber subtending at least part of a circle. A vane within the chamber is movable with the swingable part. A partition divides the chamber into two parts one on each side of said vane. A valve is mounted for manually controlled movement within the partition to bring ports in the valve into and out of register with ports in said partition to selectively control flow of hydraulic fluid through said partition from one part of the chamber to the other part for selective pivotal position control and locking of the swingable building part.



3,512,211
LINK HINGES

Eraclio Bassan, Rovigo, Italy, assignor to Officine Meccaniche Bassen & C., S.r.L., Rovigo, Italy, a limited-liability corporation of Italy

Filed Oct. 13, 1967, Ser. No. 675,198
Claims priority, application Italy, Oct. 13, 1966, 26,722/66
Int. Cl. E05d *3/06*
U.S. Cl. 16—164 5 Claims



A link hinge comprising a pair of hollow, preferably cylindrical shells, in one of which a C-shaped link is fastened which protrudes into the second shell, C-shaped said link being provided with an arcuate slot through which passes a pin carried by lugs projecting out of said second shell, said link carrying at its outer end a pin having two projecting ends slidably inserted in grooves formed in said second shell parallel to its axis.

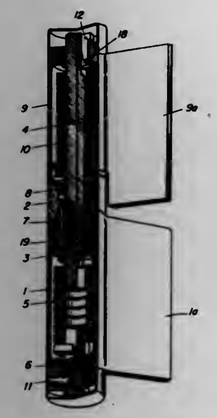
3,512,212
SPRING HINGE

Kiyoshi Inoue and Shigeru Kasuya, Tokyo, Japan, assignors to Nippon Electric Industry Co. Ltd., Tokyo, Japan, a corporation of Japan

Filed Aug. 19, 1968, Ser. No. 753,637
Int. Cl. E05f *1/12*
U.S. Cl. 16—189 15 Claims

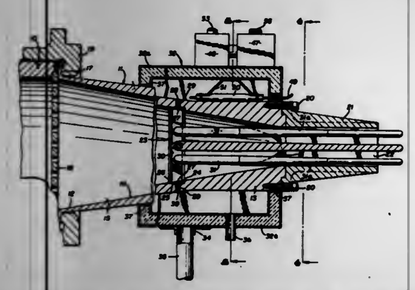
A spring hinge having three concentrically mounted elements and a transmission means mounted in the intermediate element such that during a first portion of oper-

ation of said hinge two springs are twisted, and during further operation of the hinge only a single spring is twisted. Thereby, a large door closing torque is provided



for relatively small angular openings thereof and relatively low forces are required to open the door to its maximum open position.

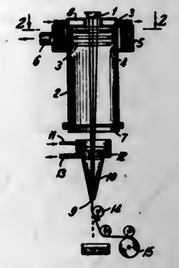
3,512,213
EXTRUSION NOZZLE FOR A MEAT GRINDER
Edmund J. De Villers, Columbus, and Edgar W. Ingram, Jr., Worthington, Ohio, assignors to White Castle System, Inc., Columbus, Ohio, a corporation of Delaware
Filed May 15, 1968, Ser. No. 729,324,
Int. Cl. A22c *7/00*
U.S. Cl. 17—32 **6 Claims**



An electrically heated extrusion nozzle for attachment to a meat grinder and for forming ground, semi-frozen meat discharged from the meat grinder into a continuous, longitudinally perforated column, and wherein the nozzle is of sectional, knock-down construction to facilitate cleaning and sanitizing.

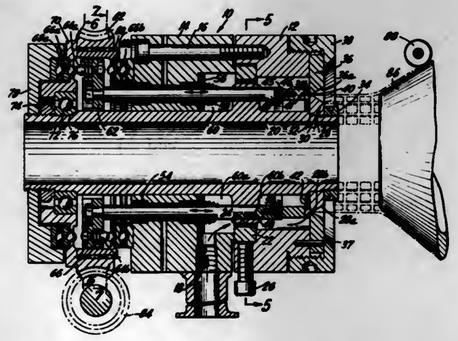
3,512,214
APPARATUS FOR MELT SPINNING OF SYNTHETIC FILAMENTS
Kamekichi Shiba and Tetsuo Tamaki, Ehime-ken, and Ryoichiro Funakoshi, Tokyo, Japan, assignors to Fuji Spinning Co., Ltd., Chuo-ku, Tokyo, Japan
Filed July 8, 1966, Ser. No. 563,745
Claims priority, application Japan, July 8, 1965, 40/40,595
Int. Cl. D01d *13/02*
U.S. Cl. 18—8 **5 Claims**

An apparatus for melt spinning of synthetic filaments includes a heater for melting the resin, and a pump or other means for forcing the melted resin through a spin-



neret to form filaments. An infrared ring-shaped heater fuses the filaments. They are then cooled in a cooling bath.

3,512,215
PLASTIC NET EXTRUDING APPARATUS AND PLASTIC NET PRODUCED THEREBY
Charles F. Hutcheon, 192 Shephard Lane, Roslyn Heights, N.Y. 11577
Filed Aug. 1, 1966, Ser. No. 569,460
Int. Cl. B26d *23/00, 23/04*
U.S. Cl. 18—12 **11 Claims**

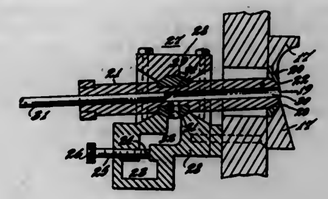


An apparatus for extruding a tubular plastic net characterized by warp and woof strands at 90° to each other in a single common plane. The apparatus utilizes an annular extruding die in combination with an oscillating blocking member.

3,512,216
INJECTION MOLDING NOZZLE SUPPORT
Walter D. Voelker, Philadelphia, Pa., assignor to Bischoff Chemical Corporation, Hicksville, N.Y.
Filed Mar. 26, 1968, Ser. No. 716,009
Int. Cl. B29f *1/03*
U.S. Cl. 224—42.1 **3 Claims**

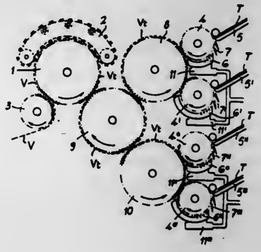
High pressure gas is dispersed in polyethylene or other thermoplastic material. A selected amount of the molten plastic foam flows during a very brief filling step through a heated delivery line, through a plurality of nozzles, and into a mold. Because of the reduction of pressure, each pore of gas expands upon entering the mold, and the composition promptly hardens into a structural plastic article having a pore volume of the magnitude of 50%.

The relatively large article is removed from the split mold. The plurality of nozzle tips engage with the seats for the orifices of the mold. Of importance, each nozzle is supported by a ball and socket joint, whereby its nozzle tip may be moved about 3 mm. from its central position. Thus minor imprecision in the location of the plurality of orifices in the mold, or thermal expansion differences



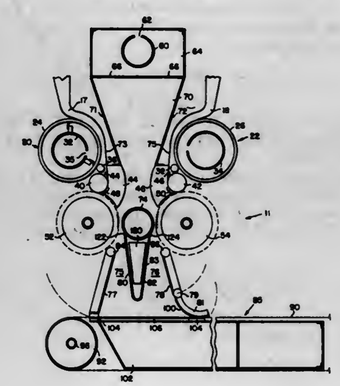
between the mold and the delivery line, are compensated for by small but universal movement of the tip of each nozzle about the ball and socket joint by which it is supported. The connection between the nozzle and mold is maintained leakproof by reason of the small but universal movement of the nozzle tip which is permitted by the ball and socket support.

3,512,217
TEXTILE CARDING MACHINERY
Ezio Bettoni, Via Carducci, 27, Bergamo, Italy
Filed Jan. 10, 1968, Ser. No. 696,750
Claims priority, application Italy June 13, 1967, 1,302/67
Int. Cl. D01g *15/40, 15/82*
U.S. Cl. 19—105 **1 Claim**



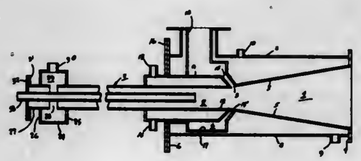
In a textile carding machine there is provided a plurality of vertically spaced and aligned taker-ins that are grouped in a plurality of pairs. A feed table, or taker-in grid and a plurality of mote knives cooperate with each one of the taker-ins. A vacuum channel is positioned directly below each of the taker-in grids, the vacuum channel under the grids of each pair of taker-ins having a common connection to a remote source of vacuum. A first and second carrying roller are positioned downstream of and common to a respective pair of taker-ins and an intermediate carrying roller is positioned downstream of and common to the first and second carrying rollers. There is also provided a main card cylinder associated with and positioned downstream of the intermediate carrying roller. Revolving flats cooperate with the main card cylinder and a doffer roller is positioned downstream of and in cooperation with the main card cylinder.

3,512,218
MACHINE FOR FORMING RANDOM FIBER WEBS
Howard H. Langdon, Monroe, N.Y., assignor to Curlator Corporation, East Rochester, N.Y., a corporation of New York
Filed Jan. 19, 1968, Ser. No. 699,213
Int. Cl. D01g *25/00*
U.S. Cl. 19—156.3 **8 Claims**



In this machine fibers or tufts of fibers are fed to two rotating condensers on which the fibers are laid down by suction and from which the mats of fibers formed are doffed by doffing rolls, and fed over feed plates by feed rolls to two rotating lickerins which comb the fibers from the mats. The fibers are doffed from the lickerins by centrifugal force and by an air stream flowing through a balancing chamber disposed centrally between the two condensers and their feed plates. This stream is split by a saber, which is disposed between the two lickerins, so that it flows past the two lickerins. The split air stream (now two streams) delivers the fibers doffed from the lickerins onto an endless condenser belt on which the fibers are laid down in random fashion to form the random fiber web.

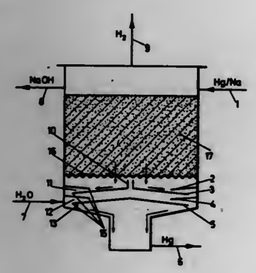
3,512,219
INJECTION REACTOR FOR TITANIUM DIOXIDE PRODUCTION
David R. Stern, Fullerton, and Richard M. Gundzik, Hacienda Heights, Calif., and Peter M. Jones, Grimsby, and Peter J. Lynskey, Laceby, England, assignors of one-half to American Potash & Chemical Corporation, Los Angeles, Calif., and one-half to Laporte Industries Limited, London, England
Filed Oct. 19, 1965, Ser. No. 497,896
Int. Cl. C01g *23/04*
U.S. Cl. 23—277 **14 Claims**



An apparatus adapted for use in the production of titanium dioxide by the vapor phase oxidation of titanium tetrachloride. The apparatus comprises a reaction zone

having an entrance portion, conduit means for introducing an oxidizing gas into the reaction zone and inlet means for introducing titanium tetrachloride vapors into the reaction zone. The downstream end of the conduit means is spaced from the entrance portion of the reaction zone to define a circumferentially extending inlet which comprises the inlet means for the titanium tetrachloride. One or both of the upstream and downstream faces of the inlet means are positioned at an angle to the axis of the reaction zone. The conduit means is constructed in such a manner as to provide an established flow of the oxidizing gas in the conduit means.

3,512,220
VERTICAL DECOMPOSING DEVICE FOR SEPARATING MERCURY AND ALKALI METAL HYDROXIDES
Helmut Hund, Frankfurt am Main, and Frantz Glos, Dortmund, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
Filed Sept. 19, 1967, Ser. No. 668,817
Claims priority, application Germany, Sept. 23, 1966, F 50,272
Int. Cl. B01j 9/04
U.S. Cl. 23—288 3 Claims



A vertical decomposing device for separating mercury from alkali metal hydroxide, consisting of a zone of decomposition filled with graphite as catalyst and a washing zone improved by using in the washing zone intermediate plates in the form of alternating upright cones and suspended truncated cones.

3,512,221
ALUMINUM ALLOY WIRE
Roger J. Schoerner, Carrollton, Ga., assignor to Southwire Company, Carrollton, Ga., a corporation of Georgia
No Drawing. Continuation-in-part of application Ser. No. 779,376, Nov. 27, 1968, which is a continuation-in-part of application Ser. No. 730,933, May 21, 1968. This application Apr. 7, 1969, Ser. No. 814,183
Int. Cl. B21c 1/00; C22f 1/04
U.S. Cl. 29—183.5 20 Claims

An aluminum alloy wire having an electrical conductivity of at least sixty-one percent (61%) based on the International Annealed Copper Standard and unexpected properties of increased ultimate elongation, bendability and fatigue resistance when compared to conventional aluminum alloy wire of the same tensile strength. The aluminum alloy wire contains substantially evenly distributed iron aluminate inclusions in a concentration produced by the addition of more than about 0.30 weight percent iron to an alloy mass containing less than about 99.70 weight percent aluminum, no more than 0.15 weight percent silicon, and trace quantities of conventional impurities normally found within a commercial aluminum alloy. The substantially evenly distributed iron aluminate inclusions are obtained by continuously casting an alloy consisting essentially of less than about 99.70 weight percent aluminum, more than 0.30 weight percent iron, no more than 0.15 weight percent silicon and trace quantities of typical impurities to form a continuous aluminum alloy bar, hot-working the bar substantially immediately after casting in substantially that condition in which the bar is cast to form continuous rod which is subsequently drawn into wire without intermediate anneals and annealed after the final draw. After annealing, the wire has the aforementioned novel and unexpected properties of increased ultimate elongation, electrical conductivity of at least sixty-one percent (61%) of the International Annealed Copper Standard, and increased bendability and fatigue resistance.

3,512,222
PANEL CLIP
George A. Tinnerman, 17864 Beach Road, Lakewood, Ohio 44107
Filed Feb. 27, 1968, Ser. No. 708,605
Int. Cl. F16b 5/06
U.S. Cl. 24—73 5 Claims



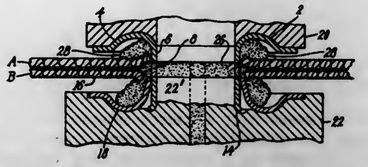
A clip to connect the plane flange in the channel flange of adjoining panels is formed of channel shape, with tongues struck out from the walls and extending toward the open side to engage a side wall of the channel shape flange and tongues struck out and facing in the opposite direction to engage the plane flange, the projections or tongues thereby preventing withdrawal of the plane flange from the channel shape flange.

3,512,223
LOOP FORMED OF SYNTHETIC FIBRE CORD
Allan H. Willinger, New Rochelle, N.Y., assignor to Aquariums Incorporated, Maywood, N.J., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,610
Int. Cl. C01f 7/70, 7/72, 7/74
U.S. Cl. 24—123 1 Claim



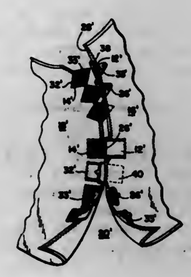
This invention and this disclosure are directed to a new and improved loop formed of synthetic fibre cord e.g., nylon. More particularly, the loop is formed in a housing provided with a cavity and means to accommodate the cord to be looped. The portions of the cord to be joined and in edge-to-edge abutting relationship and the cavity is provided with an inlet port. Molten thermoplastic material or the like is poured through the inlet port into the cavity thereby securing the cords together. The result is a loop being locked in a plastic splice fitting with the cords in close edge-to-edge abutting relationship.

3,512,224
GROMMET FASTENER AND METHOD FOR SETTING SAME
Albert E. Newton, Beverly, Mass., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed Apr. 29, 1968, Ser. No. 724,773
Int. Cl. A43c 5/00
U.S. Cl. 24—141 6 Claims



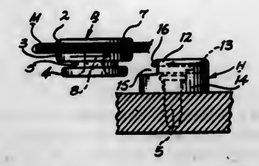
A grommet assembly including opposed first and second grommet members, at least the first grommet member having a flange portion and a barrel portion, at least one of said portions being provided with at least one orifice through which adhesive may be forced during the grommet setting operation, or, alternatively, after the grommet has been set. The method of setting the grommet assembly comprises placing the barrel portion of said first grommet member in a hole in sheet material, placing the second grommet member on the opposite side of the sheet material and in a position in alignment with and opposed to the first grommet member, pressing the grommet members into locking engagement with each other and with the sheet material, and, while pressing the grommet members together, injecting adhesive under pressure through the orifice whereby to cause the adhesive to flow between the grommet members to effect a cementitious bond between the members and the sheet material.

3,512,225
FASTENER STRUCTURE
Marian Halstead, 26 Gramercy Park S., New York, N.Y. 10003
Filed Oct. 4, 1965, Ser. No. 492,447
Int. Cl. A44b 17/00, 19/00
U.S. Cl. 24—203 8 Claims



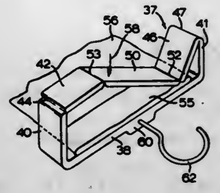
The present invention pertains to fastener structure fabricated of a wrought or worked material, such as meshed, knitted, or irregularly spaced perforated material, that is capable of an unusual degree of articulation, arbitrary adjustment, pliability, and contour confirmation, which yet is strong, enables easy and ready adjustment, and variation of the tension applied a given surface, line, placket, or opening of an item.

3,512,226
PLASTIC HOOK AND EYE
Alfred E. Carille, Meadville, Pa., assignor, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Delaware
Filed Mar. 12, 1968, Ser. No. 712,412
Int. Cl. A44b 17/00
U.S. Cl. 24—224 4 Claims



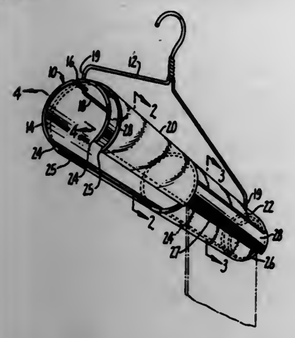
A fastening device made of a pliable plastic material including an eye member adapted to be attached to a portion of an article and a hook member adapted to be attached to another portion of an article for securing the article portions together, the hook member having a substantially resilient C-shaped hollow head portion which is adapted to receive the stud-like head portion of the eye member and a laterally directed opening in the C-shaped head portion communicating with the hollow portion having sufficient size to receive the stud-like head portion of the eye member upon lateral movement of the two members relative to one another to move the two members into and out of interlocking engagement.

3,512,227
ARTICULABLE ARTICLE CLAMP
Alois A. Krawagna, Willowdale, Ontario, Canada, assignor to Westhem Corporation Limited, Toronto, Ontario, Canada
Filed Mar. 4, 1968, Ser. No. 710,321
Int. Cl. A41b 51/08; A44b 21/00
U.S. Cl. 24—243 7 Claims



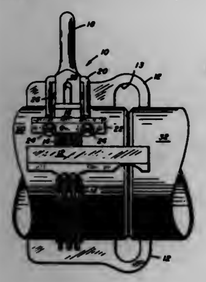
An integrally constructed, articulable article includes two spaced upstanding members at least one of which is resiliently bendable. First and second members are hingedly joined to the two upstanding members respectively by flexible webs constituting first and second hinge lines respectively. The latter two members are hingedly connected via a third flexible web at a location remote from the first and second hinge lines, one of these members being ungeniculate between its two hinge lines.

3,512,228
CLAMPING DEVICE
Bernard J. Carvell, 71 Bellevue Ave., Belvedere, Calif.
Filed Apr. 15, 1968, Ser. No. 721,392
Int. Cl. A41j 51/08; A44p 21/00; B65d 85/67
U.S. Cl. 24—243 3 Claims



The invention primarily comprises a clamping device formed by two tubes each of approximately the same diameter and each with a longitudinal section removed such that when assembled in substantially a coaxial manner they form a clamp which may be opened and closed by twisting the outer tube about the inner. The device has a variety of applications including a pants hanger when used in combination with a conventional coat hanger and a paper dispenser.

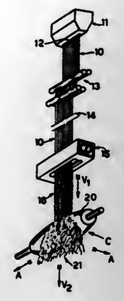
3,512,229
OUTSIDE PIPE LINEUP CLAMP
Leon F. Pharis, 2001 N. Mingo Road, Tulsa, Okla. 74116
Filed Aug. 16, 1968, Ser. No. 753,147
Int. Cl. B65d 63/02
U.S. Cl. 24—280 1 Claim



Pipe or fitting joints to be welded are aligned and retained by a plurality of U-bar members circumferentially spaced on a flexible leaf chain to permit uninterrupted welding of the joint.

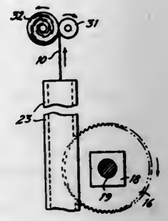
3,512,230
METHOD AND APPARATUS FOR THE PRODUCTION OF NONWOVEN FABRICS
Ettore Lazzatto, Milan, Italy, assignor to Snia Viscosa Societa Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy, a company of Italy
Filed July 25, 1966, Ser. No. 567,638
Claims priority, application Italy, July 29, 1965, 7,536/65
Int. Cl. B32b 5/08; D04h 3/02; D02g 1/00
U.S. Cl. 28—1.2 5 Claims

A nonwoven fabric web is produced by extruding a plurality of tacky, closely spaced, parallel filaments downwardly from a spinneret in a common plane to a mechanical crimping device, which forms in the filaments, crimps or undulations disposed in parallel planes extending at right angles to said common plate, and ether passing the



crimped filaments over a convex support surface, while simultaneously spreading the filaments apart, or depositing the filaments on a resilient moving surface which simultaneously entangles the undulations and stretches sideways to draw the entangled filaments apart.

3,512,231
STRAND TREATMENT
Robert K. Stanley, Media, Pa., assignor to Techniservice Corporation, Kennett Square, Pa., a corporation of Pennsylvania
Filed June 10, 1968, Ser. No. 735,599
Int. Cl. D02g 1/12
U.S. Cl. 28—1.6 7 Claims

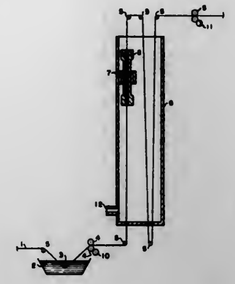


A stuffer crimper for textile strands is provided with unidirectionally driven strand-intercepting means having an overrunning clutch permitting the strand-intercepting means to be moved faster than the driven rate by contact with the accumulation of crimped strand being forced past by additional strand fed continuously into the crimper.

3,512,232
PROCESS FOR PREPARING TWISTLESS YARNS
Edgar Dare Bolinger, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Continuation of application Ser. No. 250,320, Jan. 9, 1963. This application Nov. 23, 1966, Ser. No. 596,657
Int. Cl. D01d 11/06; D02g 3/36
U.S. Cl. 28—75 5 Claims

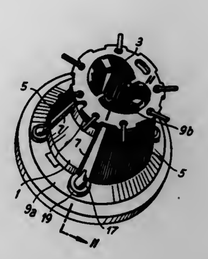
A process for preparing twistless yarn comprising sizing a roving prepared according to the woolen process with a composition containing an adhesive agent such as gelatin,

an insolubilizing agent such as formaldehyde, and optionally, a frictioning agent such as colloidal silica, and thereafter compacting said roving while simultaneously drying



the sized roving. Yarns prepared in this manner, though twistless, have sufficient strength to be used in preparing commercial fabrics.

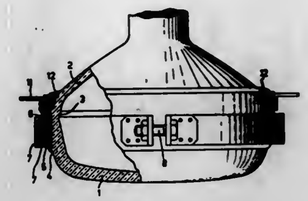
3,512,233
METHOD OF ASSEMBLING ELECTRO-MAGNETIC DEFLECTION APPARATUS
Roberto Mancini, Florence, Italy, assignor to ARCO Società per l'Industria Elettrotecnica S.p.A., Florence Italy, an Italian corporate body
Filed July 3, 1967, Ser. No. 651,021
Claims priority, application Italy, July 6, 1966, 15,729/66
Int. Cl. H01j 9/18
U.S. Cl. 29—25.13 4 Claims



A method of assembling two sets of electro-magnetic deflection coils for a cathode ray tube relative to one another by the steps of mounting each set of coils on a thermo-plastic former, adjusting the formers relative to one another and thereafter welding complementary contacting surfaces of the formers together.

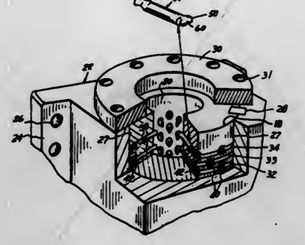
3,512,234
METHOD OF PROVIDING A CLAMPING BAND AROUND THE BULB OF A TELEVISION PICTURE TUBE AND IMPLOSION-FREE TUBE MANUFACTURED BY MEANS OF THIS METHOD
Hendrik Bongenaar and Willem Fokko Nienhuis, both of Emmasingel, Eindhoven, Netherlands
Filed Sept. 14, 1967, Ser. No. 667,702
Claims priority, application Netherlands, Sept. 14, 1966, 6612938
Int. Cl. H01j 9/18
U.S. Cl. 29—25.13 6 Claims

A method of reinforcing a television display tube to eliminate the risk of implosion wherein an intermediate band is provided around a portion of the tube on the side of the mold match line (the greatest cross-section of the tube to the rear of the front face or the tube window) and thereafter providing a clamping band over the intermediate band having a width at most equal to the intermediate band and the projection thereof on the glass



surface being covered throughout the width by the intermediate band. The clamping band is thereafter stretched to place it under tension and the pressure exerted on the bulb by this clamping band symmetrically and uniformly distributed after which both the intermediate and clamping bands are secured to the glass and each other respectively.

3,512,235
BROACH ASSEMBLY
James K. Fulks, Detroit, Mich., assignor to Colonial Broach & Machine Company, Warren, Mich., a Corporation of Michigan
Filed Jan. 2, 1968, Ser. No. 695,132
Int. Cl. B23p 15/42; B26d 1/04
U.S. Cl. 29—95.1 10 Claims

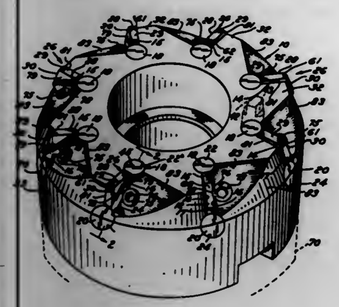


A broaching assembly having a plurality of removable cutting inserts for the external broaching of the outside periphery of a workpiece. The broach holder portion has radially disposed seating means for receiving the inserts so that they properly locate both axially and radially the extent to which the cutting edge progressively projects toward the workpiece. All the inserts for the assembly can be manufactured in a standard size thus reducing the cost and time required for maintenance of the broach assembly.

3,512,236
MILLING CUTTER WITH INSERT LOCATING PINS
Clement P. Renaud, Dearborn Heights, Mich., assignor to Willey's Carbide Tool Company
Filed Apr. 10, 1968, Ser. No. 720,173
Int. Cl. B26d 1/12; B21k 5/00
U.S. Cl. 29—105 10 Claims

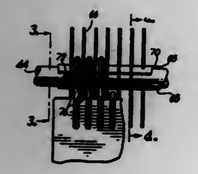
This invention relates to a milling cutter having removable indexable cutting insert bits where the bits are

located by cam surfaces on solid dowel type locating pins permitting precise locating of the cutting surfaces on the



indexable cutting insert bits and the method of assembling the milling cutter by adjusting the cam surfaces of the locating pins during fabrication.

3,512,237
ROTARY GRID FOR COTTON CLEANER
Robert L. Elder, Roger C. Hamm, and Dean P. Brooks, Newton, Kans., assignors to Hesston Corporation, Inc., Hesston, Kans., a corporation of Kansas
Original application May 29, 1967, Ser. No. 641,775. Divided and this application Aug. 5, 1968, Ser. No. 768,941
Int. Cl. B60b 7/04
U.S. Cl. 29—125 5 Claims



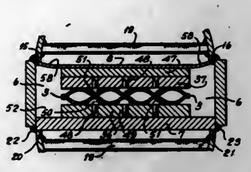
A rotary grid-barrier including a plurality of apertured plate elements, spacedly arranged along the axial extent of a shaft passing therethrough and maintained thereat by a transversely slotted, resilient sleeve element which is longitudinally coextensive with the elements and shaft and disposed therebetween and which receives a respective one of the elements in each slot.

3,512,238
METHOD FOR FABRICATING RADIATORS
Raymond Canon, Paris, and Marcel Bouvier, Viroflay, France, assignors to L'Aluminium Francais and Compagnie Generale du Duralumin et du Cuivre
Filed Mar. 31, 1965, Ser. No. 444,197
Claims priority, application France, Feb. 26, 1965, 7,177
Int. Cl. B21d 53/04
U.S. Cl. 29—157.3 7 Claims

A process for making a radiator wherein sheets of metal are welded at their edges and along intermediate lines. Fluid pressure is introduced between the sheets to provide passages and end chambers between the sheets in the unwelded areas. A plurality of sheet assemblies are then joined together and communication is provided between the several chambers by boring through the chamber walls so that the passages are interconnected for the flow of heated fluids.



3,512,239
METHOD OF FORMING DIMPLED PLATE HEAT EXCHANGER ELEMENTS BY THE USE OF HYDROSTATIC PRESSURE
Axel E. Rosenblad, Princeton, N.J., assignor to Rosenblad Corporation, Princeton, N.J., a corporation of New York
Filed Apr. 19, 1967, Ser. No. 631,990
Int. Cl. B21d 53/04; B23p 15/16
U.S. Cl. 29—157.3 7 Claims

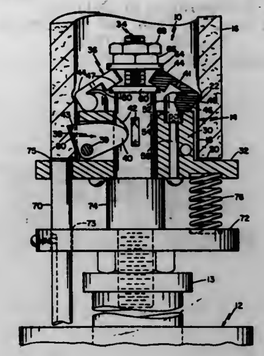


A method for forming dimpled plate heat exchanger elements where a pair of flat, superposed, plates is welded together around their edges while in the flat. Then at one position the plate edges are separated to form a nozzle surrounding a passage into the interior between the plates. The plates are held in a fixture itself under pressure and having projections engaging the outer face of at least one of the plates at spaced positions to hold them in engagement and against lateral movement at those positions. The fixture allows controlled lateral expansion of the plates between those held positions. Hydrostatic pressure is applied through the passage to expand portions of at least one of the plates away from the other to form channels between the plates. The apparatus also employs hydrostatic, or other suitable pressure, to hold the fixture in closed position. The plates are spot welded together at their engaged positions preferably after the forming is effected.

3,512,240
CORE ASSEMBLY TOOL
Walter Bartlett Robinson, Natick, Mass., assignor to New England Pressed Steel Company, Natick, Mass., a corporation of Massachusetts
Filed June 16, 1967, Ser. No. 646,599
Int. Cl. B23p 19/00; B21d 39/00
U.S. Cl. 29—200 7 Claims

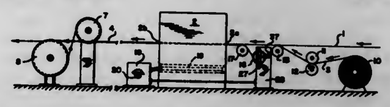
An assembly tool for mounting tubular core tips within tubular cores, the tool including flange expansion means for forcing a radially-inwardly extending entrance flange

at one axial end of the core tip outwardly so that the diameter of the flange is not less than the inside diameter of the cylindrical wall of the core tip, and cutters for



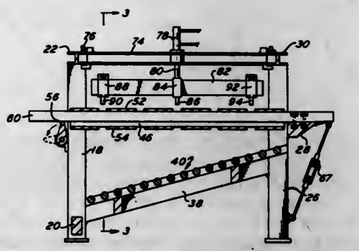
shearing portions of the cylindrical wall of the core tip and forcing the sheared portions outwardly into the cylindrical wall of the core.

3,512,241
APPARATUS FOR FEEDING A WIRE COVERING TO A WIRE WITHIN A HEATABLE FORMING DIE
Harvey Burr, Bronxville, N.Y., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 712,841
Int. Cl. B23p 19/04
U.S. Cl. 29—202.5 6 Claims



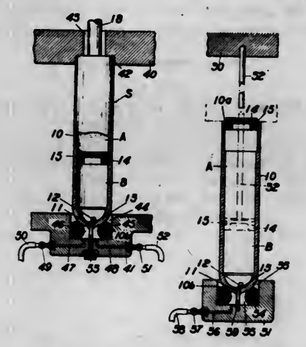
This disclosure relates to apparatus for feeding strips of extensible material to a forming die which wraps the material around a moving wire to form an insulation covering. A tension roll arrangement senses extension of the strip due to temperature and tension and actuates a heater which varies the temperature of the strip to control the rate of feed of the strip to the wire.

3,512,242
PALLET DISMANTLING APPARATUS
Robert Harvis, Delran, N.J., assignor to C. Harvis Sons, Inc., Hurffville, N.J., a corporation of New Jersey
Filed Mar. 5, 1968, Ser. No. 710,560
Int. Cl. B30b 9/00
U.S. Cl. 29—252 8 Claims



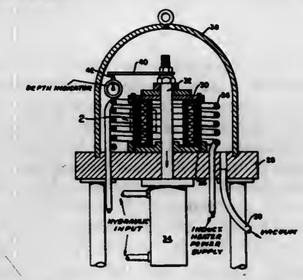
Apparatus is disclosed for dismantling portable platforms such as wooden pallets into its component pieces without damaging the component pieces. Means are provided to accommodate pallets of different widths.

3,512,243
METHOD AND DEVICE FOR SEALING GAS UNDER HIGH PRESSURE INTO A GAS-SEALED TYPE SHOCK ABSORBER
Kensei Suzuki, Kiyoshi Ando, and Katsuyoshi Kishi, Kanigun, Gifu-ken, Japan, assignors to Kayabakogyo Kabushikikaisha, Tokyo-to, Japan, a corporation of Japan
Filed Oct. 24, 1967, Ser. No. 677,622
Claims priority, application Japan, Nov. 9, 1966, 41/73,230; Nov. 11, 1966, 41/73,821
Int. Cl. B21d 21/00; B23p 19/04; B65b 31/02
U.S. Cl. 29—434 18 Claims



In a gas-sealed shock absorber of the type wherein an actuating cylinder is divided into an oil chamber and a gas chamber by means of a free piston, this invention relates to a method and a device for sealing gas under high pressure into said gas chamber. In order to fill and seal the gas under high pressure into the gas chamber after and in this state that said free piston is positioned at a predetermined position within the actuating cylinder, at the closed end of the actuating cylinder there is provided an aperture for introducing the gas, and a blocking or closing valve is disposed at the end of the actuating cylinder for sealing tightly the filling aperture; the free piston is positioned at a predetermined position within the actuating cylinder; thereafter the oil is filled into the oil chamber defined within the actuating cylinder and an assembly is mounted in the actuating cylinder; and after filling the gas under high pressure into the gas chamber through the aperture whilst keeping the valve open. The valve is closed by the back pressure of the gas within the gas chamber upon termination of the gas filling procedure.

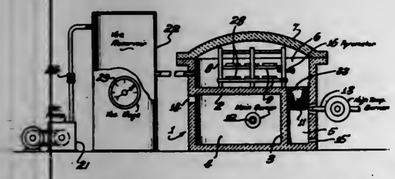
3,512,244
METHOD OF MANUFACTURING BELLOWS
Jack D. Dunbar, Lewiston, N.Y., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed May 31, 1968, Ser. No. 733,612
Int. Cl. B23p 19/04; B23k 19/00; C21d 7/14
U.S. Cl. 29—454 3 Claims



An improved flexible metal bellows adapted to a variety of uses; for example, as a positive expulsion diaphragm

in space vehicle fuel tanks; a packless expansion joint seal for conduits; a piston-cylinder seal; and the like; and an improved method for manufacturing same. The invention provides an improved production economy and product integrity by metallurgically producing a one-piece bellows assembly by employment of a solid-state joining operation in lieu of conventional fluid state welding methods. In accordance with the present invention a stack of ring-shaped components are simultaneously joined by a diffusion bonding process under certain critical conditions of environment, pressure and temperature, into a succession of convolutions; thereby providing a flexible bellows fabrication of improved performance capabilities.

3,512,245
METHOD OF BONDING METALS AND PRODUCTS PRODUCED THEREBY
Ernest T. Hermann, deceased, late of Pacific Palisades, Calif., by Kathryn H. Gordon, administratrix, 395 Arno Way, Pacific Palisades, Calif. 90272
Filed Dec. 28, 1964, Ser. No. 422,077
Int. Cl. B23k *31/02*
U.S. Cl. 29—471.1 12 Claims



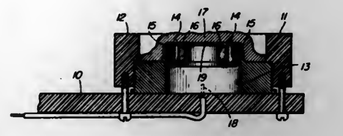
A method of bonding metal members in a partial vacuum involves vaporizing the bonding metal and subsequently condensing the vapor on the members to be bonded. When solidified, the bonding metal is substantially free of occluded gases. Suitable to metals with high melting point, as iron, chromium and nickel.

3,512,246
PIPE LAYING APPARATUS
James Messano, Box 453E, W. 5th St., Delta, Colo. 81416
Filed Mar. 14, 1968, Ser. No. 713,109
Int. Cl. B23p *19/04, 19/02*
U.S. Cl. 29—525 12 Claims



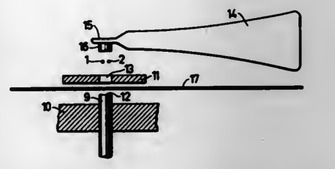
A plurality of conduit pipes are loosely interconnected and supported on a separate pipe support disposed interiorly of the interconnected conduit pipes. The pipe support includes a first fixed jaw at one end thereof and a second movable jaw at the opposite end thereof. These aforementioned jaws are disposed immediately outward of the outward ends of the interconnected conduit pipes. Adjusting means are provided in operative association with the second movable jaw for producing vising action of the jaws with respect to the conduit pipe ends and thereby compressively securing them between the jaws. Lifting means are provided on the pipe support for permitting vertical displacement of the interconnected conduit pipes from a ground level into a trench.

3,512,247
PROCESS FOR PRODUCING SPINNERETTES
Glenn R. Schaer and William F. Scharenberg, Jr., Columbus, Ohio, assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1966, Ser. No. 594,789
Int. Cl. B23p *17/00*
U.S. Cl. 29—527.6 14 Claims



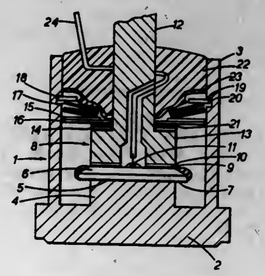
A method for the production of a master mold to produce a spinnerette which comprises arranging a plurality of projections projecting from a base in a prescribed placement so as to correspond to the orifices of the desired spinnerette, said projections having outside surfaces conforming to the desired shape of said orifices, depositing a molding material about said projections in a manner to provide a single unitary mold containing said projections and removing said projections from said mold to provide depressions corresponding in length and design to said projections. In a preferred method a master mold is produced which has a plurality of identical depressions. This is accomplished by utilizing a projection of a predetermined shape and length and depositing molding material about said projection. After the molding material has been deposited, the projection is removed leaving a molded unit having a hollow portion, or depression. A plurality of such molded units made from the same projection is then arranged and maintained so as to correspond to the orifices of the desired spinnerette. The master molds themselves can be machined to form a spinnerette.

3,512,248
METHOD OF PRODUCING A THERMOCOUPLE
Arpad Nagy, Hokvogen 4, Bjarred, Sweden, and Rolf Svedman, Mobacksgatan 19, Malmo, Sweden
Filed Dec. 9, 1966, Ser. No. 600,618
Claims priority, application Sweden, Dec. 22, 1965, 16,609/65
Int. Cl. H01v *49/00*
U.S. Cl. 29—573 3 Claims



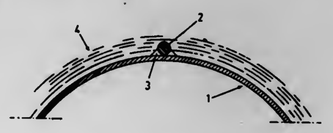
A method of producing thermocouples comprises the steps wherein iron and constantan wires are drawn off a supply reel and brought together in parallel spaced relation at a welding station. A thin round of aluminum, stamped from a foil by a stamping tool is brought on the face of the tool into contact with the wires and the wires and round are then welded together ultrasonically, the face of the tool serving as a back-up for the welding. The wires are then fed longitudinally of themselves for a predetermined distance in accordance with the length desired for the thermocouple whereupon the stamping and welding operation are repeated thus forming a string or thermocouples which can thereafter be wound on a storage drum and ultimately cut into individual thermocouple units.

3,512,249
PRESSURE CONTACT SEMICONDUCTOR DEVICES
Colin Bright Lewis, Nettlesham, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Aug. 22, 1967, Ser. No. 662,519
Claims priority, application Great Britain, Nov. 11, 1966, 50,693/66
Int. Cl. H01l *1/14, 5/02;* B01j *17/00*
U.S. Cl. 29—588 4 Claims



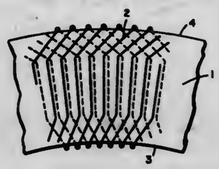
A method of assembling a semiconductor device includes the steps of determining the height of a stack including a semiconductor element, part of a conductive terminal, spring means and retaining means, and increasing the height of the stack, if necessary, by the addition of at least one shim so that, when the stack is arranged on a support surface provided by a conductive base member of a housing and when the height of the stack is reduced sufficiently by compressing the spring means to allow the retaining means to engage an abutment surface on a wall of the housing surrounding the support surface, the contact pressures upon the element are within a required range of values.

3,512,250
METHOD FOR MUTUALLY CONNECTING WORKPIECES AND WORKPIECES MUTUALLY CONNECTED BY SAID METHOD
Edo Hubert Mulder, Hattem, Netherlands, assignor to Ingenieursbureau, Lemet Chromium H. van der Horst, N.V., Zwolle, Netherlands
Filed May 10, 1967, Ser. No. 637,445
Claims priority, application Netherlands, May 13, 1966, 6606592
Int. Cl. B23p *17/00*
U.S. Cl. 29—527.4 4 Claims



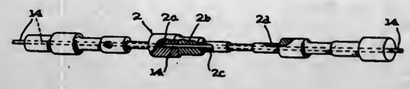
A heating spiral is applied galvanically to the outside of a tube by providing a helical groove at the exterior of the tube and then rolling a spiral member in the helical groove. The spiral member is then galvanically embedded in the groove. The spiral member may be galvanically pre-treated.

3,512,251
PRINTED WIRING COMMUTATOR MOTOR
Teruaki Kitamori, Hirakata-shi, Naozi Takeda, Osaka, and Hyogo, Hirohata, Neyagawa-shi, Japan, assignors to Matsushita Electric Industries Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Nov. 28, 1967, Ser. No. 686,148
Claims priority, application Japan, Dec. 8, 1966, 41/81,139, 41/81,140
Int. Cl. H01r *43/00*
U.S. Cl. 29—597 3 Claims



A method for manufacturing a disk-like rotor having multi-layer conductors, in which said rotor conductors are formed by means of a metal powder method. Insulator films between the conductors are printed with an insulating resin in another portion than the portions necessary for connecting upper layer coductors to lower layer conductors. The upper layer conductors are formed on the insulating layers therefor by means of the metal powder method, whereby when the upper layer conductors are formed by means of non-electroplating, the electrical connecting portions between the upper and lower layer conductors are simultaneously metallized and thereby the electrical connection between the upper and lower layer conductors is performed without requiring time and trouble.

3,512,252
ELECTROFORMED INNER TUBE FOR TANK UNIT
Raymond W. Sargent, Burlington, Vt., assignor to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 301,961, Aug. 14, 1963. This application Sept. 30, 1966, Ser. No. 583,272
Int. Cl. H01g *17/00*
U.S. Cl. 29—601 3 Claims

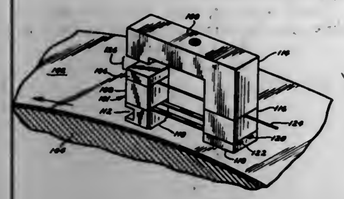


Disclosed is a method of constructing an electrode assembly for a capacitance sensing unit by electroforming the inner electrode to a profile dictated by a linear law related to the shape of the container in which the unit is to be used and assembling said electrode concentrically within an outer electrode.

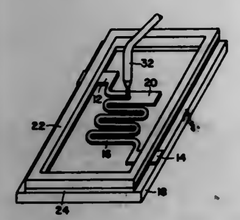
3,512,253
METHOD FOR SIMULTANEOUSLY MAKING A PLURALITY OF FLYING HEADS
Robert L. Perkins, St. Paul, John W. Ehlers, Edina, and Donald C. Rasmussen, Minnetonka, Minn., assignors to Control Data Corporation, South Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 22, 1968, Ser. No. 715,417
Int. Cl. H01f *7/00*
U.S. Cl. 29—603 12 Claims

A method for simultaneously making a number of flying heads for a magnetic drum system is disclosed. All types of preliminary parts are first made—one type of preliminary part for each type of individual head part.

Each preliminary part accommodates a number of individual head parts of the same type. The preliminary parts are then: assembled to form several rough individual heads fixed to each other; machined to form final individual heads still fixed to each other; and finally cut apart to form separate individual heads.



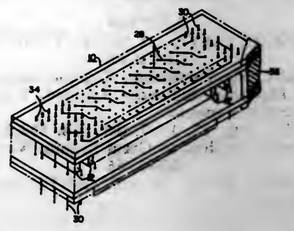
3,512,254
METHOD OF MAKING AN ELECTRICAL DEVICE
Weston H. Jenkins, Corning, and Walter H. Tarcza, Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Continuation of application Ser. No. 478,650, Aug. 10, 1965. This application Dec. 14, 1967, Ser. No. 690,651
Int. Cl. H01c 9/00, 17/00; H05k 5/06
U.S. Cl. 29—620 2 Claims



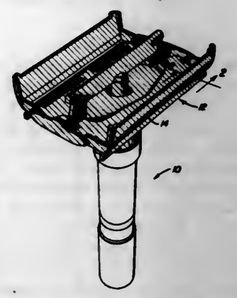
A method of forming a hermetic seal about a thin film microcircuit without deleteriously affecting the circuit components is disclosed. A metallic ring or band having two flat mating surfaces has an adherent film of vitreous material applied to one surface thereof. The ring is disposed over a flat dielectric substrate with the vitreous material contacting the substrate, and heat and pressure are applied to fuse the vitreous film to the substrate. After the completion of the last mentioned step electrical components may be added to the substrate or components which had been on the substrate may be adjusted. Thereafter, a metallic sheet is hermetically bonded to the other mating surface of the ring by a relatively low temperature bonding technique.

3,512,255
FLAT-PACK CIRCUIT MODULES PACKAGING
Leland E. Hayden, Elkridge, and Cornelius D. Flynn, Catonsville, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 29, 1967, Ser. No. 694,734
Int. Cl. H01b 13/00; H05k 3/00
U.S. Cl. 29—624 3 Claims

Assembly of flat-pack microcircuit modules having their edge leads in parallel rows as arranged by an open-slotted assembling fixture, and in extension through tapered holes in thin flat elongated mounting members as guided onto such leads by the assembling fixture. By wave soldering, printed circuits on outer faces of the mounting members are joined to the flat-pack leads, to interconnection pins extending between members from one printed circuit to the other, and to input/output pins projecting outwardly from one printed circuit face beyond a potting compound which otherwise encapsulates the entirety of the assembly.

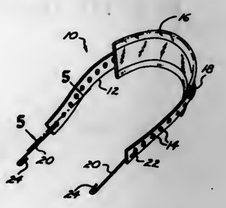


3,512,256
DRY LUBRICANT COATED SAFETY RAZOR
Wayne C. Snyder, West Palm Beach, Fla., assignor to Southeastern Coatings, Inc., a corporation of Florida
Filed Nov. 9, 1966, Ser. No. 593,159
Int. Cl. B26b 21/00
U.S. Cl. 30—32 1 Claim



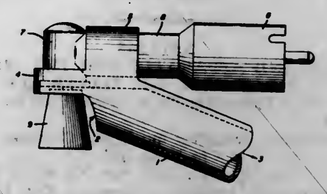
A safety razor having the skin-contacting head portion coated with a low coefficient of friction coating consisting of a fused fluorocarbon resin.

3,512,257
ORTHODONTIC DEVICES
John J. Stifter, 33084 Lake Road, Avon Lake, Ohio 44012
Filed Aug. 22, 1967, Ser. No. 662,438
Int. Cl. A61c 7/00
U.S. Cl. 32—14 7 Claims



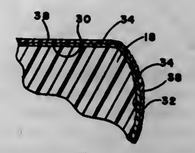
There is disclosed herein means for applying traction to the arch band of an orthodontic appliance comprising a resilient strap having spaced apertures therein, the distance between adjacent of said apertures representing a predetermined increment of traction when the strap is stretched such distance.

3,512,258
SUCTION CLEANING ATTACHMENT FOR DENTAL PROPHYLAXIS ANGLES
Wesley Grant Johnson, 3815 E. Casselle Ave., Orange, Calif. 92667
Filed Dec. 5, 1966, Ser. No. 599,111
Int. Cl. A61c 1/16
U.S. Cl. 32—31 1 Claim



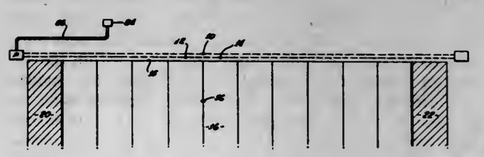
A soft, pliable, elastic integrally molded shroud, mounting loops and suction tube for the removal of saliva-polishing compound slurries from the mouth during polishing procedures with a dental prophylaxis angle.

3,512,259
DENTAL MOUTH EXAMINING MIRROR
Sydney G. Gordon, and Richard E. Plowman, York, Pa., assignors to Dentsply International Inc., York, Pa., a corporation of Delaware
Filed Sept. 19, 1967, Ser. No. 668,768
Int. Cl. A61c 3/00
U.S. Cl. 32—69 3 Claims



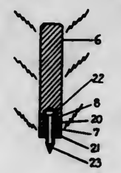
A dental mouth examining mirror of inexpensive construction rendering it capable of being expended after use on individual patients, if desired, and molded from synthetic resin to form an integral mirror member and supporting stem detachably connectable to a handle, the first surface of the mirror member being formed mirror-smooth and coated with a very thin layer of reflective metal such as aluminum, preferably applied by vapor deposition, to render the same highly reflective, the synthetic resin affording low thermal conductivity to minimize fogging of the reflective surface upon introduction into the oral cavity.

3,512,260
MECHANICAL FOOTBALL YARDS AND DOWN MARKERS
John R. Tomlinson, 2511 Mulder St., Lemon Grove, Calif. 92045, and Richard L. Ridgway, 4320 Calavo Drive, La Mesa, Calif. 92041
Filed Feb. 28, 1967, Ser. No. 619,234
Int. Cl. G01c 15/00
U.S. Cl. 33—46 3 Claims



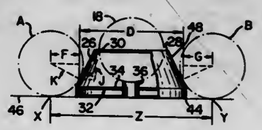
Markers to indicate on a football field the distance to a first down, the number of the down, and the location of the football. The markers are secured to mounting means adjacent the sideline of the field, and power means are connected to the mounting means which, when activated, will shiftably move the markers parallel with the sideline.

3,512,261
MACHINIST'S LOCATING TOOL
Gerard J. Viollet, 1619½ W. 134th St., Gardena, Calif. 90249
Filed Aug. 5, 1968, Ser. No. 750,369
Int. Cl. G01b 5/25
U.S. Cl. 33—169 2 Claims



A machinist's locating tool having a magnetic cylindrical shank having an end pierced to receive and hold magnetically a disc flange having different locating tips mounted therein.

3,512,262
GOLF BALL SPHERICITY GAUGE AND PUTTING DEVICE
Walter M. Smyk, 437 Valencia Drive, South San Francisco, Calif. 94080, and Frank E. Turner, 3 Greenfield Court, San Mateo, Calif. 94403
Filed May 31, 1968, Ser. No. 733,602
Int. Cl. G01b 3/34; A63b 53/04
U.S. Cl. 33—178 4 Claims

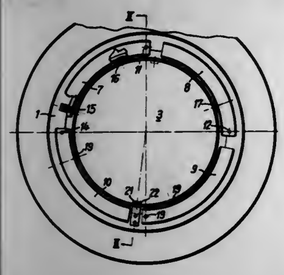


A golf ball sphericity gauge having an aperture into which snugly fits the largest cross-sectional area of a standard-size golf ball. A support is fixed relative to the body of the device for positively supporting the golf ball in such position. The outer dimensions of the device are such that, if it is placed on a horizontal surface and contacted by a golf ball rolling on that surface, the golf ball will fall within the area defined by a standard-size golf hole.

3,512,263
METHOD AND APPARATUS FOR THE AUTOMATIC DETERMINATION OF THE GEOMETRIC WHEEL PLANE OF MOTOR VEHICLE WHEELS
Georg Hirmann, Zurich, Switzerland, assignor to Polyprodukte A.G., Zurich, Switzerland
Filed Sept. 28, 1967, Ser. No. 671,385
Claims priority, application Switzerland, Sept. 29, 1966, 14,105/66
Int. Cl. G01b 5/24
U.S. Cl. 33—203.13 17 Claims

A method and apparatus for automatically determining the geometric wheel plane of a motor vehicle wheel, which comprises an aligning device consisting of a carrier disk adapted to be clamped to a vehicle wheel, of an aligning disk pivotally secured to the carrier disk and

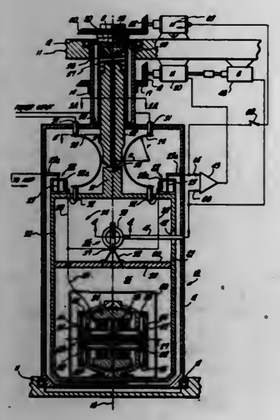
of automatically disengageable clutch means for automatically releasing the aligning disk to enable its pivotal adjustment into the wheel plane at a predetermined rotational speed of the aligning device; the aligning device is clamped to a wheel which is thereupon rotated so that at a first predetermined speed the clutch releases the aligning disk which can thereupon begin to align itself to the wheel plane, the drive of the wheel is then disconnected at a second higher speed so that the wheel and the aligning device rotate, disconnected from the drive until the speed decreases to a point where the clutch reengages the aligning disk at a lower speed at which time the aligning disk has adjusted itself accurately to the wheel plane or a plane parallel thereto so that the aligning disk is thereafter retained in this position while the wheel and therewith the aligning device is brought to a standstill.



3,512,264
MERIDIAN-SEEKING INSTRUMENT

Leonard R. Ambrosini, Pacific Palisades, Calif., assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed Feb. 23, 1966, Ser. No. 529,325
Int. Cl. G01c *19/38*
U.S. Cl. 33—226 4 Claims

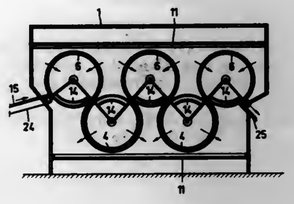


A meridian-seeking gyroscope unit is torsionally suspended within a container oriented relative to a fixed frame by a pickoff actuated follow-up motor. A torquer reacting on the container and responsive to the follow-up motor rate normally urges the gyro unit toward the pick-off nulling position. Power connection bands normally coplanar with and diverging resiliently away from the suspension axis produce thereabout only mutually offsetting torsional and flexural torques. The suspension support disc is normally pressed upward against an abutment by a spring seated on a coaxial sleeve and of such stiffness that the tension in the suspension is unchanged when the sleeve is lowered to cage the unit.

3,512,265
PROCESS AND APPARATUS FOR THE CONTACT-FREE TREATMENT OF MATERIALS WHICH CAN BE STRESSED IN A LENGTHWISE DIRECTION

Hans Fleissner, Frankfurt am Main, Germany, assignor to Vepa AG

Filed Oct. 12, 1967, Ser. No. 674,973
Claims priority, application Germany, Oct. 12, 1966, V 32,107; Nov. 4, 1966, V 32,260
Int. Cl. F26b *3/06*
U.S. Cl. 34—10 10 Claims

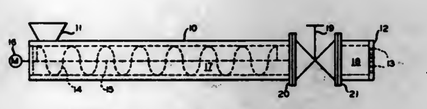


The present disclosure relates to a process and apparatus for the heat-treatment, especially the drying or steaming of materials which can be stressed in the lengthwise direction. More particularly, the present disclosure is directed to the contact-free heat-treatment of materials wherein during at least a portion of the treatment process the material being treated is conveyed contact-free around at least one drum on a cushion of the treatment medium.

3,512,266
DRYING POLYMERIC MATERIAL

Richard O. Welty, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 24, 1968, Ser. No. 739,563
Int. Cl. F26b *3/36*
U.S. Cl. 34—42 7 Claims
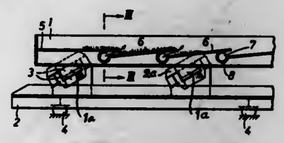


Liquid-bearing polymeric material, such as wet rubber crumb, is dried by passing the material through an elongated enclosure where it is subjected to mechanical work which heats the material but keeps it under sufficient pressure to prevent the liquid from vaporizing within the enclosure. When the material is discharged, the sudden pressure reduction permits the liquid to vaporize using the sensible heat of the material itself for heat of vaporization. By reducing the pressure developed in the mechanical working in two steps rather than in one, the liquid is vaporized on discharge of the material without disrupting the material into discrete particles.

3,512,267
OSCILLATING CONVEYOR

Günter Eichholz, Cologne-Mulheim, and Horst Kerzel, Cologne-Bayenthal, Germany, assignors to Klockner-Humboldt-Deutz, Aktiengesellschaft, Cologne-Deutz, Germany, a corporation of Germany

Filed Oct. 16, 1968, Ser. No. 768,123
Claims priority, application Germany, Oct. 28, 1967, P 1,556,053
Int. Cl. F26b *19/00*
U.S. Cl. 34—48 7 Claims

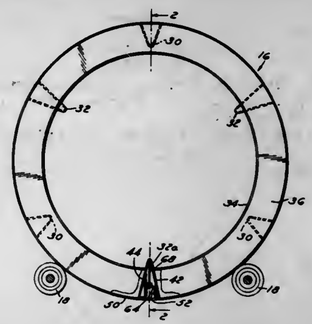


An oscillating conveyor for granular material comprises a plurality of substantially horizontally disposed individual trough sections, the ends of which are arranged in overlapping relation in such a manner that a gap is formed between the adjacent overlapping ends. Each gap is in communication with a nozzle-like slot or apertures formed in the wall of an individual supply pipe for a gaseous cooling or heating medium. Each one of the supply pipes is provided with a throttle valve and a pressure gauge and all of the supply pipes are connected to a common main line.

3,512,268
COMMERCIAL LAUNDRY DRYER

Solomon G. Miller, Birmingham, and David G. Bilson, Detroit, Mich., assignors to Miller Laundry Machinery Company, Detroit, Mich., a corporation of Michigan

Filed May 3, 1968, Ser. No. 726,451
Int. Cl. F26b *11/02*
U.S. Cl. 34—108 7 Claims



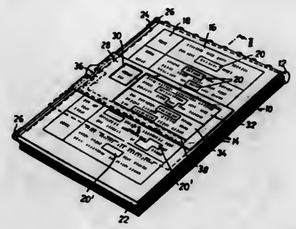
An industrial clothes dryer having a rotatable drying cylinder in the form of a cylindrical frame around the periphery of which is secured a woven wire belt that is easily removed and replaced for cleaning.

3,512,269
PROGRAMMED INSTRUCTION DEVICE

Heinz Kunert, 16 Agidienberger Strasse, 5 Cologne, Germany

Filed Oct. 9, 1967, Ser. No. 673,871
Claims priority, application Germany, Oct. 12, 1966, K 60,443
Int. Cl. G09b *3/04*
U.S. Cl. 35—9 13 Claims

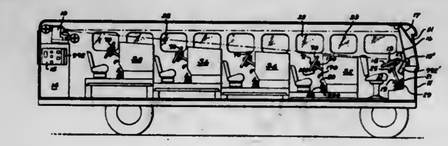
A device for programmed instruction, comprising, in combination, information carrier means having a surface provided with at least one problem and an associated solution in visual representation, marking receiving means adjacent the information carrier means and operatively associated therewith for receiving visual markings representing a tentative reply to the problem, and slider means carried by one of the means and operative for exposing a portion of the surface provided with the problem and for concealing another portion provided with the associated solution while leaving unobstructed the marking receiving means associated with the information carrier means.



3,512,270
VEHICLE OPERATOR TRAINING SYSTEM AND METHODS

Conkling Chedister, Madison, N.J., assignor, by mesne assignments, to The Aetna Casualty & Surety Company

Continuation of application Ser. No. 113,735, May 31, 1961. This application Mar. 25, 1965, Ser. No. 442,692
The portion of the term of the patent subsequent to May 19, 1984, has been disclaimed
Int. Cl. G09b *9/04*
U.S. Cl. 35—11 14 Claims



A method and apparatus for training students in vehicular operation wherein a plurality of simulated vehicular controls are provided in a vehicle, each mounted so as to provide a view of the exterior of the vehicle. The vehicle is operated by a driver who responds to prospective traffic situations by conditioning certain sensing devices at each of the simulated control stations and the driver's station. The subsequent control operations of the student and the driver are sensed by the sensing means, converted to electrical signals and passed to a recorder to form a permanent record of the responses of the student and the driver. Arrangement is also made to present visual images of traffic situations on a screen in the front of the vehicle by film having indicia thereon conditioning the sensing means which then provide records in the same way as above.

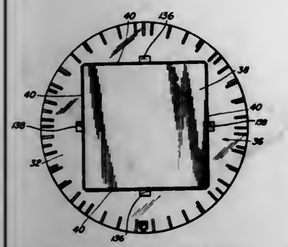
3,512,271
MECHANICAL DEVICE FOR REPRESENTING MATHEMATICAL AND PHYSICAL VALUES AND RELATIONSHIPS

Gerald C. Ward, Wilmette, Ill., assignor to Northwestern University, Evanston, Ill., a corporation of Illinois

Filed June 28, 1968, Ser. No. 741,015
Int. Cl. G09b *23/00*
U.S. Cl. 35—10 3 Claims

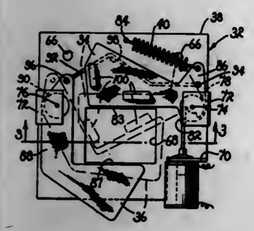
A mechanism for producing mechanically a representation of mathematical and physical values, including re-

lationships of stresses at a point in a body of material, strains at a point in a body of material, least moment of inertia of an area, and other mathematical and physical phenomena which can be expressed by a similar circular analogy. The mechanism comprises a rotatable reference



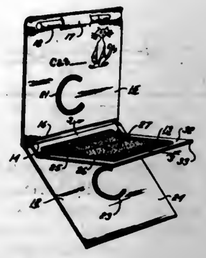
element, means for orienting said reference element with respect to Mohr's circle, a rotatable cam, and first and second value indicator means which undergo changes in duo-harmonic mode with respect to rotation of said reference element.

3,512,272
TACHISTOSCOPIC PROJECTOR
Vernon W. Steinhauer, and Dale S. Bray, Fresno, Calif., assignors to Teaching Technology Corp., a corporation of California
Filed June 7, 1968, Ser. No. 735,267
Int. Cl. G09b 17/04; G03b 9/14
U.S. Cl. 35—35 1 Claim



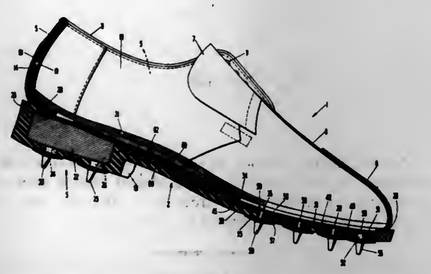
A tachistoscope or a flash reader which includes the usual lamp and lens system for the projection of a beam of light and a novel mechanical shutter mechanism including a pair of masking flags which in the closed position thereof cover a rectangular projection aperture and in the open position thereof fully uncover the aperture to permit passage of the light therethrough and full frame exposure of film material associated therewith, the masking flags being moved to open posiiton by energization of a solenoid which is time pulsed by a variable timing circuit, each of the masking flags having a generally triangular portion and a rock arm, the rock arms being mounted on spaced pivots in substantial alignment with one edge of the aperture, and a link interconnecting the rock arms, one of the pivots having associated therewith a member with a distal portion engaged by the end of a shaft operated by the solenoid for rocking the member and causing simultaneous movement of the masking flags for uncovering the projection aperture during the period of pulsing, and a spring attached to one of the rock arms for moving the masking flags to closed position.

3,512,273
EDUCATIONAL DEVICE
Gordon H. Baker, Jr., Birdsboro, and Mary Lou Kelly, Pottsville, Pa., assignors to Wyomissing Corporation, a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 621,222, Mar. 7, 1967. This application Aug. 15, 1968, Ser. No. 753,005
Int. Cl. G09b 11/86; B43l 1/00
U.S. Cl. 35—66 22 Claims



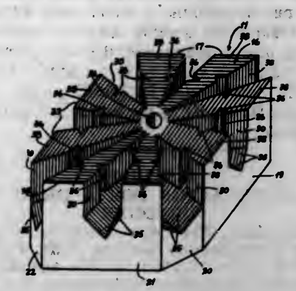
An autoinstructive teaching device useful, for example, for teaching the formation of characters such as letters, geometric shapes and indicia, comprising a work surface with means associated therewith in one area providing a latent image which may be made visible by tracing over the image with a marking element or stylus. The work surface also having means associated therewith at least in an area surrounding the image, providing for obscuring the definition of the image upon traverse of the marking element from one of said areas to the other, so that the latent image may be developed with clear definition only by accurately tracing over the latent image whereby the student obtains reinforcement or reward only by accurate work.

3,512,274
GOLF SHOE
Robert E. McGrath, Grafton, Mass., assignor to B-W Footwear Company, Inc., Webster, Mass., a corporation of Massachusetts
Filed July 26, 1968, Ser. No. 747,959
Int. Cl. A43b
U.S. Cl. 36—2.5 5 Claims



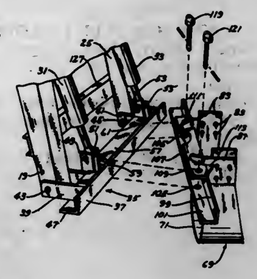
A golf shoe with an outer sole and heel, molded integrally, and insole. Sandwiched between the insole and outer sole is a plurality of cleat-holding assemblies. These cleat-holding assemblies each comprise a lamination of leather and rubber layers having a plurality of cleat holders sandwiched therebetween with threaded shanks of the cleat holders projecting through the leather layer. The cleat-holding assemblies underlie a microcellular crepe filler. A suitable fiber-covered arch support may be provided in the instep.

3,512,275
NON-PENETRATING CLEAT ARRANGEMENT
John L. Leavitt, 921 S. Mason Road, Creve Coeur, Mo. 63141
Filed Apr. 1, 1968, Ser. No. 717,570
Int. Cl. A43c 15/16
U.S. Cl. 36—59 9 Claims



A cleat arrangement of resistingly pliable material such as rubber formed with a series of wedge-shaped openings enlarging outwardly from the center of the cleat, having V-shaped bottom walls (the cleat being inverted), and having additional V-shaped recesses vertically disposed in each side wall. The surfaces are preferably ribbed both on the top surface of the cleat and in the wedge-shaped openings of flanged tubular rigid insert if used in attaching the cleat. Several cleats are used on each sole and may be made integrally with the sole.

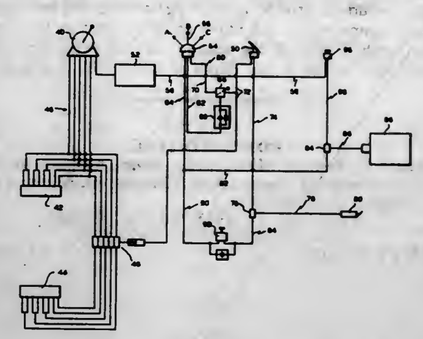
3,512,276
NURSERY TREE DIGGER
James L. Juhl, Hudson, Iowa, assignor, by mesne assignments, to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 20, 1967, Ser. No. 624,288
Int. Cl. A01g 23/06
U.S. Cl. 37—2 4 Claims



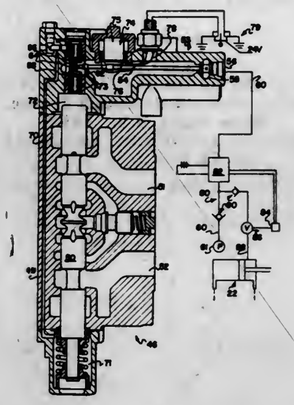
A nursery tree digger for a self-propelled loader having a pair of lifting arm members pivotally secured thereto at one of their ends and a substantially U-shaped blade operatively pivotally secured to the other ends of arm members.

3,512,277
CONTROL SYSTEM FOR TWO-ENGINE VEHICLE
Howard E. Stuller, Lubbock, Tex., assignor to Clark Equipment Company, a corporation of Michigan
Filed Mar. 15, 1967, Ser. No. 623,397
Int. Cl. B60p 1/36; F15b 15/18
U.S. Cl. 37—8 7 Claims

A control system for a vehicle having two engines. One engine is utilized to propel the vehicle in the usual manner. The present control system may be operated to cause the second engine to help propel the vehicle, or to drive an auxiliary mechanism, or both, or neither. The control system includes a two-position control device connected to the second engine, and a three-position control device. The position of the two-position control device is dependent upon the position of the three-position control device which is arranged to selectively (1) connect the second engine for operation with the first engine in propelling the vehicle but with the auxiliary mechanism disconnected, (2) disable the second engine from propelling the vehicle and also from driving the auxiliary device, (3) connect the second engine for driving the auxiliary mechanism but not propelling the vehicle, and (4) connect the second engine for both propelling the vehicle and operating the auxiliary mechanism.



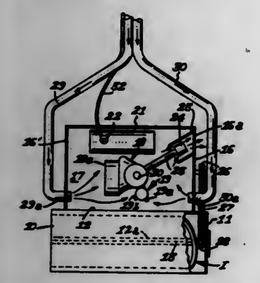
3,512,278
CONTROL SYSTEMS FOR EARTHMOVING SCRAPERS
William H. Bechman, Morton, Ill., assignor to Westinghouse Air Brake Company, Peoria, Ill., a corporation of Pennsylvania
Filed Sept. 7, 1967, Ser. No. 666,033
Int. Cl. B60p 1/36; F15b 13/16
U.S. Cl. 37—8 6 Claims



A tractor scraper including a hydraulic control system comprising a plurality of valves for controlling movable elements of a scraper. The valves have a common manifold and are mounted directly on the scraper to minimize the number of hydraulic lines directed from a tractor, by the pivotal connection between the tractor and scraper, to hydraulic cylinders for each of the movable scraper elements. A hydraulically motivated, valve actuation system

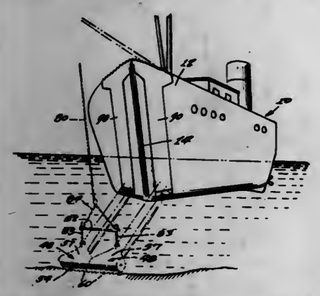
including valve modulation means is provided to permit accurate, remote control of the valves. As a safety feature, an alternate source of fluid under pressure for the valve actuation system is provided by connection to a scraper bowl hoist cylinder to permit dropping the bowl as an emergency braking measure upon failure of the primary source of fluid under pressure. When utilized in a tandem scraper arrangement, the present control system may include a ground contacting sensing element operatively connected to the valve actuation system to control the depth of cut of the second scraper dependent upon variations of the actual depth of cut of the first scraper.

3,512,279
POWERED TOOL
Donald D. Benson, Minneapolis, Minn., assignor to Toro Manufacturing Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 24, 1965, Ser. No. 489,863
Int. Cl. A01d 35/24; E01h 5/09
U.S. Cl. 37—43 13 Claims



A powered snow thrower having the power plant, including the engine, and the ignition and fuel systems, located near the impeller and completely enclosed and shielded from the snow. Air for cooling the engine and for carburetion is supplied through the steering handle from a point adjacent the handle grip. The fuel tank is vented to a point adjacent the handle grip. The power plant enclosure is aspirated by the engine muffler. The snow thrower is wheelless and is supported on a flat, plate like skid.

3,512,280
SUCTION DREDGING APPARATUS
James Di Perna, 85 Foxhill Terrace, Staten Island, N.Y. 10305
Filed Oct. 13, 1967, Ser. No. 675,102
Int. Cl. E02f 3/94, 3/92
U.S. Cl. 37—57 2 Claims



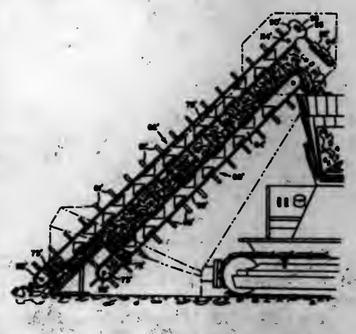
A dredging apparatus on a floating vessel having a bottom deck and prow, there being mounted on the bottom deck a suction pump and inlet pipe lines thereto adjacent to the prow, and below the water level. At least one dredging swing pipe is pivotally jointed to the pump inlet pipe line at the bottom deck level and at the prow of the vessel. Formed in the prow is a substantially vertical recess in which the swing pipe is received when raised into inoperative position. Secured to the swing pipe is a cover plate which completely closes the recess when the swing pipe is in raised position. A winch and derrick on the top deck of the vessel is cable connected to the free end of the swing pipe to manipulate the same. Carried at the free open end of the swing pipe is a nozzle within which is a rotatable toothed roller for crushing clods, rocks, etc., and extending forwardly of the nozzle is a ground engaging cutter blade.

3,512,281
SWELL COMPENSATOR FOR A DRAG SUCTION DREDGER
Achilles Hadjidakis, The Hague, Netherlands, assignor to Mineraal Technologisch Instituut, Delft, Netherlands
Filed Nov. 24, 1967, Ser. No. 685,366
Claims priority, application Netherlands, Nov. 28, 1966, 6616728
Int. Cl. E02f 3/88; G05b 5/01
U.S. Cl. 37—58 5 Claims



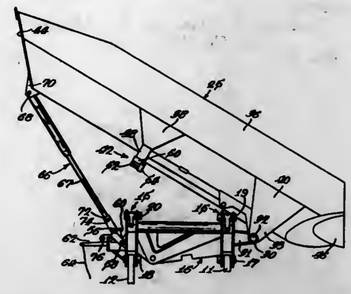
A swell compensator for the suction pipe of a drag suction dredger has an indicating device which rises and falls opposite to the direction of the dredger in the swell. Switches on either side of the median position of the indicator actuate an integrator so that upon excessive frequency and/or duration of actuation of the switches on one side of the median position, the motor for the suction pipe winch is actuated in a direction to return the indicator to its median position.

3,512,282
CONVEYOR TYPE LOADER
Albert Gurries, Gilroy, Calif., assignor to Gurries Manufacturing Co., San Jose, Calif., a corporation of California
Continuation-in-part of application Ser. No. 256,462, Feb. 5, 1963. This application Apr. 12, 1965, Ser. No. 449,376
Int. Cl. E02f 5/06; B65g 65/06
U.S. Cl. 37—101 1 Claim



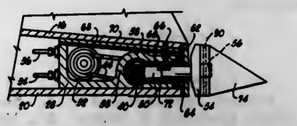
A self-loading, conveyor-type loader including a mobile frame having an earth-working scraper blade mounted at the forward end of the frame and two cooperating powered conveyors spanning the blade so that the upper conveyor pushes earth collected on the blade thereover onto the lower conveyor whereupon both conveyors cooperatively move the earth upwardly for subsequent disposal.

3,512,283
MATERIAL LOADER AND PLOW
Allan G. Moody and Herbert C. Gleasmann, Omaha, Nebr., assignors to Omsteel Industries, Inc., a corporation of Nebraska
Filed Aug. 10, 1967, Ser. No. 659,750
Int. Cl. E02f 3/76
U.S. Cl. 37—117.5 13 Claims



A combination loader and plow for mounting on movable arms on a vehicle having lift arms including a cradle to be mounted on the vehicle lift arms for movement therewith, an elongated bucket-like scoop pivotally connected to the cradle for movement between a loading position and a plowing position, a means for latching the scoop in the loading position and a means for latching the scoop in the plowing position.

3,512,284
BACK HOE TOOTH STRUCTURE
Freddie J. Haynes, Midwest City, Okla. (3612 Meadowbrook, Oklahoma City, Okla. 73110)
Continuation-in-part of application Ser. No. 722,990, Apr. 22, 1968. This application June 2, 1969, Ser. No. 829,223
Int. Cl. E02f 9/28
U.S. Cl. 37—141 12 Claims



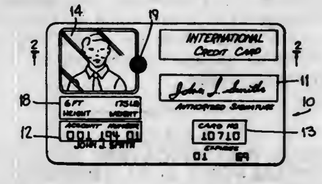
A tooth structure for use in a back hoe of the type having power driven reciprocating teeth, the tooth structure including a pyramidally shaped point formed integrally with a rectangularly cross-sectioned base portion, and a drive rod member detachably secured to the base portion. The drive rod member includes a head portion having a protuberant connector stud which registers with a complementary socket in the base portion of the tooth structure in which the stud is detachably retained. An elongated rod is secured to the head portion of the drive rod member. The head portion of the drive rod member is rectangularly cross-sectioned, and at its point of connection to the drive rod, is characterized in having a dirt displacement face which extends at an angle to a plane extending normal to the longitudinal axis of the elongated rod.

In a different aspect of the invention, a plurality of the described tooth structures are reciprocably mounted on a dirt receiving bucket in juxtaposition to each other. The bucket has a digging leading edge which carries a face plate, and the elongated rods of the drive rod members are mounted for reciprocation through the face plate so that the longitudinal axis of each rod extends substantially normal to the major plane of the face plate.

3,512,285
ALTERATION OF PERMANENTLY SET GARMENTS
Ildo E. Pensa, Palisades Park, N.J., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 479,765
Int. Cl. D06m 11/04, 11/16, 13/54
U.S. Cl. 38—144 1 Claim

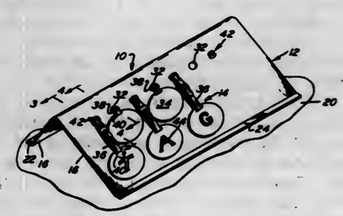
This invention concerns a method of resetting the configuration of a permanently set, cellulose fiber-containing garment having at least one permanent fold, comprising arranging said garment in a new configuration, including a change of said fold, treating the area of new configuration with acidic catalyst, and thereafter pressing and heating the arranged garment to reset the new configuration.

3,512,286
IDENTIFYING CREDIT CARD
Louis S. Siegel, Brooklyn, N.Y., assignor to Dubow Chemical Corporation, New Hyde Park, N.Y., a Corporation of New York
Filed Sept. 7, 1967, Ser. No. 666,036
Int. Cl. G09f 3/02
U.S. Cl. 40—2.2 3 Claims



An identifying credit card, a portion of whose surface is depressed to define a well adapted to receive a photograph of the owner, the card being formed of thermoplastic material and having a shoulder surrounding said well to accommodate a panel of transparent, thermoplastic material whose margins are bonded to said shoulder to seal and protect said photograph.

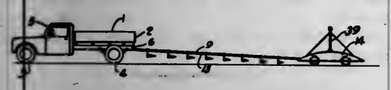
3,512,287
ARTICLE DISPLAY AND SUPPORT
Mark Stern, Pelham Manor, N.Y., assignor to Aluminum Development Corporation, Pelham Manor, N.Y., a corporation of New York
Filed July 31, 1967, Ser. No. 657,387
Int. Cl. G09f 1/10
U.S. Cl. 40—124 11 Claims



A display for articles having a discrete body portion and flexible support for the body portion, the display comprising a member having generally flat planar anchor

and display panels, anchor means on the anchor panel, clearance openings on the display panel at points corresponding to the anchor means, and further anchor means on the display panel, so that the flexible supports of selected articles may be secured to the anchor means and strung through the clearance openings, and the supports of other articles secured to further anchor means. With articles having flexible supports of about equal length, the body portions are thus disposed on the display panel in staggered relation to form vertically spaced horizontal rows on the display panel.

3,512,288
REMOTE CONTROL MOBILE HIGHWAY SIGN
Thomas R. Hall, 6500 SW. Seymour St., Portland, Oreg. 97225
Filed Dec. 21, 1967, Ser. No. 692,513
Int. Cl. G09f *7/00*
U.S. Cl. 40—129 7 Claims



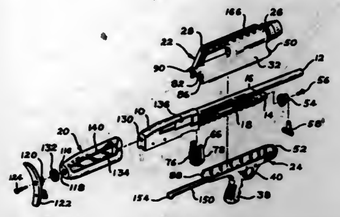
This invention relates to a mobile highway sign and particularly such a sign as is adapted to be moved along in conjunction with a truck or other primary vehicle, the sign itself being spaced substantially rearwardly of the vehicle, and in turn on a vehicle which may be controlled from the primary vehicle, the secondary vehicle or sign vehicle being of low profile so that even in the event of collision with a following car or the like, probability of damage to such car would be minimized and since the sign is spaced from the vehicle and does not require positioning an operator thereon, the hazard to such operator is eliminated.

3,512,289
ANIMAL IDENTIFICATION TAG AND INSTALLATION TOOL THEREFOR
Norman J. Hayes, Cody, Wyo., assignor to Y-Tex Corporation, San Antonio, Tex., a corporation of Texas
Filed May 27, 1968, Ser. No. 732,320
Int. Cl. G09f *3/00*
U.S. Cl. 40—301 15 Claims



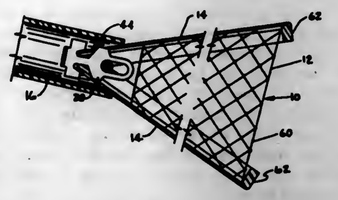
An animal identification tag having a head provided with four rearwardly slanting, flexible prongs which are convex and concave, respectively, on the front and rear and extend to a blunt point at the front, with a tang increasing in diameter from the head to a corner having a circular cross section and a neck depending from the corner, with a flat body suspended by the neck and having a surface to receive identification marks. A tool for installing the tag includes an oval or rounded piercing blade having a sharpened front point and cutting edges, with a top slot for receiving a top prong of the head, a pair of side notches having a convex rear edge to fit against the concave rear surface of a pair of side prongs, and a bottom slot, though which a lower prong extends, serves as a loading space for the tag. The edges of the bottom slot are spaced apart to grip the neck of the tag, while the tang and corner are inside the tube. For one step installation, the blade is merely pushed through a desired point in an ear or the like and then quickly withdrawn, leaving the head of the tag on the opposite side of the ear, since the prongs will be folded inwardly while passing through the ear, but will snap outwardly against the ear upon withdrawal of the tool.

3,512,290
FIREARM HOUSING ASSEMBLY HAVING THREE SECTIONS AND AN INTERLOCKING CENTRAL COUPLING MEMBER THEREFOR
Paul A. La Violette, Jr., and Edward M. Marino, North Haven, Conn., assignors to The High Standard Manufacturing Corporation, Hamden, Conn., a corporation of Connecticut
Filed July 8, 1968, Ser. No. 743,099
Int. Cl. F41c *23/00*
U.S. Cl. 42—75 6 Claims



A housing for a firearm consisting of three principal sections, including a rear hollow section into which the receiver of the gun fits, and upper and lower forward sections which are joined along a plane running longitudinally of the gun. The three housing sections interlock with a central coupling member mounted firmly on the firearm near the forward end of the receiver to provide a solid central mounting point for the housing. The rear section is fixed at its back end to the rear of the receiver and is urged forwardly into engagement with the coupling member, while the front ends of the two forward sections are fixed to a rigid part of the gun along the barrel and are urged rearwardly against the coupling member, thereby providing solid mounting points at both the front and rear of the housing and at the same time forcing the housing sections toward the middle into rigid engagement with the coupling member to make a unitary housing assembly.

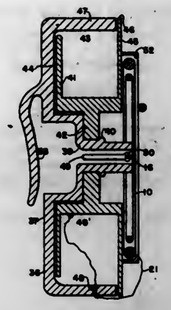
3,512,291
COLLAPSIBLE LANDING NET
Eugene J. Proulx, 1651 62nd Ave. S., St. Petersburg, Fla. 33705, Frederick J. Moore, Sr., 1110 4th Ave. NW., Largo, Fla. 33540, and George T. Brent, 10355 Paradise Blvd., Apt. 103, Treasure Island, Fla. 33740
Filed Dec. 26, 1968, Ser. No. 787,026
Int. Cl. A01k *77/00*
U.S. Cl. 43—12 9 Claims



A self-storing fisherman's landing net. The net is supported on two pivotable extensions of the net's handle and

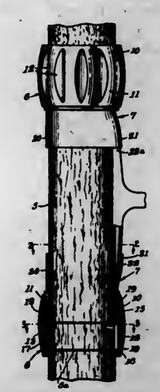
contained between the extensions when they are closed together. A simple latching arrangement springs the extensions apart to expose the net when it is to be utilized.

3,512,292
FISH BAIT RETRIEVER AND REEL ASSEMBLY
Thaddeus M. Splawinski, Saskatoon, Saskatchewan, Canada, assignor to Saagaway Tackle Ltd., Edmonton, Alberta, Canada
Filed Jan. 26, 1968, Ser. No. 700,946
Int. Cl. A01k *97/00*
U.S. Cl. 43—17.2 9 Claims



The device is a holder and reel for fish bait retrievers and consists of a casing having a manually operable reel inside, which is automatic in assembly and disassembly. The retriever trips to the front of the reel and a line extends from the reel to the retriever. The reel may also be clipped to the belt of the user if desired.

3,512,293
FISHING REEL MOUNTING MEANS
Frederick W. Lumbard, South Pasadena, Calif., assignor to Featherweight Products, Glendale, Calif., a corporation of California
Filed July 30, 1968, Ser. No. 748,762
Int. Cl. A01k *87/06*
U.S. Cl. 43—22 4 Claims



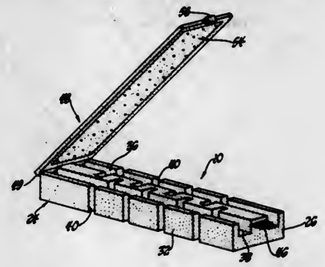
A collet chuck for gripping and compressing the cork handle grip of a fishing rod and provided with a tubular member that has retention engagement with a reel seat base for adjustably mounting a fishing reel on the handle grip.

3,512,294
FLY FISHING LINE HAVING IMPROVED ELASTIC MEMORY AND IMPROVED ACTION IN CASTING
Arthur M. Howald, Perrysburg, Ohio, assignor to Soo Valley Company, Columbia, S.C., a corporation of South Carolina
Filed Oct. 16, 1967, Ser. No. 675,366
Int. Cl. A01k *91/00*; B44d *1/46*
U.S. Cl. 43—44.98 3 Claims



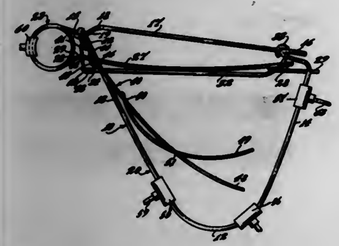
A fly fishing line comprising a filamentous core, surrounded by a flexible surface layer which consists essentially of plasticized polyvinyl chloride and comprises 5 to 20% by weight of a compatible cross-linked polymerized poly-unsaturated substance that improves the elastic memory of the line and improves its action in casting.

3,512,295
FISHING LURE HOLDER
Olin E. La Barge, Pontiac, Mich., assignor to La Barge Company, Pontiac, Mich., a corporation of Michigan
Filed Dec. 20, 1967, Ser. No. 692,112
Int. Cl. A01k *97/06*
U.S. Cl. 43—57.5 8 Claims



There is provided an improvement in fishing lure holders of the type adapted to receive and retain a plurality of fishing lures having one or more hooks extending outwardly therefrom. Such hooks are generally provided with a shank portion secured to the lure, the shank portion having hook or barbed portions extending therefrom. The improvement comprises a holder having a body portion of generally rectangular and elongate shape, formed to be floatable, and having a pair of spaced, longitudinally extending grooves in one surface thereof. Extending inwardly from each side of the body portion are a plurality of spaced and parallel slots, generally perpendicular to the grooves, and alternately extending from opposite sides of the body portion. The slots extend completely through the thickness of the body portion, so as to receive the shanks of the fishing lure hooks in such manner that the barbed portions of the hooks are received in the longitudinal grooves. A cover member is hingedly secured to one end of the body portion to cover the grooves and slots, thereby retaining the hooks in place. Suitable latch means are provided to operate between the cover member and body portion and thus retain the cover member in closed position.

3,512,296
BODY-HOLD ANIMAL TRAP
John E. Frost, 10 W. Braddock Drive, Somers Point, N.J. 08244
Filed July 25, 1968, Ser. No. 747,701
Int. Cl. A01m *23/30*
U.S. Cl. 43—85 8 Claims



A trap having an open frame, a holding arm freely swingable on the frame, a spring arm slidably connected to the holding arm for resiliently urging the latter to a released position, and a trigger for releasably retaining the holding arm in a set position against the resilient force of the spring arm.

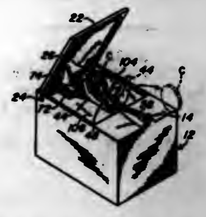
3,512,297
CHILD'S TOY FOR USE IN FEEDING
Suzanne Jeanne Marie Malherbe d'Athis, 46 Rue de Rome, Paris 8°, France
Filed June 7, 1967, Ser. No. 644,341
Claims priority, application France, June 7, 1966, 64,418
Int. Cl. A63h *33/00*
U.S. Cl. 46—1 5 Claims



The invention relates to a toy intended particularly to occupy the attention of small children during meals, comprising a box with a transparent lid which can be fixed to a table, namely by fitting it to a tray of a child's chair, said box containing balls, rattles, figurines or similar objects and presenting on the side turned toward the child openings for the hands, the said openings preferably being furnished with sleeves of flexible material such as a plastic material.

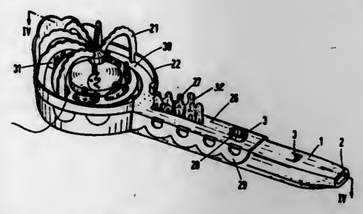
3,512,298
COIN RETURN AMUSEMENT DEVICE
Donald B. Poynter, 7 Arcadia Place, Cincinnati, Ohio 45208
Filed July 17, 1968, Ser. No. 745,557
Int. Cl. A63h *33/00*
U.S. Cl. 46—3 17 Claims

The box-like housing includes a normally closed lid, and an adjacent coin slot, giving the impression that the device is a coin saving bank; but upon deposit of a coin therein, a motor-driven mechanism including a miniature human hand throws the coin back to the depositor, so that under no circumstances will the device keep a coin given to it, regardless of the value of the coin. The mechanism may



include means causing the box-like housing to perform interesting gyrations during a brief period of coin retention.

3,512,299
BLOW TOY
Christian Meyer, Nuremberg, Germany, assignor to Jean Hofler & Co., KG, Bavaria, Germany
Filed Dec. 6, 1967, Ser. No. 688,417
Claims priority, application Germany, July 22, 1967, H 59,666
Int. Cl. A63h *33/40*
U.S. Cl. 46—53 10 Claims



A toy, for example, in the form of a merry-go-round, which comprises an air turbine which is driven when an air current is blown against it and has two impellers carrying toy figures which are rotatable in opposite directions and adapted to carry out wobbling motions.

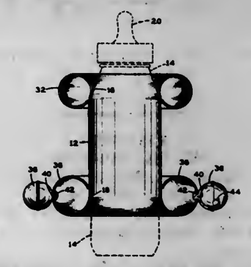
3,512,300
WALKING TOY
Oscar Thoresen, 128 Roselawn Ave., Pittsburgh, Pa. 15228
Filed Oct. 5, 1967, Ser. No. 673,031
Int. Cl. A63h *11/12*
U.S. Cl. 46—103 8 Claims



This invention relates to a toy and, more particularly, to a walking toy that may be in the form of a doll, a simulated animal, or some other figure, and that is adapted to move on a plane surface under the power of a self-contained motor. In accordance with this invention, the toy includes a body member provided with two independently movable drive wheels for rolling contact with a plane surface, such as a table top or a smooth floor. Means are provided for separately connecting each of the drive wheels alternately to

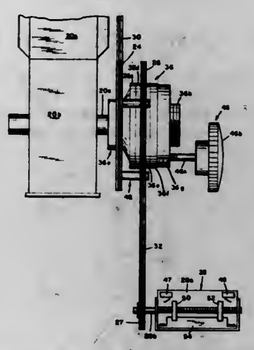
a motor mounted in the body member for turning the wheels in the same direction, so that the toy is driven in alteration in clockwise and counterclockwise arcs in a generally zigzag fashion along a predetermined path.

3,512,301
TOY AND RECLINING BABY BOTTLE HOLDER
Joseph Kramer, 1200 Tallwood Ave., Hollywood, Fla. 33021
Filed June 6, 1968, Ser. No. 734,930
Int. Cl. A63h *5/00*
U.S. Cl. 46—175 11 Claims



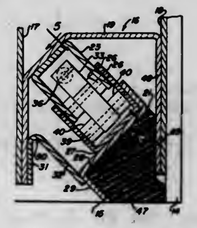
A combination toy and reclining baby bottle holder comprising a tube for receiving the bottle, a first ring affixed to one end of the tube and encircling the tube to provide a rest for that end of the tube, a second ring affixed to and encircling the other end of the tube, and a plurality of legs projecting radially outwardly from the second ring for supporting the tube and bottle at an angle to a horizontal surface. The tube includes a stop portion so that a nipple on the bottle is outside the lower end of the tube. A stretchable cord affixed to the tube exerts gripping action on the bottle, and a rattling means is provided.

3,512,302
DOOR MOTOR OPERATOR
Bernard J. Sivin, Commack, and Julius Kapik, Elmont, N.Y., assignors to North American Winfield Door Corp., Lindenhurst, N.Y., a corporation of New York
Filed Nov. 12, 1968, Ser. No. 774,883
Int. Cl. E05f *15/00*
U.S. Cl. 49—139 2 Claims



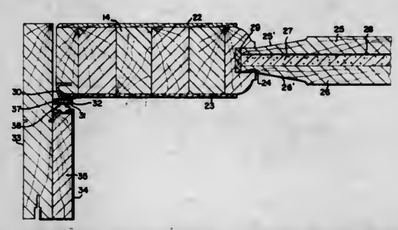
A door operatively arranged for interchangeable motor powering and hand operation intervals of operation, wherein the limit switch that operates, in a well understood manner, to terminate operation of the motor during a motor powering interval whenever the door attains either its fully open or closed position is also maintained operational to accurately reflect the positional condition of the door during hand operation; thus resetting of the limit switch is not required despite frequent shifting between motor powering and hand operation of the door.

3,512,303
THRESHOLD SEALING APPARATUS FOR DOORS
Francis R. Wright, Glenwood, Ill., assignor to Rysdon Products Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 14, 1967, Ser. No. 622,994
Int. Cl. E06b *7/20*
U.S. Cl. 49—309 9 Claims



A device for sealing the threshold space beneath a door particularly against the transmission of sound wherein the actuating force applied to the flexible sealing member acts at an acute angle to the plane of the door and the flexible sealing member includes a toe portion for projection into the threshold space, against the door frame and against the door stop when the door is closed.

3,512,304
INSULATED PANEL DOOR
Henry C. Meuret, Oshkosh, Wis., assignor to Morgan Company, Oshkosh, Wis., a corporation of Delaware
Filed Aug. 1, 1968, Ser. No. 749,547
Int. Cl. E06b *3/72*
U.S. Cl. 49—501 9 Claims

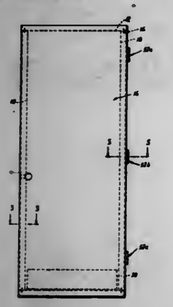


A panel type wooden door construction characterized by stiles and rails of a thickness generally provided for exterior use which define openings for panels having a thickness which is at least in part substantially less than the thickness of the stiles and rails and wherein the panels have incorporated therein insulating material arranged so that the panels have insulating properties substantially equal to the otherwise greater insulating properties of the thicker stiles and rails.

3,512,305
METAL CLAD DOOR
Howard C. Multer, West Hartford, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Feb. 20, 1968, Ser. No. 706,901
Int. Cl. E06b *03/36*
U.S. Cl. 49—503 13 Claims

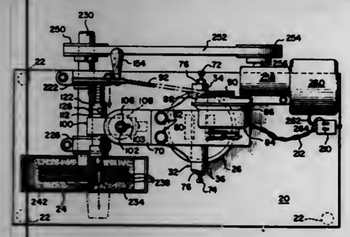
A metal clad door has a pair of stiles and a pair of rails extending therebetween with a core of an insulating medium in the space defined thereby. A pair of metal

skins is disposed on opposite side surfaces of the stiles and rails and extends therebetween to provide the faces of the door. The skins have end portions which extend beyond the stiles with flanges thereon extending toward each other and overlain by a molding member extending along the outer edge surface of one of the stiles providing the latch side of the door.



In accordance with the disclosed construction, the flanges extending about the stiles have reentrant configuration and may be cut away to provide a mortise for the hinges assembled therewith. The spacing between the ends of the flanges on the metal skins on the latch side of the door permits facile drilling of an aperture for the latch bolt and a simple but highly durable arrangement for mounting the latch assembly is also provided.

3,512,306
GLASS THREADING APPARATUS
Edwin D. Phillips, 170 Albert St., North Plainfield, N.J. 07060
Filed July 18, 1967, Ser. No. 654,210
Int. Cl. B24b *3/00*
U.S. Cl. 51—95 19 Claims

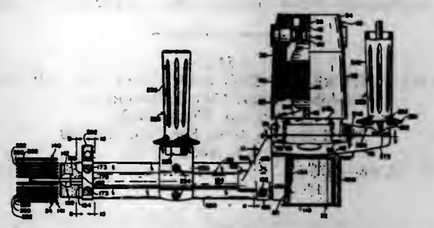


A continuously rotating grinding wheel is provided. The workpiece is supported at the end of a shaft which can be rotated and advanced relative to said grinding wheel. This shaft is mounted in a support mechanism which is pivotally supported about two mutually perpendicular axes so that the orientation of the shaft can be adjusted relative to the grinding wheel.

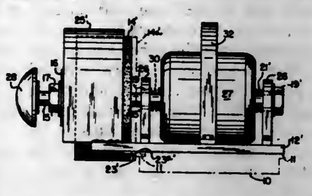
The workpiece is supported on a wooden bushing mounted on a reduced tapered spindle portion at the end of the shaft.

3,512,307
PORTABLE SANDING MACHINE IMPROVEMENTS
Robert W. Taylor, Baldwinsville, N.Y., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 7, 1966, Ser. No. 563,613
Int. Cl. B24b *23/00*
U.S. Cl. 51—170 4 Claims

A surface-finishing power tool having an endless, surface-finishing belt adopted to engage a workpiece and trained around a crowned idler pulley and a flanged, uncrowned power driven pulley which comprises a substantially cylindrical hub-mounted elastically deformable pulley body mounted between the pulley flanges and formed with annular, circumferentially extending, outwardly opening grooves defining a multiplicity of uniformly diametered, radially extending, flexible belt-engaging ribs.

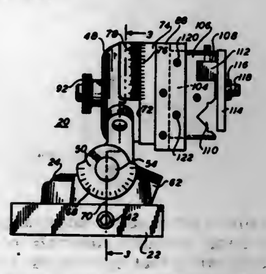


3,512,308
SKI SHARPENER
Liguori J. Schell, Jr., 18432 Lake Shore Blvd., Cleveland, Ohio 44119
Continuation-in-part of application Ser. No. 527,964, Feb. 16, 1966. This application Jan. 11, 1967, Ser. 608,633
The portion of the term of the patent subsequent to Nov. 26, 1985, has been disclaimed
Int. Cl. B24b *23/00*
U.S. Cl. 51—170 4 Claims



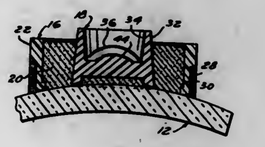
A grinding wheel for sharpening the running edge of a ski is mounted on a base which is slidable longitudinally of the bottom of an upturned ski, the abrasive wheel on the base being movable at right angles to the running edge for advance and withdrawal of the grinding face relative to the running edge. The invention shown here utilizes a motor fixed to the base and drivingly connected to the drive shaft of the abrasive wheel.

3,512,309
FIXTURE FOR SUPPORTING A TOOL SUBJECT TO GRINDING
Rocco F. Grieco, 14 Wittkop Place, Millburn, N.J. 07041
Filed July 1, 1966, Ser. No. 562,197
Int. Cl. B24b *41/06*
U.S. Cl. 51—218 5 Claims



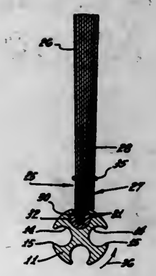
A fixture for holding a tool for grinding wherein the holder is mounted for universal adjustment about several perpendicular axis and provided with alternate tool holders for specific tools.

3,512,310
TWO-PIECE RING BLOCK FOR LENS BLANKS
Milo O. Rudd, Fort Lauderdale, and William M. Catron, Plantation, Fla., assignors to Univis, Inc., Fort Lauderdale, Fla., a corporation of Ohio
Filed Nov. 10, 1966, Ser. No. 593,433
Int. Cl. B24b *1/00; 19/00*
U.S. Cl. 51—277 10 Claims



A multiple piece ring block is provided for generating and polishing the prescribed optical surface on a lens blank wherein the outer ring is adapted to be readily and independently removed from the block so that the inner ring can be employed for edging operations.

3,512,311
ABRASIVE PACK WITH SELF-CONTAINED ANCHORING FLANGE AND REARWARDLY ADJACENT SUPPLEMENTAL LEAVES
Aleck Block, West Los Angeles, Calif., assignor, by mesne assignments, to Merit Abrasive Products, Inc., a corporation of California
Filed May 24, 1968, Ser. No. 731,905
Int. Cl. B24b *9/02*
U.S. Cl. 51—334 6 Claims



For use in an abrasive wheel an abrasive pack of flexible abrasive coated leaves embodying one section with anchor means to removably hold the pack in a mandrel, the anchor means including a stiff or substantially rigid flange formed of certain of the leaves and supplemented by a retention element in combination with a second section having a plurality of leaves secured to the first section rotationally rearward of the first section and with their inner ends terminating adjacent the periphery of the mandrel for bracing contact therewith during rotation of the wheel.

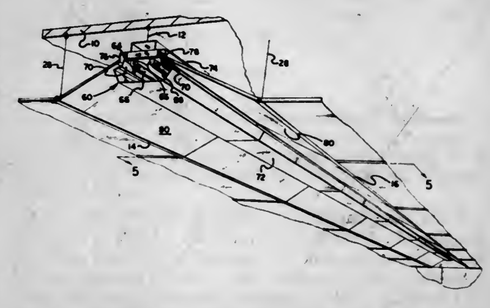
3,512,312
COLLAPSIBLE GRINDING TOOL
Henri Juillerat, 9 rue du Chanet, Bole, Neuchatel, Switzerland
Filed July 26, 1967, Ser. No. 656,214
Claims priority, application Switzerland, July 29, 1966, 11,043/66
Int. Cl. B24b *9/02*
U.S. Cl. 51—338 5 Claims

A collapsible grinding tool having an elongated body with an elongated axial bore is provided with longitudinally extending slits for rendering the elongated body flexible. Between the slits is mounted a flexible abrasive and the tool has an inoperative, collapsed position in which the flexible abrasive assumes a bowed-in condition. A conically shaped rod is insertable into the axial bore to expand



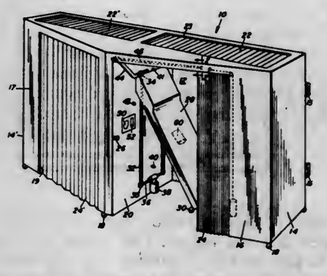
the flexible abrasive into its operating position, which is substantially parallel to the elongated axial bore of the tool.

3,512,313
ACOUSTIC CEILING
Richard E. Harz., Chatham, N.J., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed. Oct. 14, 1968, Ser. No. 767,176
Int. Cl. E04b *7/14, 1/82, 5/52*
U.S. Cl. 52—28 9 Claims



A suspended ceiling support system for supporting acoustical ceiling panels and lighting fixtures wherein the lighting fixtures are disposed within a trough formed by angularly disposed and supported ceiling panels of the system.

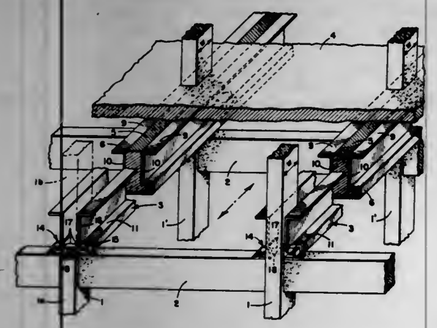
3,512,314
PORTABLE LAYOVER UNITS
Warren T. George, 1611 Clark Ave., and Donald E. Mason, 2120 Wyoming Ave., both of Billings, Mont. 59102
Continuation-in-part of application Ser. No. 651,160, July 5, 1967. This application Apr. 17, 1969, Ser. No. 826,755
Int. Cl. E04h *1/12*; A47c *17/38, 1/02*
U.S. Cl. 52—29 11 Claims



A portable rest facility or unit especially suited for public waiting rooms such as in railroad stations and air terminals, and comprising body-supporting lounge means

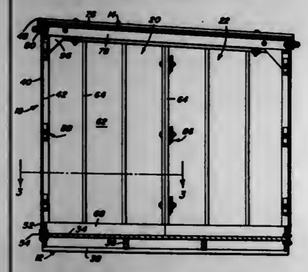
movable from a tilted, non-usable position to a substantially horizontal usable position by an operating mechanism which is check controlled and which has suitable timing means for regulating the period of time that the body supporting lounge means remains in the usable position.

3,512,315
BUILDING HAVING TELESCOPIC SECTION
Alberto Vitalini, Via Clivo Monte del Gallo 34, Rome, Italy
Continuation of application Ser. No. 632,735, Apr. 21, 1967. This application June 10, 1969, Ser. No. 834,609
Claims priority, application Italy, Mar. 13, 1967, 35,391/67, 35,392/67
Int. Cl. E06b 1/343; E04h 1/04; E04c 3/283
U.S. Cl. 52—67 26 Claims



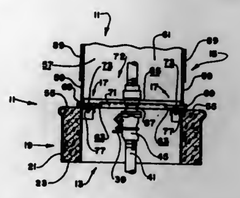
A building construction wherein various units of the building are dynamically constructed relative to the main static supporting structure thereof so that said units are extensible and retractable relative to an exterior wall of said building as, for example, externally protruding balconies which can be telescoped into the building and also entire room structures which can overhang from an exterior wall in the nature of balconies and which can be retracted inwardly to form a flush exterior wall on said building.

3,512,316
TAKEDOWN SHELTER
James F. Parr, Hamilton, Mont. (2327 E. Cameron, West Covina, Calif. 91790)
Filed Sept. 27, 1967, Ser. No. 670,995
Int. Cl. E04b 7/02, 7/06; E04d 1/36
U.S. Cl. 52—92 5 Claims



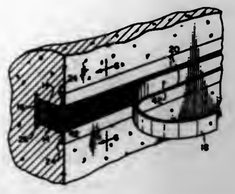
A shelter assembled from prefabricated panel sections of reduced size and weight. The shelter is held assembled by connectors securing abutting studs of the wall panel sections to each other while clamping bolt assemblies hold abutting roof panel sections clamped to sealing joints. The rafters of the roof sections are secured to the wall sections by corner braces that straddle the abutting studs.

3,512,317
PUMP BOX CONSTRUCTION
Hugh C. Lynch, 5569 Lyford Ave., Memphis, Tenn. 38117
Filed May 1, 1968, Ser. No. 725,701
Int. Cl. E04b 1/36; E04g 21/30
U.S. Cl. 52—99 1 Claim



A pump box construction and associated mounting of a service station type gasoline dispenser which includes opposingly coplanar arranged inturned flanges respectively on the pump box and gasoline dispenser including upper face surfaces on the flanges of the pump box and lower face surfaces respectively on the flanges of the gas dispenser; and includes shearable bolt means securing the respective flanges in face to face engaging relationship. The bolt members having transverse grooves formed respectively in the shank portions of the bolts and adapted to shear when the gasoline dispenser is hit by an automobile or the like.

3,512,318
WINDOW SASH REGLET SECTION
Norman G. Turner, Lake Bluff, Ill., assignor to Superior Concrete Accessories, Inc., Franklin Park, Ill., a corporation of Delaware
Filed July 23, 1968, Ser. No. 746,827
Int. Cl. E04d 3/38; E06b 1/24
U.S. Cl. 52—100 4 Claims



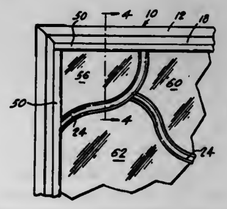
A reglet section for use with a concrete window sash form, the reglet channel being closed by a removable tear strip and the channel rim being formed with lateral rim flanges having anchor ribs thereon which prevent pulling of the reglet section into the window sash opening when the form is stripped from the concrete. In a special form of the reglet construction a series of saw cuts or slots which extend partially through the reglet section, enable the latter to be bent to curved shape to accommodate a window sash opening having a rounded corner. A roughened channel interior serves to lock a glazing gasket in position within the channel of the reglet section.

3,512,319
EARTH ANCHOR
Thomas J. Placentino, Kennett Square, Pa., assignor to All American Engineering Company, Wilmington, Del.
Filed June 7, 1968, Ser. No. 735,344
Int. Cl. E02d 5/80
U.S. Cl. 52—160 7 Claims

Tines of assembly are pivoted to lower end of carrier bar and driven into earth through slots in sides of previously sunken tube. Tines are diverted outwardly over vertex of wedge-shaped surface in bottom of sunken tube to assume angle substantially above vertical and more than substantial angle below horizontal whereby anchor is firmly secured within earth by free insertion of carrier bar within sunken tube. Carrier bar may be engaged and withdrawn from within tube to release anchor, but engagement of tines within earth prevents upward force upon tube from retracting tines. Even through tines are not fully extended to the horizontal position anchor is firmly secured within earth. In fact, aforementioned angle unexpectedly secures anchor more firmly than full horizontal extension of tines, probably because of greater volume of earth encompassed by inclination of tines. Sunken tube is driven downwardly by impingement on wedge-shaped vertex.



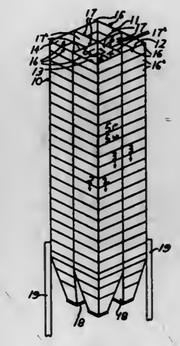
3,512,320
DECORATIVE WINDOW STRUCTURE
Marcelle Ferron, 369 Rue Walnut, St. Lambert, Quebec, Canada, and Roch Choquette, 545 Rue Chambly, Douville, Quebec, Canada
Filed Aug. 1, 1968, Ser. No. 749,498
Int. Cl. E06b 7/12; E44c 5/08
U.S. Cl. 52—172 3 Claims



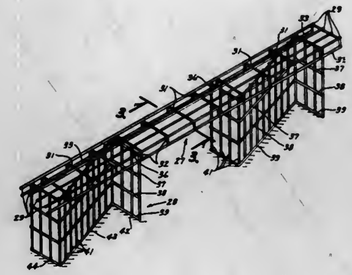
The present invention relates to an H-shaped came formed of flexible and resilient plastic to permit edges of decorative pieces of glass to be received between the flangles with the outer surfaces of the flanges engaging the inner surfaces of a pair of spaced panes of glass.

3,512,321
STORAGE BIN
Walter R. Boatner, Gadsden, Ala., assignor to Leach Manufacturing Company, a corporation of Alabama
Filed May 31, 1968, Ser. No. 733,364
Int. Cl. E04h 7/34; F26b 25/12
U.S. Cl. 52—197 6 Claims

A storage bin having upstanding side walls with upstanding partition walls therein defining separate storage compartments. An upstanding plate-like corner member extends between adjacent side walls and partition walls at points outwardly of and spaced from adjacent ends of the upstanding walls defining a vertical vent passageway which communicates with other vent passageways defined between the plate-like member and the walls connected thereto.



3,512,322
OPEN SUPPORT FOR SUSPENDING A PERFORATED FLOOR WITHIN A STORAGE BIN
Vincent B. Steffen, New Hampton, Iowa, assignor to Dover Corporation (De-Sta-Co Division), a corporation of Delaware
Filed June 6, 1968, Ser. No. 735,140
Int. Cl. E04b 1/70; E04f 17/04
U.S. Cl. 52—263 4 Claims

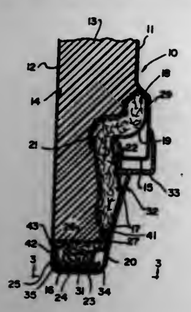


This invention relates to an open support device for suspending a perforated floor in a storage bin in which a relatively free circulation of air is desired, the support device comprising a plurality of vertical disposed gridiron-type bases, being substantially Z-shaped so as to be free-standing and a plurality of horizontal gridiron-type frames resting on top of the bases, the frame forming a substructure of the perforated flooring, the bases and frames being of heavy gage steel wire or rod.

3,512,323
INSULATED WALL STRUCTURE
Ronald K. Hupfer, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware
Filed July 21, 1967, Ser. No. 655,228
Int. Cl. E04b 1/76; E04c 2/26
U.S. Cl. 52—309 6 Claims

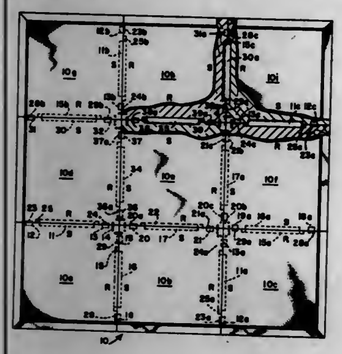
An insulating wall structure for use in cabinets such as refrigerator cabinets. The wall structure includes a pair

of spaced panels and a body of foamed-in-place insulating plastic between the panels. A sheet of fibrous material extends across the space defined by juxtaposed edges



of the spaced panels to define a boundary of the insulating plastic and permits the removable installation of a breaker strip between the panel edges.

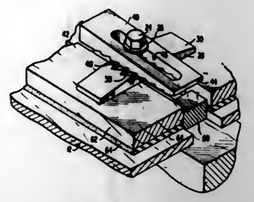
3,512,324
PORTABLE SECTIONAL FLOOR
Lola L. Reed, 1120 W. Oliver St., Apt. 123, Sunnyvale, Calif. 94086
Continuation-in-part of application Ser. No. 522,682, Jan. 25, 1966. This application Apr. 22, 1968, Ser. No. 723,036
Int. Cl. E04b 1/48, 5/02; E04f 15/024
U.S. Cl. 52—586 4 Claims



A portable floor adapter for use over a permanent floor or over a floor covered with a rug or carpet. This floor is made of several sections adapted to abut in a predetermined pattern and the sections are provided with magnets and magnetic armatures or means for holding the sections assembled. A limited number of holding means patterns are provided to the secions, and sectional floors of different sizes may be assembled with sections provided with these holding means patterns.

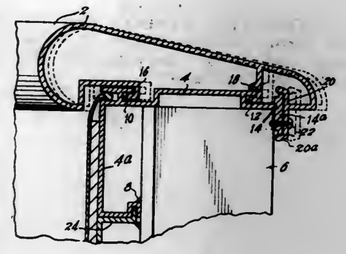
3,512,325
WEDGE ASSEMBLY
Walter B. Nichols, 77 Lounsbury Road, Trumbull, Conn. 06611
Continuation-in-part of application Ser. No. 631,799, Apr. 18, 1967. This application June 6, 1969, Ser. No. 831,154
Int. Cl. E04b 1/60; F16b 5/06
U.S. Cl. 52—584 12 Claims

A wedge assembly for securing two structural elements together including an upstanding stud fixed to one of the elements, a pressure block loosely mounted on the stud and a wedge loosely mounted on the stud above the pressure block. In securing the other element, it is placed between the pressure block and the first element and then the wedge is oriented transverse to the pressure block and hammered to wedge the pressure bar downwardly on the second element to secure it with respect to the first



element. A stop on the extremity of the stud contains the wedge on the stud and causes it to exert a downward force on the pressure block for securing the elements. Interengaging teeth formed on the mutually engaging surfaces of the wedge and pressure block, maintain them to firm wedging engagement.

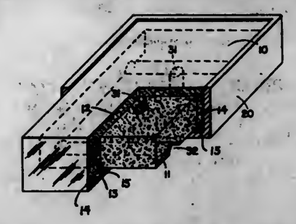
3,512,326
SWIMMING POOL COPING
Samuel Greene, 18 Underwood Drive, West Orange, N.J. 07052
Filed Apr. 22, 1968, Ser. No. 723,201
Int. Cl. E04h 3/16, 7/02; E04f 19/02
U.S. Cl. 52—588 2 Claims



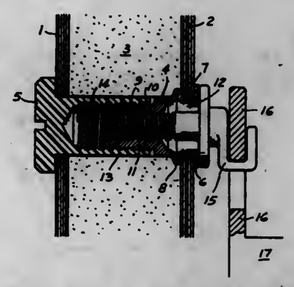
A swimming pool coping is provided in which a base member having slotted portions and a T-section is welded to the swimming pool frame. A one-piece cover having U-shaped portions is lowered vertically to a ready position and then moved horizontally so that the U-shaped portions of the cover engage the slotted portions of the base to provide a secure and sturdy swimming pool coping.

3,512,327
DECORATIVE AND/OR STRUCTURAL MATERIAL
Natale P. La Padura, 35 Edgar Terrace, Staten Island, N.Y. 10301
Filed June 20, 1968, Ser. No. 738,461
Int. Cl. E04c 2/10, 2/26
U.S. Cl. 52—612 1 Claim

The invention produces a light weight brick or statuary product with the appearance of polished stone by introducing freshly mixed, soft, high alumina cement into a polished mold cavity and inserting a porous core into the mold cavity to spread the cement about the core in layers which are a minimum of about ⅛" and a maximum of about 1" in thickness with an average thickness of about ½".



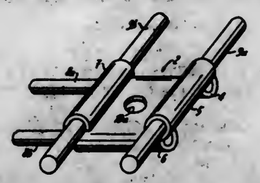
3,512,328
FASTENING DEVICE
Gustaf Sixten Eriksson, 37 Vastra Drottningvagen, 52200 Tidaholm, Sweden, assignor to Bofors-Tidaholms-verken Aktiebolag, Tidaholm, Sweden
Filed July 5, 1968, Ser. No. 742,918
Claims priority, application Sweden, July 7, 1967, 10,368/67
Int. Cl. E04b 2/32
U.S. Cl. 52—617 4 Claims



A wall anchor for mounting in a through-hole of a sandwich panel having a core sheet covered on both sides by skin sheets of non-weldable material has a headed bolt made of a plastic and including an internally threaded blind axial bore. The length of the shank of the bolt is less than the total thickness of the panel in which the wall anchor is to be mounted. A hollow blind rivet terminating at one end in a head and having a thin cylindrical wall portion adjacent to the head and a set-off heavy walled externally and internally threaded portion is screwed with the threaded portion into the bolt so that the head of the bolt and the head of the rivet abut against the skin sheets. The thin wall portion of the rivet is formed with a peripheral fold which protrudes between the core sheet and the respective skin sheet to clamp this sheet between the fold and the head of the rivet thereby securing the wall anchor in position.

3,512,329
METAL CONNECTOR FOR REINFORCEMENT RODS
François de Barbuat du Plessis, 48 Rue de Coalville, Romans, France
Filed Mar. 6, 1968, Ser. No. 710,999
Claims priority, application France, Mar. 7, 1967, 48,369
Int. Cl. E04c 5/18
U.S. Cl. 52—665 1 Claim

A light reinforcement assembled without any welding and constituted by pairs of rods or wires extending along two different directions lying substantially in a common plane, each pair of rods or wires extending along one direction being connected with the pairs extending in the other direction by means of preferably cross-shaped metal sheets facing the crossing area between the two pairs to be considered, the opposite sides of said sheet, such as the corresponding ends of the cross, being folded pairwise respectively towards opposite sides of the sheet so as to be wound around and clamp in position the cooperating elements of the corresponding pair.

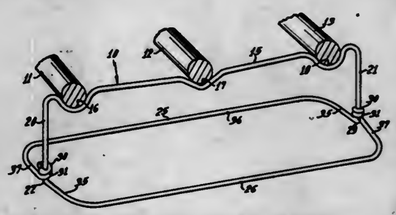


3,512,330
CHAIRS FOR REINFORCING RODS
Jan Shlesinger, Charleston, W. Va., assignor to Kenneth C. Kerman, doing business as K Square Engineering Company, Pittsburgh, Pa.
Filed Feb. 23, 1966, Ser. No. 529,375
Int. Cl. E04c 5/16
U.S. Cl. 52—677 9 Claims



Various forms of support and/or tie chairs are disclosed for reinforcing rods and the like. The chairs are capable of use at rod crossing, straight runs, and lap joints. The chairs include a pair of generally up-right wall members which are spacedly joined to a base member. The base member can be reentrantly joined to the wall members to provide legs for the chair. The wall members, and in some cases the base member, are notched to receive the reinforcing rods. In some forms of the chair, securance tabs are arranged for bending over the reinforcing rods by a pressing and twisting movement of a workman's foot.

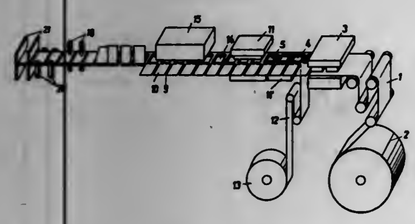
3,512,331
ROD CHAIR
Paul H. Palmer, Jacksonville, Fla., assignor to Hull Metal & Supply Corporation, Jacksonville, Fla., a corporation of Florida
Filed Feb. 17, 1969, Ser. No. 799,614
Int. Cl. E04c 5/18
U.S. Cl. 52—687 3 Claims



A rod chair for use in concrete structures or the like having a rod receiving portion supported by an upright leg and a base portion spaced from the rod receiving portion and supporting the leg, the improvement including

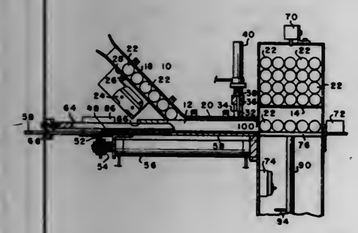
loop means connected to the base portion and wrapped tightly around the lower end portion of the leg, and wherein the lower leg end portion includes means engaged by the loop means for limiting the relative upward movement of the loop means with respect to the leg.

3,512,332
PACKAGING CONTAINERS AS WELL AS PROCEDURE AND DEVICES FOR THEIR MANUFACTURE
Karl Klein, Oberhessen, Germany, assignor to Hassia Verpackungsmaschinen G.m.b.H., Oberhessen, Germany, a corporation of Germany
Filed Apr. 28, 1966, Ser. No. 545,903
Claims priority, application Germany, Apr. 30, 1965, H 55,938; Aug. 20, 1965, H 56,936; Aug. 20, 1965, H 56,937; Apr. 12, 1966, H 59,098
Int. Cl. B65b *43/00*
U.S. Cl. 53—30 15 Claims



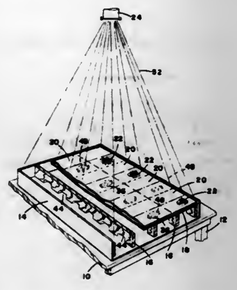
A method and corresponding apparatus are provided for forming, filling and sealing thermoplastic foil containers, the method comprising supplying a cardboard reinforcing material and cutting holes having foldable flaps therein, supplying thermoplastic packaging material in superimposed relationship thereto, simultaneously fusing said packaging material to said reinforcement and deep-drawing the thermoplastic material, filling the container thus formed, and providing a cover therefor.

3,512,333
COIN ROLL DISPENSING AND BOXING APPARATUS
George A. Mobley, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of South Carolina
Filed Oct. 12, 1967, Ser. No. 674,918
Int. Cl. B65b *57/14*
U.S. Cl. 53—61 10 Claims



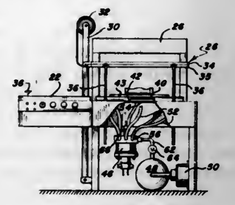
This invention is directed to apparatus which receives rolls of wrapped coins and automatically supplies a certain predetermined number of such rolls to a machine which boxes a greater predetermined number of rolls for delivery to the consumer. Basically, the apparatus includes a coin chute, an automatically controlled coin gate and a piston actuated pusher member to push a predetermined number of rolls of coins into a boxer after they have been released by the gate.

3,512,334
PATTERN PROJECTION FOR SKIN-PACKAGING
John H. Chard, Elizabethtown, Pa., assignor to Pack-Co, Inc., Elizabethtown, Pa.
Filed Oct. 27, 1967, Ser. No. 678,713
Int. Cl. B65b *31/00*
U.S. Cl. 53—112 4 Claims



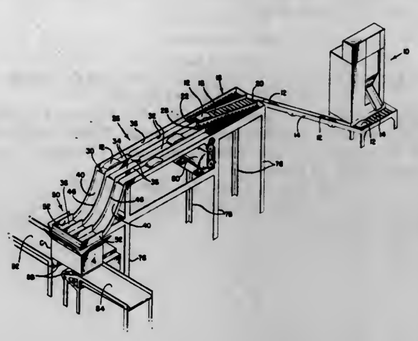
A process and apparatus to package similar objects or groups of objects between a backing member and cover sheet by accurately locating said objects upon a backing sheet from which a plurality of said packages are to be formed by means of projecting an optically visible pattern upon said backing sheet to indicate said desired locations thereon, applying said cover sheet thereover and connecting it to said backing sheet, and severing said backing sheet and connected cover sheet into individual packages.

3,512,335
VACUUM SYSTEM FOR SKIN PACKAGING APPARATUS
Donald R. Rorer, Lake Bluff, Ill., assignor to Stone Container Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 22, 1967, Ser. No. 685,206
Int. Cl. B65b *31/02*
U.S. Cl. 53—112 11 Claims



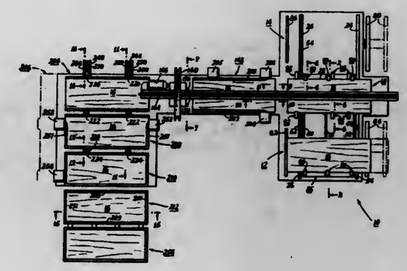
An air-evacuating system for a vacuum forming machine which employs a vacuum station at which stock film material is so formed. The system having a plurality of air-evacuating units operably connected to the vacuum station by a conduit system and control means, including valving apparatus associated with the conduit system whereby a plurality of air evacuating units may be used alternately or in any desired sequence in conjunction one with the other. Said air-evacuating units including at least one unit which is a high-vacuum source, the other unit or units preferably being high-volume, low-vacuum sources.

3,512,336
APPARATUS FOR PLACING FLEXIBLE PACKAGES IN SHIPPING CONTAINERS
John E. Rosecrans, 31456 55th Ave. S., Auburn, Wash. 98022
Filed Aug. 28, 1967, Ser. No. 663,573
Int. Cl. B65b *35/30, 35/50*
U.S. Cl. 53—164 12 Claims



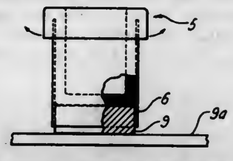
Method and apparatus for depositing flexible pouches, bags or packages in shipping cartons or containers. Flexible or non-rigid bags are received from a forming, filling and sealing machine and channeled into a multiple conveyor system. The system advances the flexible bags to chutes which direct the bags into loading pockets located above the compartments in the shipping container. The loading pockets are provided with bottom door means so that the bags may be dropped directly into a compartment in a shipping container.

3,512,337
PACKAGING MACHINE
Robert B. Fitch, Montville, N.J., assignor to Stapling Machines Co., Rockaway, N.J.
Filed Aug. 16, 1967, Ser. No. 660,961
Int. Cl. B65b *27/00*; B65g *25/10*
U.S. Cl. 53—196 10 Claims



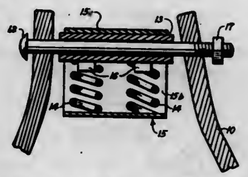
Packaging machine for stacking and bundling sheet material wherein the sheet material is fed from lateral stacking stations and aligned. The aligned stacks are passed through a first taping station where two opposed edges of the stack are taped and then fed by means of a reciprocating transfer bed into a second taping station where the two remaining opposed edges are taped and then to a stacking platform to be bundled.

3,512,338
PACKAGING WITH PLASTIC BAGS
Richard F. Nestler, Pittsburgh, Pa., assignor of seven percent to Morey Firestone
Filed Dec. 10, 1965, Ser. No. 523,239
Int. Cl. B65b *67/12*; B31b *1/76*; E04h *3/04*
U.S. Cl. 53—390 1 Claim



This is a system and process for packaging comprising nested flexible bags of the polyethylene type supported in an open configuration and cuffed over a supporting piece at the top therof. Articles are inserted in the innermost bag and then it is removed from the nest leaving more bags. The bags are located at a supermarket checkout station adjacent the grocery lobby area which, in turn, is preferably to the left of and adjacent to the cash register so that groceries may be picked up from the lobby area by the cashier, "rung up" on the cash register and then deposited in the open nest of bags without further handling. These bags in nested configuration are preferably produced by involution so that each successive bag is larger than the preceding bag.

3,512,339
STIRRUP CUSHION
Gerald G. Roberts, Box 505, Abilene, Kans. 67410
Filed Jan. 15, 1968, Ser. No. 698,012
Int. Cl. B68c *03/00*
U.S. Cl. 54—48 2 Claims

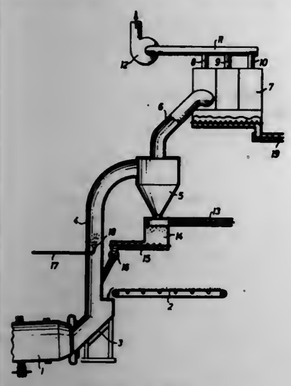


A shock absorbing assembly comprised of a plurality of interiorly mounted springs acting against a tubular sleeve, said springs and sleeve encased within a rectangular cage having open ends. The assembly rotatably mounted on a stirrup bolt communicating between the upper ends of a substantially U-shaped stirrup, said stirrup bolt passing through said sleeve. Jolting motion of the rider's body acting against the stirrup is transmitted to the saddle through the shock absorbing assembly thereby cushioning the effect of the rider's body being jolted up and down in the stirrups.

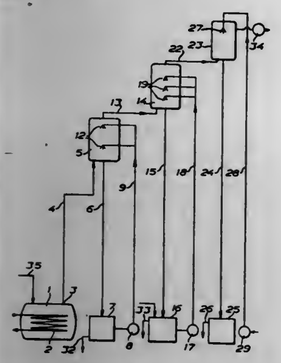
3,512,340
METHOD AND APPARATUS FOR COOLING AND HUMIDIFYING A HOT GAS FLOW
Karl Golücke, Bensberg, near Cologne, Franz Müller, Bensberg-Refrath, and Friedrich Fischer, Cologne-Sulz, Germany, assignors to Klockner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany, a corporation of Germany
Continuation of application Ser. No. 280,787, May 16, 1963. This application Dec. 19, 1967, Ser. No. 691,911
Claims priority, application Germany, May 19, 1962, K 46,787
Int. Cl. B03c; B01d *59/50, 51/00*
U.S. Cl. 55—5 9 Claims

Method of cooling and humidifying a flow of hot gas includes injecting a cooling liquid in fine distribution into a flow of hot gas at a given location along the

flow path thereof, introducing a fine-granular solid substance into the flow of hot gas at a location upstream of the given location, the hot gas flow having a velocity adequate for entraining the liquid and solid so that they are in heat-exchanging relation within the gas flow, and separating the solid substance from the gas flow at a location along the flow path thereof downstream from the given location. Apparatus for carrying out the above-described method comprises a conduit through which a flow of hot gas passes when the apparatus is in operation, the conduit having a flow inlet end and a flow outlet end for the hot gas, liquid coolant supply means having an injection nozzle extending into the conduit intermediate the inlet and outlet ends thereof, means connected to the conduit at a location between the injection nozzle and the inlet end of the conduit for introducing fine-granular material at the above location into the gas flow within the conduit, and means connected to the outlet end of the conduit for separating the fine-granular material from the gas flow.

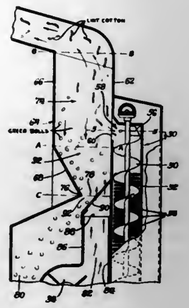


3,512,341
PURIFICATION OF VAPOURS CONTAINING FLUORINE COMPOUNDS
Martin English, Stockport, England, assignor to L. A. Mitchell Limited, Manchester, England
Filed Apr. 25, 1968, Ser. No. 724,141
Claims priority, application Great Britain, May 3, 1967, 20,419/67
Int. Cl. B01d *53/00*
U.S. Cl. 55—71 **5 Claims**



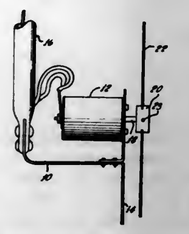
A method of recovering fluorine compounds from vapours containing water vapour and fluorine compounds comprising the steps of scrubbing the vapours with an aqueous liquid at such a temperature as not to cause any substantial condensation of the water vapour, whereby impurities are scrubbed out of the vapours and fluorine compounds remain therein; subsequently scrubbing the vapours with an aqueous fluorine-compound-absorbing liquid at such a temperature as not to cause any substantial condensation of the water vapour, thereby removing fluorine compounds in the fluorine-compound-absorbing liquid; and recovering fluorine compounds from the said fluorine-compound-absorbing liquid.

3,512,342
CLEAN-BOLL SEPARATOR CONVEYOR FOR COTTON HARVESTER
James M. Francis, Wyatt T. Gable, Jr., Forrest L. Simpson, and Paul J. Hulseberg, Memphis, Tenn., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed July 1, 1968, Ser. No. 741,722
Int. Cl. A01d *45/20*
U.S. Cl. 56—30 **5 Claims**



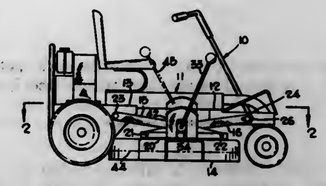
Cotton stripper having a primary separator which utilizes a generally vertical auger enclosed in a perforate housing being operative for separating trash from a harvested aggregate while advancing the same, and subsequently impelling a residue of essentially lint cotton and green bolls into a pneumatic secondary separator having a main air stream and an adjacent counter air stream flowing therein, wherein the main air stream is effective for initially separating a bulk of the lint cotton from the green bolls, any remaining lint cotton with the green bolls then enter the counter air stream which serves to return the same into main air stream for final separation of the lint cotton from the green bolls which gravitate into a collector.

3,512,343
GRASS TRIMMER
William C. Lange, 101 Stacy Court, Glenview, Ill. 60025
Filed Nov. 2, 1966, Ser. No. 591,478
Int. Cl. A01d *35/00*
U.S. Cl. 56—25.4 **1 Claim**



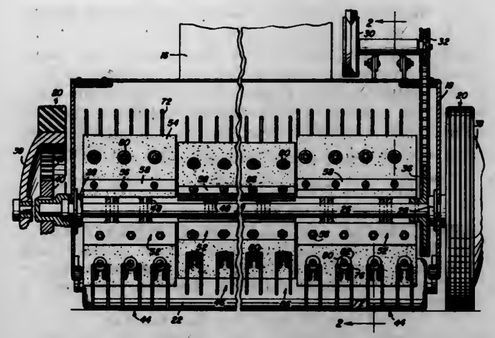
A lawn and hedge trimming device, utilizing a low voltage D.C. motor having a low torque and high rotational output in combination with a lightweight trimmer blade. The D.C. motor and trimmer blade combination are capable of cutting grass and similar vegetation, but will not cut or substantially damage objects of greater mass than such vegetation. The trimming device includes a power conversion and voltage reduction system to minimize hazards of operation.

3,512,344
DECK ELEVATION CONTROL ASSEMBLY FOR MOWER
Robert E. Kortum, Hazelwood, Mo., assignor to Atlas Tool & Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed May 22, 1968, Ser. No. 731,251
Int. Cl. A01d *55/32*
U.S. Cl. 56—25.4 **12 Claims**



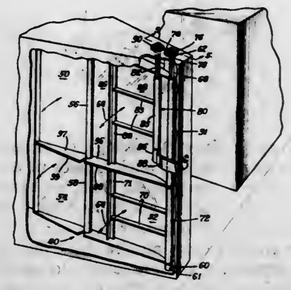
A deck elevation control assembly includes a frame and a deck, the deck being mounted below the frame by spaced pairs of intersecting scissor arms. An elongate shaft extends between the spaced pairs of scissor arms, and a lift control lever is attached to the shaft at one end. The shaft includes a pair of spaced cam arms which, on rotation of the control lever, engage compatible cam-engaging faces on the deck, and thereby selectively elevate both the deck and the control lever.

3,512,345
REEL-TYPE LAWN RAKE
Kenneth Smith, 2122 Peake Ave., Cody, Wyo. 82414
Filed Dec. 12, 1966, Ser. No. 600,882
Int. Cl. A01d *51/00, 77/00*
U.S. Cl. 56—27 **9 Claims**



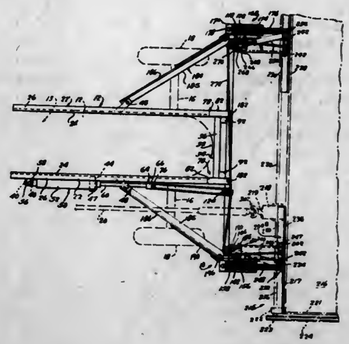
A lawn rake having a power driven reel comprising three reel sections mounted on and driven by a single shaft. Each section is rotatably offset from the adjacent section and includes a plurality of raking tines fixed thereto through a resilent mount.

3,512,346
COTTON PICKER DRUM COMPRESSOR SHEET WITH TORSION BAR TENSIONER
Charles D. Mecklin, and William D. Lester, Memphis, Tenn., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 24, 1968, Ser. No. 700,176
Int. Cl. A01d *45/18*
U.S. Cl. 56—44 **11 Claims**



A compressor sheet assembly for a cotton harvester unit wherein torsion bar means are utilized to provide yieldablity to compressor sheets defining part of the plant passage so as to accommodate the various thickness of cotton plants to be harvested. The device herein also includes means for adjusting the tension on the compressor sheet assembly.

3,512,347
TRACTOR MOUNTING HITCH FOR SWATHER HEADER PLATFORM
Clyde C. White, New Cambria, Kans. 67470, and Dallas L. White, 1926 Ingman Road, Salina, Kans. 67401
Filed Feb. 20, 1967, Ser. No. 617,167
Int. Cl. A01d *67/00*
U.S. Cl. 56—208 **2 Claims**



Apparatus to connect a swather header platform with a farm tractor and including means to change the angle of inclination of the swather header platform relative to a ground plane and to floatingly support the platform thereover.

3,512,348
REEL FOR FARM IMPLEMENTS
David T. West, William D. Long, and David P. Fritz, Newton, Kans., assignors to Hesston Corporation, Inc., Hesston, Kans., a corporation of Kansas
Filed Apr. 28, 1967, Ser. No. 634,630
Int. Cl. A01d *57/02*
U.S. Cl. 56—226 8 Claims



A harvesting implement having an elongated crop-cutting sickle traversing the normal path of travel of the implement adjacent the ground. The implement is provided with a reel disposed above the sickle and having a plurality of rows of fingers which are extendible for sweeping the growing crop into the sickle during advancement of the implement and retractable to permit removal of the fingers from the crop after the cut crop is carried away from the sickle. The reel is provided with a plurality of elongated members disposed alternately between rows of fingers for contacting the growing crop and leaning the same forwardly of the path of travel of the implement so that, upon cutting of the crop, the same is carried by fingers of the reel rearwardly of the sickle with the cut ends leading.

The reel is provided with a fixed shaft in parallelism with and spaced from the axis of rotation of the reel which rotatably mounts a master control element for oscillating, and thereby extending and retracting the fingers, the latter being carried in side-by-side relationship on a shaft extending longitudinally of the reel and being rotatable thereon. A number of links are provided for pivotally interconnecting the master control and crank tabs which extend laterally from and are rigid with the finger supports. Thus, upon rotation of the reel about the eccentric shaft, the finger supports are oscillated to extend and retract the fingers.

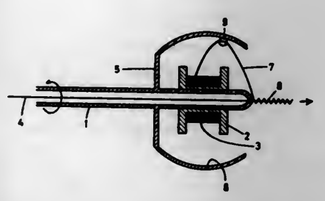
3,512,349
DEVICE FOR THE PICKING UP AND LOADING OF LUMP AND FIBROUS MATERIALS
Igor Fedorovich Kondratiev, Jurievsky per. 9, kv. 1; and Nikolai Ivanovich Bondarenko, 3 Zhuravlevsky viezd 7, Kharkov, U.S.S.R.; Afanasy Petrovich Malik, Ul. Moskovskaya, 10, kv. 25, Dnepropetrovsk, U.S.S.R.; Pavel Yakovlevich Laiko, Ul. Jumtovskaya 62, Kharkov, U.S.S.R.; Daniil, Ilich Taran, Ul. Dnepropetrovskaya 2-B, kv. 12, Dnepropetrovsk, U.S.S.R.; and Antonina Vasilievna Lonschakova, Ul. Juzhnoproektnaya 28-a, kv. 2; Vera Mikhallovna Snurnikova, Ul. Revoljutsii 5, kv. 28; and Alexandr Semenovich Adonkin, Ul. Balkanskaya 14, all of Kharkov, U.S.S.R.; Ivan Mikhailovich Ruzin, Ul. Kovalevskaya 40, kv. 2, Dnepropetrovsk, U.S.S.R.; Jury Mattiasovich Zalesky, Juzhny, ul. Gagarina 72, Kharkovskaya obl., U.S.S.R.; Pavel Lvovich Novikov, Ul. Tereshkovoi 2, korpus 3, kv. 50, Odessa, U.S.S.R.; Alexandr Grigorievna Kiteleva, Tarasovsky per. 42, kv. 6, Kharkov, U.S.S.R.; Viktor Fedorovich Konjuk, Ul. Chernyakhovskogo 20-B, kv. 7, Odessa, U.S.S.R.; and Mikhail Maximovich Kucherenko, Alexandria Parkovy per. 14, kv. 15, Kirovogradskaya obl., U.S.S.R.
Filed Apr. 26, 1967, Ser. No. 633,733
Int. Cl. A01d *89/00*
U.S. Cl. 56—364 11 Claims

A pick-up and loading device for lump and fibrous materials comprises a rotatable frame mounted on a body and supporting a toothed fork member which carries a supporting roller which travels in an open channel guide during rotation of the frame and passes into a U-shaped



guide in an uppermost position when the fork member is retained by a stop and urged thereby into the U-shaped guide.

3,512,350
COIL WINDING MECHANISM
Josef Lukas, Augsburg, Germany, assignor to Patent-Treuhand-Gesellschaft fur Elektrische Gluhlampen mbH, Munich, Germany, a corporation of Germany
Filed July 10, 1968, Ser. No. 743,898
Claims priority, application Germany, July 21, 1967, P 42,646
Int. Cl. B65h *81/00*
U.S. Cl. 57—18 7 Claims

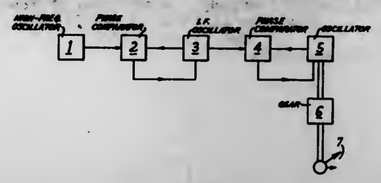


Coil winding mechanism utilizing rotation of a supply reel fixed on a rotating spindle to produce centrifugal departure of wire from the reel in a loop to the longitudinally progressing mandrel or core, characterized by a loosely mounted floating bead on the wire in the loop thereof, the bead being propelled by centrifugal force to roll in contact against the inner surface of a barrel-shaped casing also mounted on and rotating with the spindle.

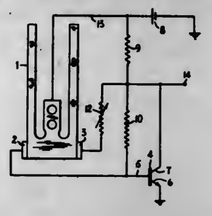
3,512,351
ELECTRICAL OSCILLATION GENERATORS
John Henry Shelley, Eastcombe, near Stroud, and Thomas Ralph Heeks, Cheltenham, England, assignors to Smiths Industries Limited, London, England, a British company
Filed Sept. 8, 1967, Ser. No. 666,244
Claims priority, application Great Britain, Sept. 9, 1966, 40,275/66
Int. Cl. G04c *3/00*
U.S. Cl. 58—23 18 Claims

A horological instrument comprising a crystal controlled high frequency oscillator, an intermediate frequency oscillator, and a low frequency electromechanical oscillator. A first frequency controller maintains the frequency of the intermediate oscillator a fixed fraction of

that of the high frequency oscillator and a second frequency controller maintains the frequency of the low frequency oscillator a fixed fraction of that of the intermediate frequency oscillator. The frequency of the intermediate frequency oscillator is adjusted during manufacture to give the two fractions.

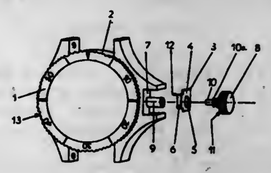


3,512,352
FREQUENCY REGULATOR AND METHOD FOR REGULATING FREQUENCY OF ELECTRIC TIMEPIECES
Kazuo Ito, Tokyo, Japan, assignor to Kabushiki Kaisha Daini Seikosha, Tokyo, Japan, a company of Japan
Filed Mar. 27, 1968, Ser. No. 716,381
Claims priority, application Japan, Apr. 12, 1967, 42/23,096
Int. Cl. G04c *3/00*
U.S. Cl. 58—23 3 Claims



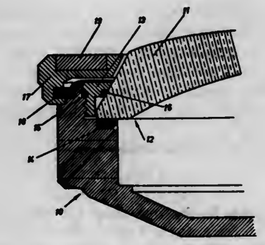
A frequency regulator or standard and method for regulating the frequency of electric time-keeping devices. A timing fork having its natural oscillation frequency varied by a transistor signal source applying driving signals to the tuning fork through an adjustable variable resistor connected between a driving transducer and the collector of the transistor to vary the phase of the driving signals. A detecting transducer detects the mechanical oscillations of the tuning fork and develops a detection voltage applied to the transistor for amplification.

3,512,353
DEVICE FOR LOCKING A TURNING BEZEL
Henry L. Blum, Besancon, Doubs, France, assignor to YEMA Societe Anonyme, Besancon, Doubs, France, a company of France
Filed May 10, 1968, Ser. No. 728,158
Claims priority, application France, May 12, 1967, 106,176
Int. Cl. G04b *37/00, 19/18*
U.S. Cl. 58—90 4 Claims



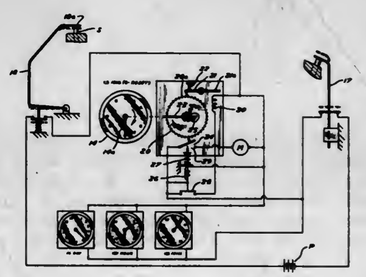
An outer turning bezel of a watch is releasably locked by a stop member which is held against turning and is pressed against the periphery of the bezel by a winding button having a tube extending through a hole in the stop member and screwing into an internally threaded tube protruding in a recess of the casing.

3,512,354
WATERTIGHT WATCH CASE
Werner Jenny, Badmellstrasse 8, Lengnau, Biel, Switzerland
Filed Sept. 24, 1968, Ser. No. 761,918
Claims priority, application Switzerland, Apr. 10, 1968, 5,292/68
Int. Cl. G04b *37/08*
U.S. Cl. 58—90 5 Claims



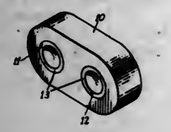
A watertight watch case having a casing over which fits a watch glass with a packing ring therebetween for watertightness, a ring threaded on the casing to clamp the watch glass over the casing rim, the improvement in the provision of a first additional packing ring between the clamping ring and the watch glass and a second additional packing ring between the clamping ring and the casing, the second additional ring standing above the threads on the clamping ring and the casing, in respect to the first additional packing ring between the watch glass and the casing.

3,512,355
TELEPHONE TIMING DEVICE
Daniel L. Lang, Minneapolis, Minn., assignor to Golden-tone Electronics, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 26, 1967, Ser. No. 678,439
Int. Cl. G04b *5/20*
U.S. Cl. 58—145 6 Claims



A telephone timing device, operated by the hookswitch and line selection buttons of the telephone, which records both the individual call time and the cumulative call time. The individual call timer is automatically reset to zero before each call.

3,512,356
LINK STRUCTURE FOR CUTTER CHAINS
Claude B. Krekeler, Hamilton County, Ohio, assignor to The Cincinnati Mine Machinery Co., Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 10, 1965, Ser. No. 513,035
Int. Cl. B21l *9/08*
U.S. Cl. 59—8 8 Claims

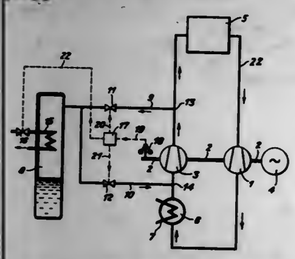


An improved link member and insert combination for the chains of mining machines and the like, and method of making it. The combination comprises a link member and an insert, the link member having a perforation to receive the insert. The insert is located within the link member perforation and is joined to the link member by brazing means.

3,512,357
POWER FLUID
Douglas R. Paxton, Box AZ Main P.O., Ventura, Calif. 93001
No Drawing. Filed May 7, 1968, Ser. No. 727,341
Int. Cl. F01k *25/00, 3/18*
U.S. Cl. 60—36 1 Claim

A method and compound for converting heat energy to mechanical energy in a closed cycle engine employing as a working medium one of the ethylene compounds with trichloroethylene having been found to be most advantageous.

3,512,358
CLOSED-CYCLE CO_2 GAS TURBINE POWER PLANT
David Schmidt, Erlenbach, Zurich, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Nov. 4, 1968, Ser. No. 773,261
Claims priority, application Switzerland, Nov. 8, 1967, 15,611/67
Int. Cl. F01k *25/00, 3/18*
U.S. Cl. 60—36 4 Claims



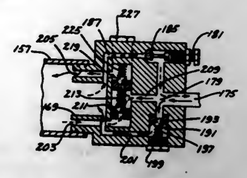
A closed-cycle CO_2 gas turbine power plant employing a nuclear reactor as heat source includes a reservoir connecting to the cycle at points of different pressure therein through lines having valves controlled in response to changes in shaft speed or load to permit flow of CO_2 to the reservoir on decline in load and/or rise in shaft speed and vice versa. Refrigeration means are provided in the reservoir for partial liquefaction of CO_2 therein, coolant flow through those means being varied as an inverse function of load and direct function of shaft speed. In another embodiment a single line connects the reservoir to the cycle, and heating means are provided in the liquid space of the reservoir. On increase in load, the heating means are activated, raising the pressure in the reservoir and sending CO_2 gas into the cycle.

3,512,359
DUMMY SWIRL CUP COMBUSTION CHAMBER
Lowell Jackson Pierce, Melrose, Mass., assignor to General Electric Company, a corporation of New York
Filed May 24, 1968, Ser. No. 731,803
Int. Cl. F02c *3/00*
U.S. Cl. 60—39.74 4 Claims



An annular combustion chamber including a plurality of vortex air admission generators, wherein some of said generators include fuel nozzles for controlling combustion within the combustion chamber.

3,512,360
COMBINATION WEIGHING AND MIXING APPARATUS FOR FERTILIZER OR THE LIKE
Cecil W. Bopp, James B. Porter, Jr., and William H. Cone, Waterloo, Iowa, assignors to Construction Machinery Company, Waterloo, Iowa, a corporation of Iowa
Original application Nov. 13, 1967, Ser. No. 682,347. Divided and this application June 12, 1969, Ser. No. 832,715
Int. Cl. F15b *11/08, 15/18*
U.S. Cl. 60—52 3 Claims

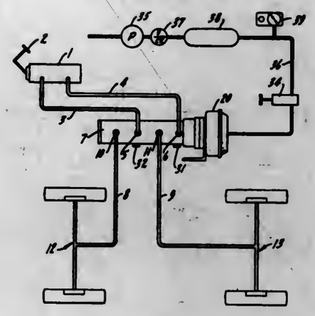


A combination weighing and mixing apparatus for fertilizer or the like comprising a skip loader normally freely supported on a weigh scale and which is pivotal about one of its upper ends by a hydraulic cylinder means to facilitate the dumping of the material therefrom into a mixing drum after the material has been weighed. The mixing drum is of the type used in the cement mixing industry and is designed to mix the material deposited therein while revolving in one direction and to discharge the material therefrom while revolving in the opposite direction. The apparatus also includes means for automatically freeing the skip loader from the cylinder means and the skip loader support means while the skip loader is supported on the weigh scale. The cylinder means includes means thereon to insure that the skip loader will be gently placed on the weigh scale after the material has been dumped therefrom.

3,512,361
PNEUMATIC-HYDRAULIC SYSTEM FOR AUTOMOTIVE VEHICLE BRAKES AND THE LIKE
John J. McCaffery, Orinda, Calif., assignor to Stromberg Hydraulic Brake and Coupling Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 23, 1968, Ser. No. 785,996
Int. Cl. F15b *7/00, 7/08*
U.S. Cl. 60—54.5 5 Claims

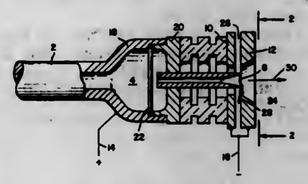
A hydraulic pressure system applicable, but not limited to automotive vehicle dual brake systems and the like,

including a manually actuated master cylinder and slave or brake cylinders, the latter being arranged in separate groups, a hydraulic connection between the master cylinder and each cylinder group, a single selector valve assembly in series with and adapted to control the hydraulic



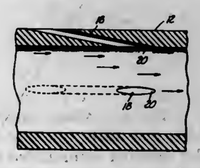
connection, manually controlled pneumatic means for actuating the selector valve assembly, to interrupt the connection between the slave cylinder groups and the master cylinder and to increase the hydraulic pressure in the connection between the selector valve assembly and at least one of the slave cylinder groups.

3,512,362
COLLOID THRUSTOR EXTRACTOR PLATE
William F. Daley, Los Angeles, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Feb. 21, 1968, Ser. No. 707,076
Int. Cl. H05h *1/00*
U.S. Cl. 60—202 5 Claims



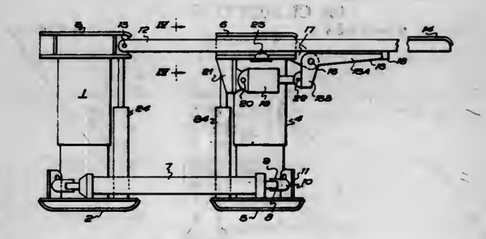
To prevent shorting of a cathode and an anode by propellant upon shutting down of a colloid thrustor, parallel extractor plates are provided which causes the propellant, by capillary action, to be physically removed as a shortening agent between the cathode and the anode.

3,512,363
MOISTURE DISTRIBUTION SYSTEM
Alfred L. Whear, Minden, Nev. 89423
Filed July 21, 1967, Ser. No. 655,152
Int. Cl. E02b *13/00*
U.S. Cl. 61—13 21 Claims



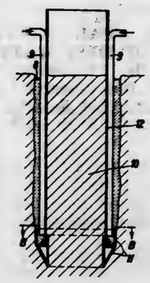
Liquid flowing through a distribution tube in a given axial direction is discharged through relatively small bores in the wall of the tube with the bores directed contrary to the axial direction at an angle of 6° to 14° from the axis of the tube. The liquid may be under high pressure for atomized discharge or without pressure in a tube for subterranean irrigation.

3,512,364
PILLAR AND STALL MINING ROOF SUPPORT
Ellis Holland, Sheffield, England, assignor to A. G. Wild & Co. Limited, Sheffield, England, a British company
Filed June 18, 1968, Ser. No. 737,884
Claims priority, application Great Britain, June 19, 1967, 28,189/67
Int. Cl. E21d *23/00*
U.S. Cl. 61—45 9 Claims



A self-advancing support having an elongated roof engaging member with a cantilever extension, said member being attached solely by a pivot means to a rear chock and slidably supported by a forward chock during all modes of operation. Hydraulic ram means is provided to effect raising and lowering of the chocks and at the sides of the corresponding bases to advance the support. The member includes spaced beams and a cross plate and levers operate said beams from the forward chock. Arms on said forward chock provide auxiliary support for said member.

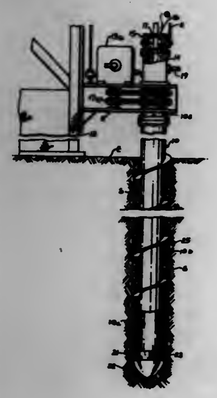
3,512,365
METHOD OF FORMING A PILE IN SITU
Ludwig Muller, 44–46 Heinrich-Heine-Strasse, 355 Marburg an der Lahn, Germany
Original application Nov. 9, 1966, Ser. No. 593,139. Divided and this application Jan. 19, 1968, Ser. No. 721,900
Int. Cl. E02d *5/34*
U.S. Cl. 61—53.52 7 Claims



A construction pile is produced in situ by driving a tubular shaft with an enlarged foot into the ground thereby forming an annular cavity about the shaft as the same is driven into the ground and gradually lowering a feed pipe into the cavity as the forming thereof progresses. The discharge end of the pipe is always kept close to the bottom of the cavity and the cavity is filled through the

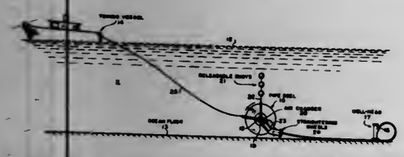
pipe from the bottom of the cavity upward with cementitious material thereby forming an outer pile layer. The shaft is thereupon withdrawn and the interior of the shaft while the same is being withdrawn is filled with a filler material thereby forming an inner core bonding itself to the outer pile layer.

3,512,366
METHOD FOR FORMING CAST-IN-PLACE REINFORCED CONCRETE PILE
Lee A. Turzillo, Bath, Ohio
(2478 Glengary Road, Akron, Ohio 44313)
Original application Jan. 8, 1968, Ser. No. 696,212. Divided and this application Feb. 14, 1969, Ser. No. 799,444
Int. Cl. E02d *5/36, 5/54*
U.S. Cl. 61—53.64 5 Claims



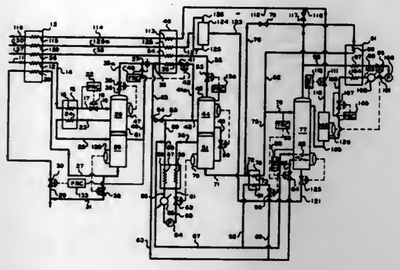
Hollow shafted auger screwed to required depth of hole in situs then held stationary, while rigid rod is fed through auger shaft to release driving bit from lower end of auger into drilled hole. Rod retained centrally upright in hole by shaft, while auger progressively withdrawn and hydraulic cement mortar pumped through shaft to fill hole. Mortar initially anchors lower end of rod in upright position then progressively forms a pile body upwardly about rod.

3,512,367
METHOD AND APPARATUS FOR LAYING PIPE IN DEEP WATER
Dewitt L. McLallen, Jr., Chatsworth, Calif., assignor to Esso Production Research Company
Filed May 16, 1968, Ser. No. 729,624
Int. Cl. B63b *1/00*
U.S. Cl. 61—72.3 18 Claims



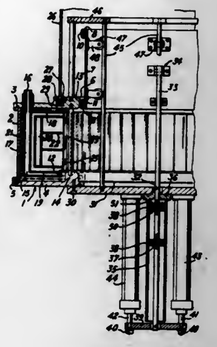
Pipe is laid in deep water by unreeling a continuous length of pipe from a reel on water bottom in which a free end of the pipe is attached to a selected location and the reel is moved away from the selected location such as by towing from water surface.

3,512,368
HELIUM AND NITROGEN CONTAINING FUEL PRODUCT RECOVERY
Ernest A. Harper, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,046
Int. Cl. F25j *3/02*
U.S. Cl. 62—21 6 Claims



A natural gas feed is first reduced in temperature to liquefy the heavy hydrocarbons which are separated from a remaining uncondensed portion. The uncondensed vapors provide reboil heat for the distillation of a nitrogen and methane liquid component separated from the uncondensed vapors. Helium and nitrogen components are separately recovered as overhead in the liquefication separation and liquid fraction distillation of the remaining uncondensed vapors.

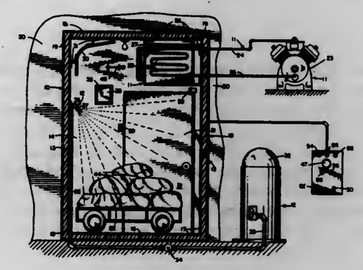
3,512,369
ULTRAHIGH-VACUUM ENCLOSURE
Alain Houyvet, Clamart, and Pierre Noe, Palaiseau, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Dec. 13, 1968, Ser. No. 783,628
Claims priority, application France, Jan. 5, 1968, 135,093
Int. Cl. F25b *27/00*; B01d *5/00*
U.S. Cl. 62—55.5 9 Claims



An ultrahigh-vacuum enclosure comprising a casing having a generally cylindrical shape formed of a lateral shell and two parallel end-walls, one end-wall being provided with a circular opening surmounted by a removable bell-housing which limits the volume of said enclosure. A cylindrical skirt is mounted opposite to the circular opening and means are provided for displacing the skirt in sliding motion through the opening. The skirt is provided

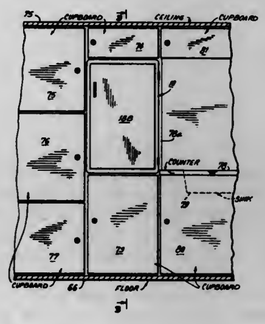
in its outer surface with seals which are intended to be applied against raised bearing surfaces formed in the end-walls of the casing so as to define a closed annular chamber and a cryogenic pump is mounted within said annular chamber.

3,512,370
COMBINED LIQUID GAS-MECHANICAL FREEZING PROCESS AND APPARATUS THEREFOR
Tom H. Murphy, N. 8616 Country Homes Blvd. 99208, and Don E. Tucker, 10515 Sinto Ave. 99206, both of Spokane, Wash.
Filed Mar. 14, 1967, Ser. No. 669,632
Int. Cl. F25d *3/10*
U.S. Cl. 62—64 5 Claims



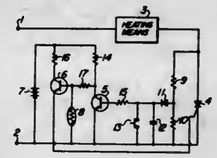
Cryogenic process of freezing food products in an inert atmosphere by combined liquid gas and mechanical refrigeration including lowering of product temperature near its freezing point, rapid freezing thereof and continued lowering of product temperature to the desired terminal point. The process reduces product deterioration by both chemical and physical courses principally because of the inert atmosphere preventing oxidative changes, and the rapid freezing preventing larger crystal formation. Particular apparatus is taught to accomplish the process.

3,512,371
MOBILE HOME HEAT-OPERATED REFRIGERATOR
Sven Åke Gurt, Solna, and Karl Hugo Lindström, Sollentuna, Sweden, assignors to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed June 4, 1968, Ser. No. 734,446
Claims priority, application Sweden, June 7, 1967, 8,025/67
Int. Cl. F25b *15/00*
U.S. Cl. 62—148 17 Claims



An absorption refrigerator operated by a gaseous fuel burner connected to a source of supply of gaseous fuel by a conduit in which one or more controls are provided, positioning the burner and conduit and controls at the rear of the refrigerator cabinet at a level above the bottom thereof to enable the cabinet to be mounted in a space of a mobile home with the horizontal exterior wall defining the bottom of the cabinet at a first level from which the space extends vertically upward, mechanism operatively associated with each of the controls at the rear of the cabinet which includes an elongated part extending forward through the rear insulated wall of the cabinet at a level above the lowest portion of the bottom insulated wall thereof, and a member at the forward end of the part for manually manipulating the mechanism to operate the control, such manual manipulating member being accessible from the front of the cabinet.

3,512,372
DEFROSTING CONTROLLING CIRCUIT MEANS FOR ELECTRIC REFRIGERATOR
Zenji Kusuda, Ibaragi-shi, and Takeji Kobayashi, Kyoto, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan
Filed Dec. 26, 1968, Ser. No. 785,631
Claims priority, application Japan, Dec. 28, 1967, 43/1
Int. Cl. F25d *21/06*
U.S. Cl. 62—156 3 Claims

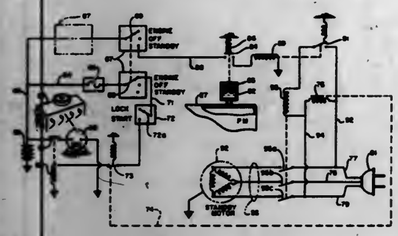


A defrosting control circuit means for an electric refrigerator comprising a transistor for triggering a solid-state semiconductor switching element connected in series with a heating means and another transistor for driving the first mentioned transistor to one state of conduction during a defrosting operation, said first mentioned transistor adapted to be switched in response to the output of a temperature detecting element representative of the temperature within the freezer. According to the present defrosting control circuit means, a defrosting operation is automatically ceased when the temperature within the freezer reaches a predetermined level where accumulated frost in the freezer is completely removed, so that excessive temperature rise or incomplete defrosting can be prevented.

3,512,373
REFRIGERATION SYSTEM WITH ELECTRIC AUXILIARY PRIME MOVER
Jack H. White, Huntington Beach, Calif., assignor to Transicold Corporation, Montebello, Calif., a corporation of Delaware
Filed July 12, 1968, Ser. No. 744,390
Int. Cl. F25b *27/00*
U.S. Cl. 62—228 3 Claims

A refrigeration system of a type having refrigeration units including a compressor and a prime mover for driving the compressor. A centrifugal clutch drivably couples and decouples the prime mover to the compressor. An electric motor serves as an auxiliary prime mover when taking power from a loading dock or otherwise. The condition of the prime mover engine serves to open and close the operating circuit for the electric motor at

stages of engine operation related to the engaging and disengaging speed of the centrifugal clutch so as to protect the motor from being prematurely energized in a manner causing the motor to drive the engine. The elec-

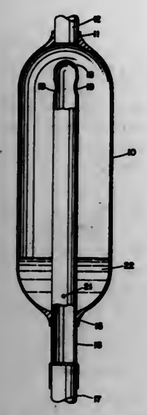


tric circuit controlling the auxiliary electric motor further serves to disable the starting circuit for the vehicle engine whenever the electric motor has been coupled to a stationary electric power supply.

3,512,374
SUCTION ACCUMULATOR FOR REFRIGERATION SYSTEMS

Darwin R. Grahl, Novelty, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed May 3, 1968, Ser. No. 726,363
Int. Cl. F25b *43/00*
U.S. Cl. 62—503 3 Claims

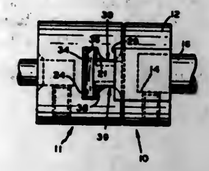


A suction accumulator for a refrigeration system with means to prevent delivery of liquid to the compressor intake. The accumulator comprises a tank having an inlet at its bottom for receiving refrigerant fluid in vaporized form but which may include slugs of liquid, and has an outlet at its upper end for delivering the vapor to a compressor, and there being a straight tube in the tank with an open end to receive the vapor at the tank inlet and having a closed end and a transverse opening near the tank outlet whereby any slugs of liquid in the tube are prevented by the closed end from reaching the tank outlet and are diverted through the transverse openings so as to drop to the tank bottom.

3,512,375
FLEXIBLE COUPLING FOR SHAFTS

Miklos Madaraz and Alfred R. Baio, New Rochelle, N.Y., assignors to Sealectro Corporation, Mamaroneck, N.Y., a corporation of New York

Filed Nov. 27, 1968, Ser. No. 779,405
Int. Cl. F16d *3/16*
U.S. Cl. 64—7 8 Claims

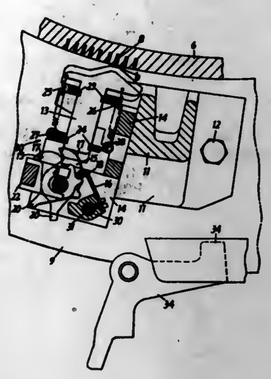


A two part coupling having portions for attachment to a driven and a drive shaft and comprising a male part and a female part, the male part having a T-shaped extension with flat, vertical faces and a terminal section forming the head of the T with portions extending laterally of the driven faces, the female part having a blind radial slot extending to the outer end of said female part to receive said T-shaped extension, the slot being of sufficient size to receive said extension when it is moved radially downwardly into the slot.

3,512,376
PATTERNING MECHANISM FOR CIRCULAR KNITTING MACHINES

Osmond Herbert Ecob, Blaby, Leicester, and Bertram Johnson, Braunstone, Leicester, England, assignors to Wildt Mellor Bromley Limited, Leicester, England, a British company

Filed Mar. 5, 1968, Ser. No. 710,581
Claims priority, application Great Britain, Mar. 17, 1967, 12,637/67
Int. Cl. D04b *9/10, 9/38*
U.S. Cl. 66—14 7 Claims

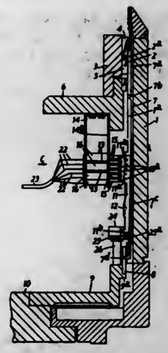


A patterning unit for a revolving cam box knitting machine. Unit includes a stack of selectively operated selectors acting on butts on knitting instruments. There is a corresponding stack of turnable auxiliary actuating levers having profiled cam edges to engage tails of selectors. When auxiliary levers are selectively rendered operative, the corresponding selectors are pushed by cam action smoothly and accurately into their operative positions in which they are held by the engagement of a common catch lever with the selected auxiliary levers. Catch lever is operable to release previously selected selectors for return to non-operative positions.

3,512,377
PATTERNING MECHANISM FOR CIRCULAR KNITTING MACHINES

Albert H. Widdowson and Ernest L. Farmer, Leicester, and Sidney C. Savage, Wigston, England, assignors to Wildt Mellor Bromley Limited, Leicester, England, a British company

Filed July 26, 1968, Ser. No. 747,892
Claims priority, application Great Britain, July 28, 1967, 34,776/67
Int. Cl. D04b *15/78*
U.S. Cl. 66—36 7 Claims

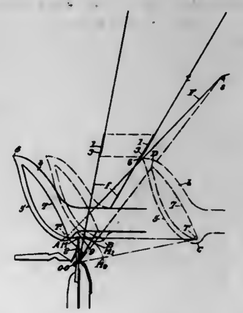


Needles in cylinder of circular knitting machine controlled by jacks with depending extensions and bottom butts. Extensions normally held out to enable butts to be acted upon by a jack raising cam. Extensions can be pressed in so that the bottom butts avoid cam. Fulcrumed pressers, in front of jack extensions, normally held with their lower endes swung outwardly and contrastingly formed upper ends swung inwardly. Electromagnets selectively influence upper ends of pressers, and are brought into operation selectively, under the influence of control means, to hold pressers with their upper and lower ends swung respectively outwards and inwards.

3,512,378
LACE-KNITTING MACHINE

Marius Felicien Bosse-Platiere, Lyon, France, assignor to Societe Dognin S.A., Villeurbanne, France

Filed July 11, 1967, Ser. No. 652,577
Claims priority, application France, July 13, 1966, 69,395; June 6, 1967, 111,002
Int. Cl. D04b *23/22*
U.S. Cl. 66—84 10 Claims

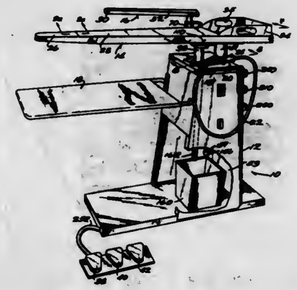


Lace is made on a knitting machine by a cast stitch method in which the warp shogged threads are brought to the needles by selectors carrying the stitch thread from which the needles form the interconnecting stitches. The stitch thread is passed through elongated eyes in the selectors, this providing lost motion between the thread and selectors, which allows for faster machine operation, a reduction in thread wear, and the production of more elaborate designs.

3,512,379
SPOTTING BOARD

Norman A. Buckley Wauwatosa, and Peter D. Rasmussen, Milwaukee, Wis., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Mar. 5, 1968, Ser. No. 710,497
Int Cl. D06f *29/00*
U.S. Cl. 68—240 18 Claims

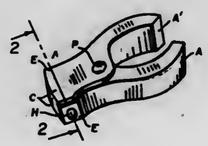


A spotting board, for selective removal of spots from fabric, including a body board and a sleever board each having a perforated nose piece, a source of vacuum, a valve, and linkage between the sleever board and valve operable to direct vacuum selectively to the sleever board and to the body board when the sleever board is in respective operative and inoperative positions, the sleever board being easily removed from the unit and the linkage being separable to accommodate this removal, a portable spotting gun, and conduits connecting steam and air to the spotting gun.

3,512,380
SHAFT LOCK AND KEY FOR THE SAME

Charles A. Winter, 2580 S. Williams St., Denver, Colo. 80210

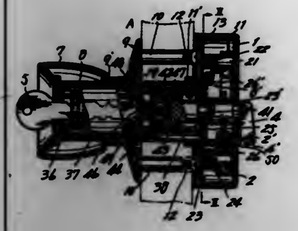
Filed Nov. 21, 1967, Ser. No. 684,676
Int. Cl. E05b *73/00*
U.S. Cl. 70—19 3 Claims



A locking device and a key therefor, wherein the locking device includes a threaded shaft adapted to be turned into one member of the device to engage another member thereof. A key is adapted to be connected to an end of the shaft to effectuate this turning. The end of the shaft is within a socket in the body of the member. The socket is cylindrical and the end of the shaft, also cylindrical, is concentric therein. A cylindrical, eccentric stub projects

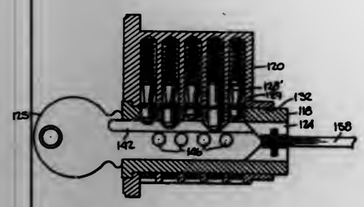
beyond this shaft end. The key is adapted to be inserted into the socket, and the shaft into a central bore in the key. An inset, forming a continuation of the bore, is offset from the axis of the bore to receive the stub when the end of the shaft is within the bore.

3,512,381
LOCK SET
Kyuichi Matsunaga, 50-30 Sakuragaoka, Nakamura-cho, Ise, Mie Prefecture, Japan
Filed Dec. 29, 1967, Ser. No. 694,504
Claims priority, application Japan, Dec. 29, 1966, 42/398; Feb. 23, 1967 (utility model), 42/14,509
Int. Cl. E05b *59/00, 55/04*
U.S. Cl. 70—107 4 Claims



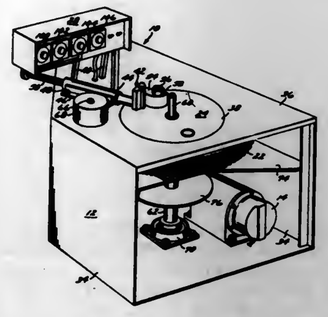
A lock set comprising a dead bolt operating cylinder lock, a hollow cylindrical sheath for operatively receiving said cylinder lock, a hollow cylindrical member for receiving said cylindrical sheath and secured to or integrally formed with a knob, a mounting plate connected to one end of said cylindrical sheath and rotatably receiving said knob and said cylindrical member, and a latch and lock mechanism housing secured to said mounting plate whereby the cylinder lock may be prevented from rotating together with the knob and hollow cylindrical member as they are rotated.

3,512,382
HYBRID LOCK
Mathias M. Check, Greenwich, Conn., and Guy Mauro, Elmont, and Salvatore R. Valentinetti, Laurelton, N.Y., assignors to Liquidonics Industries, Inc., Westbury, N.Y., a corporation of New York
Filed Apr. 17, 1968, Ser. No. 722,034
Int. Cl. E05b *27/06, 47/00*
U.S. Cl. 70—276 2 Claims



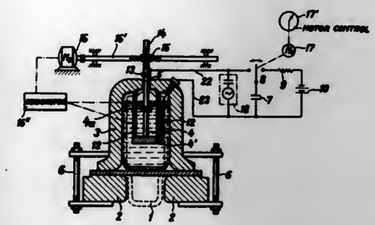
The lock arrangement disclosed in the following specification combines in a single cylinder and body, (1) the mechanical locking technique employing spring loaded pin tumblers, which are actuated by a splined key and (2) magnetic tumblers which are actuated by a magnetic key. By means of a single key and a single cylinder-body combination with a single keyway, advantage is taken of both the mechanical and magnetic locking features. In this fashion a lock having greatly enhanced security is provided and, in particular, the lock having this combination of mechanical and magnetic tumbler features is made nearly pick proof.

3,512,383
RE-BAR BENDER
Ray E. Arnold, San Diego, and Charles A. Arnold, Palo Alto, Calif., assignors, by mesne assignments, to Digital Machines, Inc., San Diego, Calif., a corporation of California
Continuation of applications Ser. No. 604,693, Dec. 27, 1966, and Ser. No. 751,674, July 25, 1968. This application Apr. 21, 1969, Ser. No. 818,193
Int. Cl. B21j *7/26*
U.S. Cl. 72—22 10 Claims



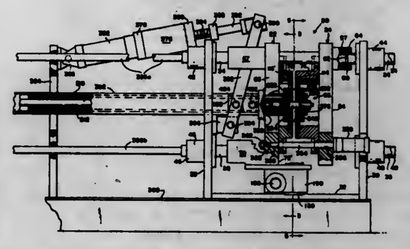
Disclosed is a bending apparatus which is adapted to semi-automatically form bends in reinforcing bars, rods, and the like. Provision is made for forming successive bends having precisely the same degree of bend, or having a plurality of bends of predetermined degree.

3,512,384
SHAPING APPARATUS USING ELECTRIC-DISCHARGE PRESSURE
Kiyoshi Inoue, 182 3-chome, Tamagawayoga-machi, Sitagaya-ku, Tokyo, Japan
Continuation-in-part of application Ser. No. 41,080, July 6, 1960. This application Nov. 18, 1965, Ser. No. 508,487
Claims priority, application Japan, Aug. 31, 1959, 34/27,784, 34/27,785; Sept. 7, 1959, 34/28,582; Oct. 17, 1959, 34/32,859; Dec. 26, 1959, 34/66,857; Dec. 30, 1959, 35/41,473, 35/41,474, 35/41,475
Int. Cl. B21d *26/12*
U.S. Cl. 72—56 16 Claims



A system for shaping sheet metal and other plastically deformable bodies overlying a shape-imparting die wherein a shock wave is generated by impulsive spark discharge in a force-transmitting liquid which is in force-transmitting relationship with the body to be shaped via an elastomeric membrane, e.g. forming part of a bladder retaining the liquid; at least one of the electrodes is coated with a dielectric layer of paint, oil, aluminum oxide, etc. prior to immersion in the liquid or is formed of carbon, magnesium, aluminum or other metal with specific gravity less than 5 to augment the shock wave. The electrode may be carried by a spring of low inductivity so as to move by the impulsive force of the spark in a direction tending to increase the gap size; a conductive body not connected to the power supply is disposed between the electrodes.

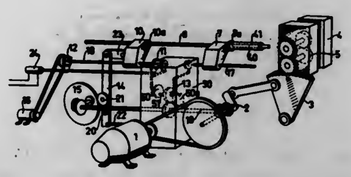
3,512,385
BELLOWS FORMING MACHINE
George F. Adolphi, La Mesa, Calif., assignor, by mesne assignments, to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed July 12, 1966, Ser. No. 564,579
Int. Cl. B21d *15/06*
U.S. Cl. 72—59 12 Claims



The fabrication of bellows in a machine and by a technique in which a tubular conduit is progressively corrugated by initial application of internal pressure to an externally unconfined annular band to produce an inchoate convolution which is thereafter completed by axial compression of the opposite ends of the inchoate convolution while maintaining the internal pressure therein.

The present invention relates to improvements in transversely corrugated conduits for bellows and to improvements in apparatus and method of making such conduits or bellows.

3,512,386
FEED DEVICE FOR A PILGER ROLLING MILL
Knut Erland Teppgard, Sandviken, Sweden, assignor to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden
Filed Sept. 28, 1967, Ser. No. 671,386
Claims priority, application Sweden, Sept. 29, 1966, 13,094/66
Int. Cl. B21b *21/06*
U.S. Cl. 72—189 3 Claims



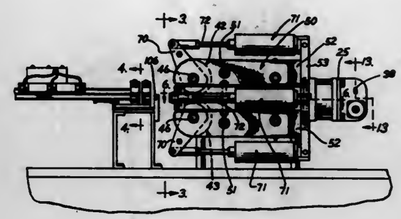
A pilger rolling mill, of the type wherein the stand is stationary whilst the blank reciprocates, has an improved feed device characterized in that the axial feed motion is independent of the rotational motion of the blank. An axial feed means and an independent rotation means are driven in synchronism with the rolling cycles of the mill.

3,512,387
RING LOCK FOR TUBE EXPANDER
Ward A. Ames, Danville, Ill., assignor to Tridan Tool & Machine, Inc., Georgetown, Ill., a corporation of Illinois
Filed June 21, 1967, Ser. No. 647,767
Int. Cl. B21j *13/02*
U.S. Cl. 72—455 9 Claims



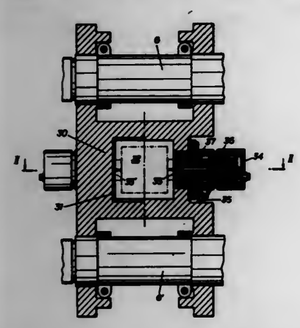
Tube expansion apparatus which includes, generally, an elevated head having a main cylinder which drives a main ram. The main ram has a rod tooling plate affixed to its underside, to which are affixed a number of expander rods. The expander rods each have a crescent-shaped ring groove eccentrically positioned on the upper portion thereof, and the rod tooling plate has a number of ring locks in it, each of which includes a ring which is biased to lockingly engage within the ring grooves in the expander rods. The expander rods are removed by rotating them 180°, so as to cam the circumferential portions thereof against the rings to center them within the expander rod apertures in the rod tooling plate, thereby permitting removal of the expander rods.

3,512,388
FORMING APPARATUS
Patrick M. Donavan, Schaumburg, Ill., assignor to Weiler Engineering, Inc., Elk Grove Village, Ill., a corporation of Illinois
Filed Mar. 27, 1968, Ser. No. 716,376
Int. Cl. B21b *13/10*
U.S. Cl. 72—225 14 Claims



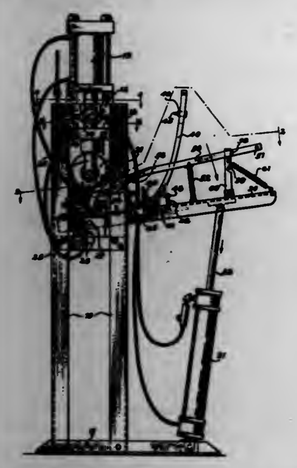
The disclosure relates to an apparatus for squaring or otherwise finishing or forming the end or ends of a length of rod, wire, cable or the like. More particularly, it relates to a method and apparatus for squaring the end or ends of a flexible cable to be used as a speedometer cable, in an automatic and continuous, uninterrupted operation.

3,512,389
DEVICE FOR CENTERING A METAL BAR ENTERING THE GAP BETWEEN TWO ADJUSTABLE SIZING ROLLS
Rudolf Schiffmann, Linz, Austria, assignor to Vereinigte Österreichische Eisen-und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria
Filed June 16, 1967, Ser. No. 646,699
Claims priority, application Austria, Feb. 3, 1967, A 1,022/67
Int. Cl. B21b *39/14*
U.S. Cl. 72—250 1 Claim



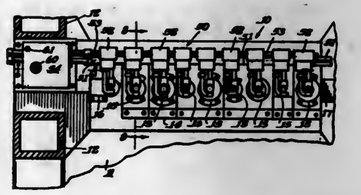
Centering apparatus for a rolling mill is described. A pair of centering shoes are disposed one on either side of the path of the metal bar adjacent the rolls. One or both of the centering shoes includes a piston portion sildable within a cylinder upon application of hydraulic pressure, the shoe position relative to the path of the bar thus being hydraulically controlled. A stop within the cylinder limits the maximum displacement of the shoe toward the path of the bar and spring bias means within the cylinder returns the shoe to an initial withdrawn position upon release of hydraulic pressure.

3,512,390
BICYCLE FENDER FLARING APPARATUS
Herbert J. McCauley, Jr., 86 Dana Road, Buffalo, N.Y. 14221
Filed Apr. 26, 1968, Ser. No. 724,489
Int. Cl. B21d *11/04, 7/04*
U.S. Cl. 72—322 8 Claims



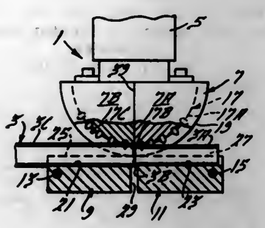
Roll die means for flaring the ends of formed bicycle fenders outwardly. A female die has a cavity for receiving and holding a fender and a reversely curved cavity portion extends longitudinally therefrom. A forming roll engages the interior of the fender and the female die is rotated against the forming roll to form the reverse curvature in the fender progressively outwardly toward the end of the fender.

3,512,391
TRANSFER ASSEMBLY FOR PRESSES
George J. Bozich, Chicago, Ill., assignor to Verson Allsteel Press Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,890
Int. Cl. B21d *43/05, 43/10*
U.S. Cl. 72—361 24 Claims



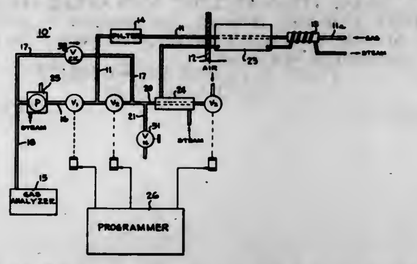
A multi-station press (having a bed, a plurality of dies carried by and arranged along the bed, a vertically reciprocatable ram above the bed, and a plurality of punches carried by the ram and cooperating with the dies to perform work functions on work pieces in the dies as the ram is vertically reciprocated) is provided with a transfer assembly including a feed bar longitudinally movable in opposite directions along the press and a plurality of gripper mechanisms carried by the bar for gripping and transferring the work pieces from die to die along the press as the feed bar is longitudinally moved.

3,512,392
TWO DIAMETER PUNCH FOR TUBE BENDER
Paul V. Gregg, Racine, Wis., assignor, by mesne assignments, to Tenneco Inc., Houston, Tex., a corporation of Delaware
Filed May 1, 1968, Ser. No. 725,593
Int. Cl. B21d *9/05*
U.S. Cl. 72—389 2 Claims



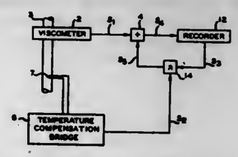
A press bender is adapted to bend a two diameter section of pipe by means of a punch and wing die configuration including a two diameter punch having the step between the different diameters located on the midplane of the punch and the axis of the ram.

3,512,393
GAS SAMPLING ANALYZING SYSTEM
Edward L. Weiss, Quakertown, Milford Township, Bucks County, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 29, 1967, Ser. No. 642,100
Int. Cl. G01m *31/00, 1/22*
U.S. Cl. 73—23 9 Claims



A gas sampling analyzing system having provision for a reverse flow cleansing cycle and including provision for preventing contamination of the gas sample with the cleansing fluid.

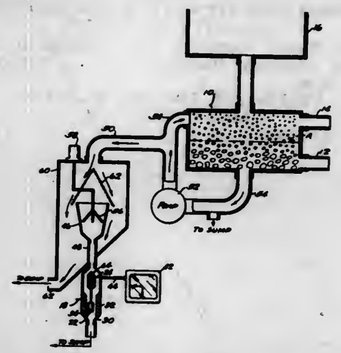
3,512,394
TEMPERATURE AND COMPOSITION DEPENDENT PROPERTY MEASURING
Louis D. Kleiss, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 25, 1967, Ser. No. 678,089
Int. Cl. G01n *11/00*
U.S. Cl. 73—54 10 Claims



A property of multicomponent material which is dependent on composition is referenced to a predetermined temperature. In a particular embodiment a viscometer produces a first signal representative of a measurement of the viscosity, while a temperature compensating circuit produces a second signal representative of the difference between the predetermined reference temperature and the temperature at which the measurement is made. A composition compensating device produces a third signal representative of a function of a fourth signal which is representative of the viscosity at the predetermined reference temperature of the material under test. A fifth signal representative of the composite of the temperature correction and the composition correction for the property is produced as a function of the second signal and the third signal. The first and fifth signals are added to obtain said fourth signal.

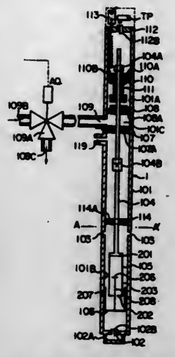
3,512,395
CONSISTOMETER
Laszlo Valentik, Houghton, Mich., assignor to Board of Control of Michigan Technological University, Houghton, Mich.
Filed Aug. 27, 1968, Ser. No. 755,671
Int. Cl. G01n *11/00*
U.S. Cl. 73—54 19 Claims

A force-type consistometer capable of measuring the consistency or rheological properties of a process medium such as unstable heavy media suspensions encountered in dense medium separations includes a sensing unit having concentrically arranged, open-ended cylinders which are adapted to be positioned in a flow passage with the cylinders parallel to the direction of the flow through the passage. The cylinders are suspended from a transducing cell and subjected to continuous vertical flow in the passage. The viscous force exerted on the cylindrical tubes by the flow is converted by the transducing cell into an electrical signal which is used to generate a visible readout. The readout is a measure of the consistency of the flowing medium.



In one embodiment, the consistometer is used in connection with a separator and a portion of the process medium is drawn off from the separator and directed to the flow passage for flow through the cylinders. The pressure head of the medium in the separator maintains continuous flow through the cylinders and the conduit and cylinders are fed through an open-ended hopper which maintains a constant head on the cylinders.

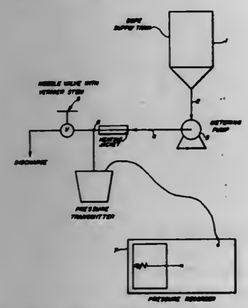
3,512,396
FALLING BODY VISCOSIMETER
Tsuneo Okamoto, Saitama-ken, Japan, assignor to Dainippon Ink & Chemicals Incorporated, Tokyo, Japan, and The Dainippon Ink Institute of Chemical Research, Kamikizaki, Urawa, Saitama-ken, Japan
Filed June 21, 1968, Ser. No. 738,871
Claims priority, application Japan, June 29, 1967, 42/41,272; Apr. 16, 1968, 43/24,962, 43/24,963
Int. Cl. G01n *11/12*
U.S. Cl. 73—57 10 Claims



A falling body viscosimeter has falling body disposed in a tubular body, and the falling body is releasably engaged by a lifting member connected integrally to the lower end of a main shaft which is disposed in the tubular body for reciprocal axial movement therein. The tubular body is immersed in a fluid whose viscosity is to be measured, and the lifting member is moved upwardly with the main

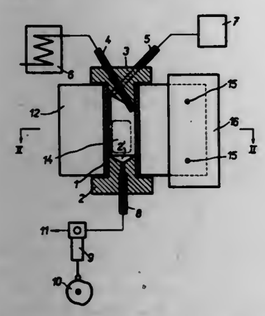
shaft to a level at which the falling body remains submerged in the fluid, whereafter the lifting member is quickly lowered to its original position to cause the falling body to be released and drop freely through the fluid until it again engages the lifting member, the time interval for the falling body to drop freely being measured to determine the viscosity of the fluid.

3,512,397
METHOD AND APPARATUS FOR MEASURING QUALITY OF FLUIDS
Billy W. Nance, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 20, 1968, Ser. No. 738,444
Int. Cl. G01n *11/04*
U.S. Cl. 73—61 11 Claims



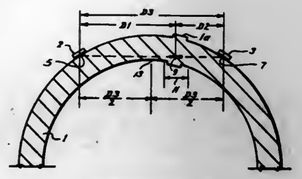
The method for determining the uniformity of a fluid stream containing inhomogeneous materials in which a stream of the fluid is established and maintained at a constant flow rate. The stream is confined and channeled through a variable restricting orifice and the measurement of the cycling pressure of the stream passing through the orifice at a point adjacent to it is a measure of the uniformity of the stream.

3,512,398
METHOD FOR MEASURING THE EXTINCTION OF A CONTINUOUS OR DISCONTINUOUS FLOW OF A LIQUID
Jiri Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska Akademie Ved, Prague, Czechoslovakia, a corporation of Czechoslovakia
Continuation of application Ser. No. 476,793, Aug. 3, 1965. This application May 9, 1968, Ser. No. 728,084
Claims priority, application Czechoslovakia, Aug. 11, 1964, 4,543/64
Int. Cl. G01n *21/00*
U.S. Cl. 73—61.1 12 Claims



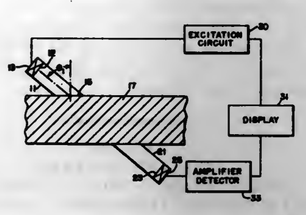
The photometric measurement of liquid samples introduced by a first inlet into a substantially upstanding flowcell having at its stop a second inlet for supplying gas thereinto and an outlet at its bottom connected to an automatically operated suction device drawing the measured contents of the flowcell after each measurement and recording.

3,512,399
ULTRASONIC INSPECTION AND FAIL-SAFE INDICATION METHOD AND APPARATUS
Hillel Weinbaum, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 27, 1967, Ser. No. 618,827
Int. Cl. G01n *23/20*
U.S. Cl. 73—67.5 11 Claims



The present invention pertains to a method and apparatus for ultrasonically inspecting a region within an article using two transceiving transducers positioned on the surface of the article and located at different distances from the inspected region. The transducers are simultaneously energized, resulting in a response at each transducer of a signal corresponding to the transmission from the other, together with reflections from its own transmission from any anomalies within the region. A composite display of the responses provides identification of anomalies and locates them with respect to the center point between the transducers. Also, the received signals may be used to appropriately activate logic gates for operating fail-safe switching and indicating means as determined by the operating conditions of the transducers and other equipment.

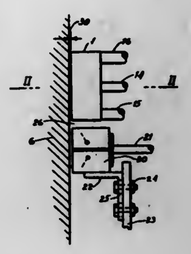
3,512,400
ULTRASONIC TESTING METHOD
Lawrence C. Lynnworth, Waltham, Mass., assignor to Panametrics, Inc., Waltham, Mass., a corporation of Massachusetts
Filed Apr. 13, 1967, Ser. No. 630,677
Int. Cl. G01m *29/00, 29/04*
U.S. Cl. 73—67.5 4 Claims



A system for ultrasonic testing of materials using a shear wave transducer mounted on a contact probe. The probe is brought into removable contact with the test material with the SV mode shear waves incident on the surface of the test material at an oblique angle. The angle of incidence of the shear wave and the material in the probe is chosen to provide either SV mode shear waves in

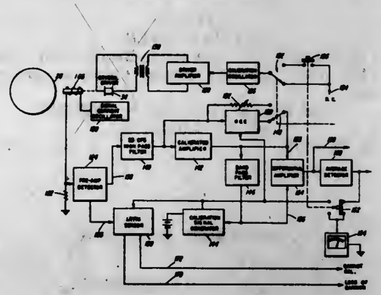
the test material, or by mode conversion, other appropriate types of ultrasonic waves, such as Rayleigh waves and, Lamb waves.

3,512,401
METHOD OF COUPLING ULTRASOUND INTO HOT METAL
Armin Thalmann, Uster, Switzerland, assignor to Concast AG, Zurich, Switzerland, a Swiss company
Filed July 14, 1967, Ser. No. 653,486
Claims priority, application Switzerland, July 14, 1966, 10,253/66
Int. Cl. G01n *9/24*
U.S. Cl. 73—67.7 5 Claims



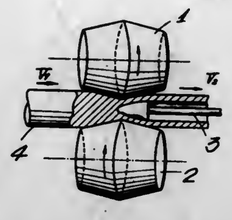
An ultrasonic transducer is coupled to a hot body such as a continuous casting by introducing turbulent water flow as the coupling medium. The turbulent flow penetrates the steam barrier and the fluid couples the ultrasonic vibrations.

3,512,402
NON-CONTACTING VIBRATION ANALYZER
George B. Foster, Worthington, Ohio, assignor to Reliance Electric & Engineering Co., Cleveland, Ohio, a corporation of Ohio
Filed May 17, 1966, Ser. No. 553,263
Int. Cl. G01h *11/00*
U.S. Cl. 73—71.4 26 Claims



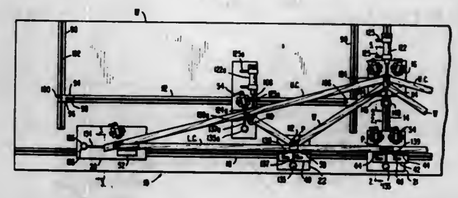
A non-contact apparatus for measuring vibration of an electrically-conducting object including a coil positioned in spaced proximity to the object and coupled to an electromechanical apparatus for imparting a known vibration to the coil relative to the object. An oscillator provides an electrical signal through the coil. The impedance of the coil is a function of the instantaneous distance from the coil to the object; therefore the electrical signal is modulated as a function of the instantaneous distance. Suitable circuitry is connected to the coil to convert the modulated signal into a measurement of the vibration being monitored.

3,512,403
METHOD OF DETERMINING THE PIERCEABILITY OF SEAMLESS METAL TUBES
Kenzo Kato, Takatsuki-shi, Japan, assignor to Nippon Kokan Kabushiki Kaisha, a corporation of Japan
Filed Mar. 29, 1968, Ser. No. 717,474
Claims priority, application Japan, Mar. 30, 1967, 42/19,500
Int. Cl. G01n *19/08*
U.S. Cl. 73—87 2 Claims



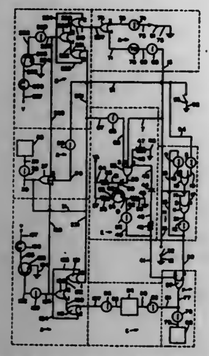
To determine the optimum piercing conditions for producing a seamless metal tube, a billet is pierced by a Mannesmann type piercer without utilizing a piercing plug, and the angle of delivery of the work rolls is varied such that the delivery speed of the billet in the absence of the piercing plug becomes equal to that of the billet in the presence of the piercing plug. The operating conditions are then varied until the produced tube has the desired characteristics.

3,512,404
TRUSS TESTING METHOD AND APPARATUS
John Calvin Jurelt, Coral Gables, Fla., assignor to Automated Building Components, Inc., Miami, Fla., a corporation of Florida
Filed Aug. 8, 1968, Ser. No. 751,244
Int. Cl. G01n *3/08*
U.S. Cl. 73—88 13 Claims



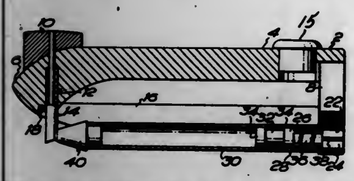
The present invention includes a jig carrying wooden structural elements clamped in position to form a truss. Connector plates are applied at the joints thereof as by a press. After unclamping the completed truss and while retaining it on the jig, a fluid operated piston and cylinder applies a force at the peak of the truss as well as at the panel points (except at heels) toward the lower chord members. Reaction plates butt the heel portions of the lower chord to prevent lateral movement of the truss. Gauges proportional to the strain are located at opposite ends of the truss and gauges measuring truss deflection are located below the truss peak, the central portion of the lower chord and the panel joints along the lower chord. Strain and deflection can be measured and correlated with the applied load to determine if the structural elements are capable of withstanding their designed loads. Indicia are provided on the jig to measure the recovery of the truss to its original configuration after the test load is removed to provide a measure of overall truss integrity and elasticity.

3,512,405
ANNUNCIATOR AND CONTROL SYSTEM WITH SPECIFIC APPLICATION TO INTERNAL COMBUSTION ENGINES
David W. Schlicher, Minneapolis, Minn., assignor to Electric Machinery Mfg. Company, Minneapolis, Minn., a corporation of Minnesota
Original application July 24, 1967, Ser. No. 655,591. Divided and this application July 22, 1969, Ser. No. 843,679
Int. Cl. G01m 15/00
U.S. Cl. 73—116 2 Claims



An annunciator and control system including annunciators adapted to indicate faults in internal combustion engine operation and a control means for shutting down the system or correcting the fault together with lockout means for rendering the first to act annunciator operative and to lock out all the other annunciators prior to resetting of the system.

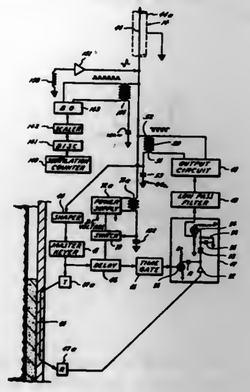
3,512,406
TENSION METER
Geoffrey Roberts, 11 Moor Park Drive, Addingham, Ilkley, Yorkshire, England
Filed Sept. 12, 1966, Ser. No. 578,815
Int. Cl. G01l 5/10
U.S. Cl. 73—144 7 Claims



The present invention relates to means for measuring the tension of a sheet of stretched flexible material, stretched tape, a band of threads, or the like, and more particularly relates to a tension meter comprising in combination a tension sensing unit for contacting a flexible material whose tension is to be measured and a tension indicating or recording unit from which the tension may be read.

3,512,407
ACOUSTIC AND RADIOACTIVITY LOGGING METHOD AND APPARATUS
Fred W. Zill, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Aug. 8, 1961, Ser. No. 130,116
Int. Cl. E21b 49/00; G08c 15/10
U.S. Cl. 73—152 18 Claims

1. A logging system comprising an exploratory probe arranged for passage through a well bore, acoustic logging means carried thereby including transmitter means and at least one receiver means jointly operable to probe the material surrounding the well bore with acoustic impulses, means for obtaining electrical signals representative of amplitude characteristics of the acoustic impulses intercepted by said receiver means, means coupled between said transmitter and receiver means for restricting the passage to a cable conductor of an electrical impulse corresponding to an acoustic impulse intercepted by said receiver means to a predetermined time interval after its emission by said transmitter means, and surface con-



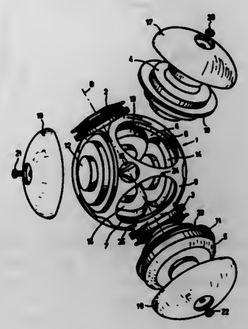
trolled means coupled to said restricting means for changing said predetermined time interval, said surface controlled means including switch means and circuit means arranged for connection with said cable conductor, said circuit means being responsive to signals on said cable conductor for developing first output signals, said switch means being coupled to said circuit means and responsive to first output signals of said circuit means for operatively disconnecting said switch means from said cable conductor.

3,512,408
BATHOMETER
Robert H. Douglass, Jr., Manhattan Beach, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Dec. 8, 1967, Ser. No. 689,013
Int. Cl. G01k 1/02
U.S. Cl. 73—170 6 Claims



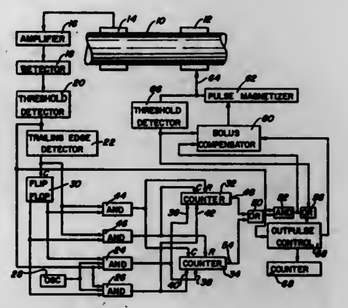
A bathometer for determining ocean water temperature at programmed intervals of vertical distance from preselected ocean depth to the ocean surface, and for recording and subsequent transmission of the data to a remote receiving station. A housing and ballast are submerged to the preselected ocean depth and the ballast jettisoned. The ballast-free housing executes a turn around and ascends to the ocean surface while simultaneously measuring and recording ocean water temperature. Upon reaching the ocean surface, an antenna is deployed and the recorded data is transmitted to a remote station.

3,512,409
PLATFORM FOR INERTIAL NAVIGATION SYSTEMS OR THE LIKE
Lennart Arvid Stenstrom, Daggstigen 22, Huddinge, Sweden
Filed Dec. 26, 1967, Ser. No. 693,553
Claims priority, application Sweden, Dec. 27, 1966, 17,764/66
Int. Cl. G01c 21/00
U.S. Cl. 73—178 6 Claims



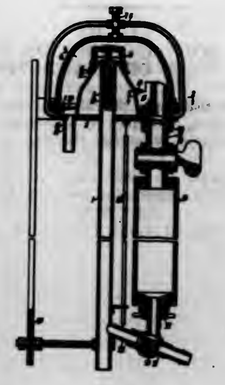
A holder or platform for inertial components such as gyroscopes and accelerometers, adapted to be gimbal supported in a vehicle and comprising six outwardly facing guide surfaces each cooperating with a guide flange on the components, which guide surfaces are arranged such that they define a cube, a diagonal of which coincides with the axis of rotation for the holder in its gimbal.

3,512,410
TRIGGERING CIRCUIT
William Harold Vander Heyden, Menomonee Falls, Wis., assignor to Badger Meter Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 29, 1967, Ser. No. 649,919
Int. Cl. G01p 5/18
U.S. Cl. 73—194 10 Claims



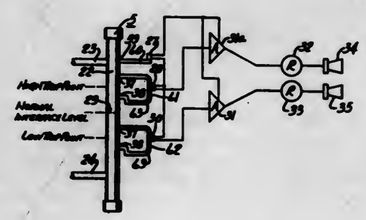
A triggering circuit for use with a flow meter in which boluses of fluid are tagged in response to the detection of previously tagged boluses at a location downstream from the tagging location. The triggering circuit establishes the center of symmetry of the tagged boluses, and compensates for the length of the bolus and for delays inherent in the detecting system.

3,512,411
MILK METER FOR MILKING MACHINES
Thomas Leslie Seaborne, Corner of Lygon St. & Brunswick Road, East Brunswick, Victoria, Australia
Filed Nov. 9, 1967, Ser. No. 681,832
Int. Cl. G01f 5/00
U.S. Cl. 73—202 13 Claims



A measuring device for milking machines includes a base member which supports an inverted bowl. A milk inlet pipe extends through the base member upwardly into the interior of the bowl. A conical guide member is arranged within the bowl around the upper portion of the milk inlet pipe. A cap member is rotatable on the upper end of the inlet pipe so as to distribute incoming milk in a uniform descending curtain over the surface of the conical member. Wall means defines a sector-shaped chamber at the lower end of the conical member and serves to collect a fixed and known ratio or proportion of the milk descending over the circumferential surface of the conical member. Measuring means is provided for measuring the quantity of milk collecting in this chamber.

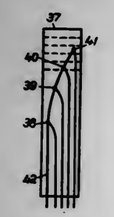
3,512,412
LIQUID LEVEL INDICATING DEVICE
Harry Henry Weining, Erie, Pa., assignor, by mesne assignments, to Blaw-Knox Company
Filed Oct. 19, 1967, Ser. No. 676,558
Int. Cl. G01f 23/22
U.S. Cl. 73—295 16 Claims



A liquid level sensing device to indicate, by alarm or other output means, the level of liquid in a vessel or chamber containing a liquid phase and a condensable gas phase utilizing a liquid column container connected to the vessel having a comparable liquid-vapor interface. The liquid level sensing device is characterized by fluid connecting

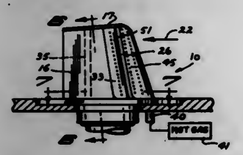
means generally in the form of a small diameter tube which is exposed to the interior of the liquid column and has a predetermined position relative to the liquid-vapor interface to be monitored. Temperature sensing means are associated with the fluid connecting means to detect and signal when the liquid-vapor interface is above or below the predetermined position and, therefore, indicative of the interface level in the liquid column.

3,512,413
MEASURING BODY CAPABLE OF BEING BUILT INTO THE WALL OF A HIGH-TEMPERATURE FURNACE
Otto von Krusenstierna, Stockholm, and Janis Blaus, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Sept. 28, 1967, Ser. No. 671,277
Claims priority, application Sweden, Oct. 5, 1966, 13,410/66
Int. Cl. G01k *7/04, 1/14*
U.S. Cl. 73—341 2 Claims



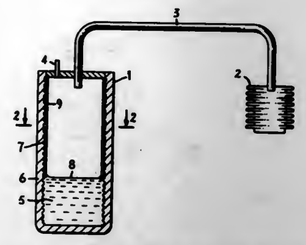
A body of sintered heat-resistant material of generally flat, elongated shape contains wires entering at one end and extending to measuring points at different distances from the second end; the body is built into a furnace wall with the second end forming a part of the inside surface of such wall; erosion of the inner end can be measured by the fact that the innermost measuring points are destroyed as the body erodes with the wall.

3,512,414
SLOTTED AIRFOIL SENSOR HOUSING
Patrick Rees, Minnetonka Beach, Minn., assignor to Rosemount Engineering Company, Minnneapolis, Minn., a corporation of Minnesota
Filed May 23, 1968, Ser. No. 731,414
Int. Cl. G01k *13/02; 1/08;* B64d *15/04*
U.S. Cl. 73—349 13 Claims



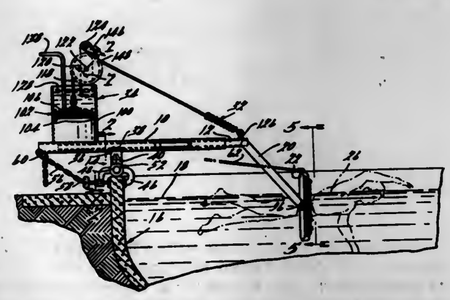
A housing for a temperature sensing element for use in gas environment comprising an airfoil shaped member having slots therein positioned so that the gas stream to be sensed passes through one of the slots, and the temperature sensor is mounted in the slot. The sensor housing will prevent ingestion of most foreign objects and if an object is ingested the slot has clearance to prevent blockage of airflow. The sensor housing also has hot gas deicing provisions. The construction and shape of the sensor housing is such that when it is hit by foreign objects with a high level energy impact, it deforms rather than ruptures or detaches from its mounting. The deformation instead of detachment is particularly important because the sensor is normally mounted in the inlet of a gas turbine engine.

3,512,415
SENSOR FOR A THERMOSTATIC SYSTEM
Zbigniew Ryszard Huelle, Sonderborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Jan. 31, 1968, Ser. No. 702,040
Claims priority, application Germany, Feb. 2, 1967, D 52,171
Int. Cl. G01k *5/32*
U.S. Cl. 73—368.2 11 Claims



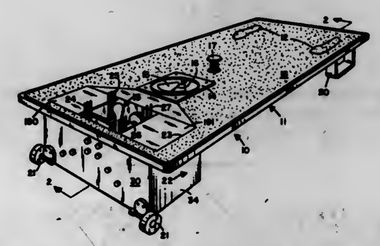
A vapor-pressure type thermostatic sensor in which the working fluid is a volatile liquid at a selected level and the method of forming a film in the sensor for rendering the sensor more sensitive and responsive to temperature changes being sensed. The method comprises containing a volume of volatile liquid and the vapor thereof and vaporizing some of the volatile liquid in response to application of heat to increase the liquid's vapor pressure until a given condition of equilibrium obtains. Some of the vapor is condensed in response to temperature changes until a new condition of vapor-pressure equilibrium obtains and a film of the condensed liquid is maintained in contact with the vapor in an area of contact separate from the principal volume of volatile liquid in readiness for new vaporization in response to temperature increases. The vaporizable liquid in the film will quickly vary the vapor pressure in response to new temperature increases being sensed. The film increases the effective vapor-generating surface so that the response and sensitivity of the sensor can be increased by a factor of ten. The interior surfaces of the sensor are etched or comprise a coating or wire gauze to effect the formation of the liquid film by surface tension.

3,512,416
SWIMMING APPARATUS
George Hohwart, Farmington, Mich.
(2765 Eager Road, RR. 5, Howell, Mich. 48843)
Filed Feb. 28, 1968, Ser. No. 708,974
Int. Cl. G01l *5/02*
U.S. Cl. 73—379 16 Claims



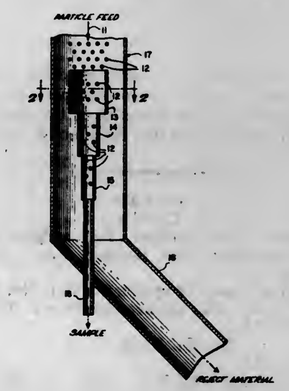
The apparatus herein disclosed comprises a rigid, oversize waist band in the form of a pair of relatively rotatable inner and outer members which are adapted to fit around the waist of the swimmer and to be attached thereto, the outer member being pivotally connected to a slidable telescoping member which is adapted to be mounted on the side of a swimming pool or the like and has associated therewith a shock absorber which restrains it against extensive telescopic movement and an effort meter which registers the amount of effort the swimmer is able to exert tending to extend it.

3,512,417
GOLF DRIVING INDICATOR APPARATUS
Anthony P. Anello, 3101 San Isidro, Tampa, Fla. 33609
Original application Oct. 24, 1966, Ser. No. 588,948, now Patent No. 3,453,889, dated July 8, 1969. Divided and this application Sept. 3, 1968, Ser. No. 770,463
Int. Cl. G01l *5/02*
U.S. Cl. 73—379 8 Claims



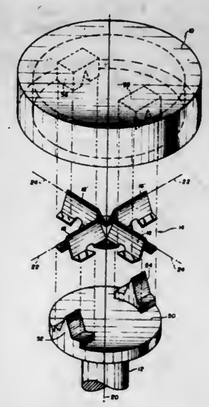
A golf ball driving practice mechanism has a simulated golf ball supported on a platform and rows of closely spaced deflectable upright quills pivotally supported on opposite sides of the most effective ball driving path of a golf club head and may be moved in either of opposite directions to a deflected position should the path of the golf club deviate from normal. Any deflected quills are repositioned upright by depression of a reset treadle.

3,512,418
SAMPLE SIZE REDUCTION DEVICE
Warren M. Broman, Jr., Tulsa, Okla., assignor to Atlantic Richfield Company, a corporation of Pennsylvania
Filed Sept. 27, 1968, Ser. No. 763,319
Int. Cl. G01n *1/20*
U.S. Cl. 73—422 10 Claims



A particulate sample is removed from a feed pipe carrying the sample by having a plurality of concentric pipes of varying diameters positioned within the feed pipe one above the other so that the sample in the feed pipe flows through successively decreasing diameters. The volume of the particulate sample is reduced while maintaining particle size distribution by placing a plurality of bars within the pipes to mix the sample. An extraction pipe of smaller diameter than the last concentric pipe and connected to the last concentric pipe leads to an external collection point where the particulate sample is removed.

3,512,419
TWO-AXIS FLEXURE HINGE
John C. Stiles, Thousand Oaks, Calif., assignor to Singer-General Precision, Inc., Little Falls, N.J., a corporation of Delaware
Filed Dec. 13, 1968, Ser. No. 783,506
Int. Cl. G01c *19/22;* F16d *3/52*
U.S. Cl. 74—5 9 Claims

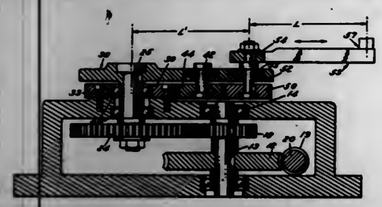


A gyroscopic flexure hinge is provided comprising four V-shaped torsion arms of equal length radiating from an annular hub supporting member. The torsion arms are equiangularly spaced around the hub and have their apexes aligned to form two quadrature opposed pairs, each pair defining a torsional rotation axis. This arrangement gives the assembly the appearance of four "pup" tents pitched symmetrically about a quadrangle. A center plug member is secured to the annular hub to stiffen the center section and provide compensation for the positive mechanical spring rate of the torsion members. One pair of diametrically opposed radial arms is fixed to the drive shaft of the gyro and the remaining pair of arms is secured to the gyro's rotor or inertial flywheel.

3,512,420
HARMONIC MOTION DRIVE MECHANISM FOR TRANSFER BAR AND THE LIKE
Herman Farmer, Livonia, Mich., assignor, by mesne assignments, to Buhr Machine Tool Corporation, a corporation of Delaware
Filed Jan. 8, 1968, Ser. No. 700,325
Int. Cl. F16h *21/04*
U.S. Cl. 74—25 33 Claims

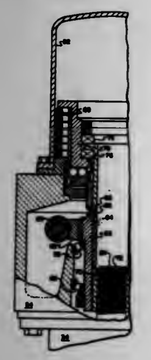
A transfer bar drive mechanism is disclosed for use in mass production automation or machine tool transfer equipment. An elongated transfer bar is reciprocated at a variable speed characteristic of a harmonic motion, in its action of first engaging behind a pallet-mounted workpiece, commencing a forward indexing motion of the latter from an effective rest condition at a gradually accelerating speed to a maximum speed over a medial por-

tion of the transfer stroke, and then decelerating, again sinusoidally, to a halt at the end of the stroke. During this



stroke the transfer bar indexes a workpiece from one of a series of machine tool stations to the next station.

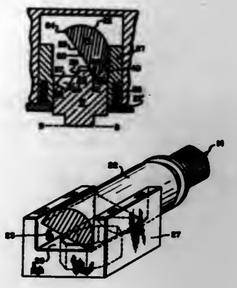
3,512,421
FAIL-SAFE VALVE OPERATOR
Clifford E. Anderson, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Sept. 2, 1966, Ser. No. 577,041
Int. Cl. F16k *31/05, 31/10*
U.S. Cl. 74—89.15 9 Claims



An operator mechanism for mechanical devices such as valves and the like and including structure for imparting reciprocal movement to a control stem of the mechanical device. A spring biased fail-safe mechanism is connected to the operating stem and capable of moving the operating stem to a predetermined "safe" position either selectively or automatically. A plurality of ball detents which are carried by the fail-safe mechanism engage a fixed cam surface to lock the fail-safe mechanism in the "set" position. The ball detents are restrained by a keeper member which is capable of being moved to a position releasing the detents and which includes a tapered surface against which the detents are biased so that a resultant force is produced on the keeper which substantially balances the frictional forces developed between the ball detents and the keeper.

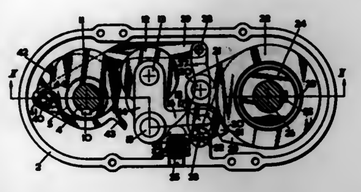
3,512,422
ROTARY ACTUATOR
Wilfred Aslan, Mahwah, N.J., assignor to Alkon Products Corporation, Wayne, N.J., a corporation of New York
Filed May 31, 1968, Ser. No. 733,577
Int. Cl. F16k *25/06*
U.S. Cl. 74—107 9 Claims

A rotary actuator for producing linear output motion of an output member to actuate associated apparatus such as a limit switch or valve, the actuator including an actuator shaft having a drive surface rotatable between rest, actuated and overtravel positions, and a slidable output member engageable by the drive surface of the shaft



and having at least one driven surface cooperating with the shaft's drive surface to produce linear motion of the slidable output member.

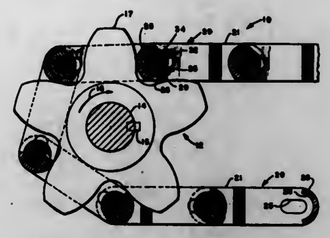
3,512,423
INTERMITTENT DRIVE MECHANISM HAVING SELF-COMPENSATING MEANS FOR OFFSETTING THE EFFECTS OF DEVELOPED COUNTERTORQUE
Johannes Schuitemaker, Holten, Netherlands, assignor to Schuitemaker Patents S.A., Luxembourg, Luxembourg, a corporation of Luxembourg
Filed Jan. 23, 1968, Ser. No. 699,913
Claims priority, application Netherlands, Jan. 24, 1967, 6701093
Int. Cl. F16h *27/02*
U.S. Cl. 74—125.5 8 Claims



A drive mechanism for a step-wise drive comprising a one-way coupling and means for compensating the influence of springing of the elements of the coupling upon a varying driving force, so that the effective driving stroke is constant.

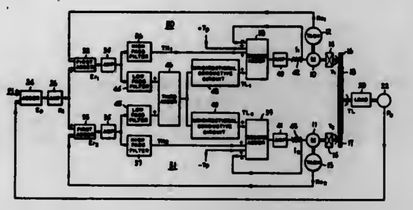
3,512,424
CHAIN
John K. Hale, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 493,039, Oct. 5, 1965. This application June 6, 1968, Ser. No. 736,374
Int. Cl. F16g *13/06*
U.S. Cl. 74—255 15 Claims

An improved chain having a series of U-shaped members with a closed end of one member being received in the open end of the next adjacent member, and a pintle having an enlarged center section with smaller diameter ends passing through the two adjacent link members to bind them together. The pintle is carried in axially aligned, close fitting apertures formed in each side adjacent the open end of the link and in axially aligned elongated slots formed adjacent the closed end of each U-shaped link member which permits movement of the link member relative to the pintle and thus provides a



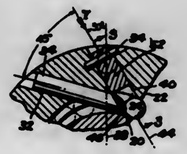
means for breaking the chain loose in the event that the links should tend to freeze. The enlarged center section provides added strength to the pintle and permits practical reverse driving of the chain without binding and uneven action.

3,512,425
ANTIBACKLASH DRIVE SYSTEM
Yoshiaki Endo, Amagasaki, Japan, assignor to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan
Filed Sept. 4, 1968, Ser. No. 757,256
Claims priority, application Japan, Sept. 6, 1967, 42/57,108
Int. Cl. F16h *35/00, 55/18, 37/06*
U.S. Cl. 74—388 4 Claims



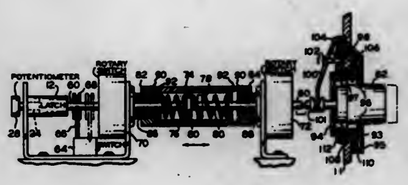
Two electric motors drive a load through separate trains of gears in opposite directions to form a mechanical resonance system. An actual position signal for the load is compared with a reference position signal to provide an error signal which is applied to two speed control loops. In each loop, an error of speed signal, representative of the difference between the error signal and an actual speed signal from the associated motor, is produced and divided into two frequency portions above and below a minimum one of the resonance and anti-resonance frequencies of the mechanical resonance system. The lower frequency portion from both loops are combined together. If positive, the combined signal is supplied to that loop coupled to the motor for forwardly driving the load and cooperates with a forwardly biasing torque signal to cause the motor to produce a forward torque equal to the sum of a predetermined forwardly biasing torque and a torque proportional to the error of speed signal. In the other loop, only an initial reversely biasing torque signal is effective for causing the other motor to produce a reversely biasing torque irrespective of the magnitude of the error of speed signals. If the combined signal is negative, the combined signal is applied to the other loop to control both motors in a similar but reversed manner. In the resonance frequency band of the resonance system, both higher frequency portions cooperate with the respective biasing torque signals to cause the speeds of the motors to reach a magnitude corresponding to the error signal.

3,512,426
INTERNAL BALL RECIRCULATING MECHANISM FOR RECIRCULATING BALL SCREW AND NUT ASSEMBLY
Gustav H. Dabringhaus, Birmingham, Mich. (6070 E. Eighteen Mile Road, Utica, Mich. 48087)
Continuation of application Ser. No. 676,773, Oct. 20, 1967. This application June 25, 1969, Ser. No. 840,128
Int. Cl. F16h *1/18;* B21h *3/00*
U.S. Cl. 74—459 15 Claims



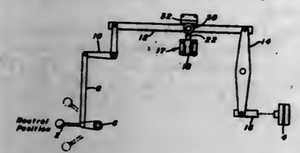
A recirculating ball screw and nut assembly having a ball return passageway extending axially within the nut and a deflector pin and block in the nut adjacent each end of the ball groove therein for directing the bearing balls between the opposite end convolutions of the ball groove and the ball return passageway.

3,512,427
PUSHBUTTON ROTARY CONTROL APPARATUS FOR AN ELECTRICAL SWITCH AND THE LIKE
Robert L. Metcalf, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed June 11, 1968, Ser. No. 736,193
Int. Cl. G05g *9/02, 1/08*
U.S. Cl. 74—471 17 Claims



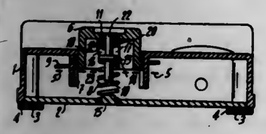
A pushbutton rotary control for an electrical circuit component, such as a rotatable potentiometer or switch, in which its control knob is moved between two different longitudinal positions by a pushbutton latch mechanism and rotated to vary switch settings. The latch mechanism includes a cam actuated latch member which automatically rotates about 45° to latch and unlatch such mechanism when the knob is pushed and thereby determines the two longitudinal positions of such knob. A coupling means separate from the latch mechanism may be used to selectively couple the knob drive shaft to the control shafts of two different rotary switches in such two longitudinal positions. Also the control knob may be provided with two rotatable scales, one for each switch, which are selectively connected to such knob by its longitudinal movement.

3,512,428
ROLLER DETENT ARRANGEMENT FOR POSITIVELY POSITIONING A RECIPROCABLE ACTUATING MEMBER
Stuart W. Affolter, Canton, Ohio, assignor to United States Steel Corporation, a corporation of Delaware
Filed Sept. 30, 1968, Ser. No. 763,602
Int. Cl. G05g 5/06
U.S. Cl. 74—491 1 Claim



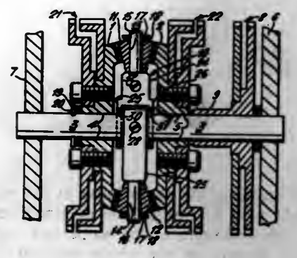
The arrangement of the invention provides mechanical assistance to positively move a longitudinally reciprocable actuating link of a manually operable remote-control linkage system in either direction from a neutral position. The invention includes a housing, which has a spring-loaded piston slidable therein, fixedly mounted adjacent the reciprocable actuating member. Means are provided in the housing to constantly urge the piston toward the actuating link in a path normal thereto. A rotatable bearing is provided on the projecting end of the piston which is adapted to peripherally engage a roller detent rotatably mounted on the actuating link. An upstanding backing plate is fixedly mounted adjacent the actuating link on the side thereof opposite the housing. The backing plate is provided with a vertical notch in which the roller detent is engaged when the actuating link is in neutral position. When the actuating link is moved in either direction from its neutral position, the bearing peripherally engages the roller detent and exerts pressure thereon in the same direction the actuating link is moving.

3,512,429
VARIABLE RESISTANCE CONTROL DEVICE FOR REGULATING THE SPEED OF AN ELECTRIC MOTOR
Marcel Fressard, Petit-Lancy, Geneva, Switzerland, assignor to Mefina S.A., Fribourg, Switzerland, a corporation of Switzerland
Filed Jan. 19, 1968, Ser. No. 699,124
Claims priority, application Switzerland, Feb. 13, 1967, 2,089/67
Int. Cl. H01c 5/06; H01n 3/12; G05g 1/00
U.S. Cl. 74—503 6 Claims



A variable resistance control device for regulating the speed of an electric motor has a control member such as a foot-operated, spring-restored, depressible pushbutton whose downward travel is proportional to the speed of the motor. The maximum travel of the pushbutton and hence the maximum speed of the motor, is adjustable to predetermined levels by means of a rod disposed axially within the pushbutton forming a stop-member and adjustable to a selected level by engagement of radial fins on the rod in notches of predetermined depths distributed angularly within the inner face of the pushbutton. The upper end of the rod has a slot which is accessible from the top of the button for adjustment of the position of the rod by a screwdriver or the like.

3,512,430
DIFFERENTIAL GEAR ASSEMBLIES WITH ANTI-BACKLASH MEANS
Norman Donald Sutherland, Prestbury, Cheltenham, England, assignor to Smith Industries Limited, London, England, a British corporation
Filed June 19, 1968, Ser. No. 738,212
Claims priority, application Great Britain, June 20, 1967, 28,510/67
Int. Cl. F16h 1/40, 55/18
U.S. Cl. 74—713 8 Claims



A bevel gear differential has two main bevel-gears rotatably-mounted on a rotatable shaft and both engaged by two bevel pinions that rotate with the shaft. The rotational axes of the pinions extend radially of the shaft and angular displacement of one of them relative to the other is urged by a screw or spring to eliminate backlash.

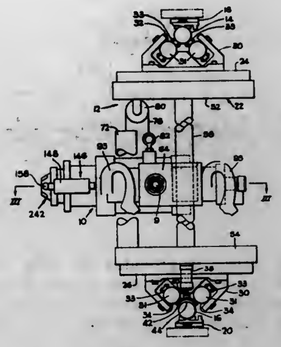
3,512,431
AUTOMATIC MACHINING PROCESS FOR BLANKING DIES
Emilio Caja, Ivrea, Torino, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Continuation of application Ser. No. 533,613, Mar. 11, 1966. This application Nov. 20, 1968, Ser. No. 778,031
Claims priority, application Italy, Mar. 13, 1965, 5,993/65
Int. Cl. B21k 5/20
U.S. Cl. 76—107 5 Claims



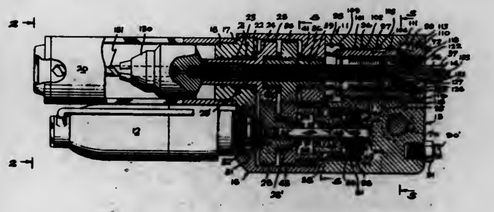
An automatic machining process for blanking dies, consisting of at least two parts such as a punch and a matrix having complementary blanking profiles comprising for each one of the parts the operation of milling a blanking profile and a reference profile, heat treating said part, and grinding said blanking profile, said reference profile being used to position said part with respect to the grinding tool.

3,512,432
LOCATING AND ORIENTING MEANS FOR DRILLS
Thomas H. Speller, Buffalo, N.Y., assignor to General-Electro Mechanical Corporation, Buffalo, N.Y.
Filed July 19, 1968, Ser. No. 746,056
Int. Cl. B23b 39/04
U.S. Cl. 77—5 19 Claims

A supporting, locating, and orienting apparatus for a drill assembly having a carriage movable on a frame in one direction and a pair of slides slidably mounted on said carriage for movement in a direction normal to said one direction. A drill assembly is pivotally mounted on the slides about a pivot axis perpendicular to the longitudinal axis of the drill assembly. The carriage is pivotally mounted with respect to the frame on a pivot axis which defines a second pivot axis for the drill assembly at right angles to the first pivot axis. A spherical locating foot is spaced laterally from the drill axis and engages an opening in a template carried by the work to locate the drill axis. The drill assembly is provided with pressure feet which are moved into engagement with a work surface after the drill axis is located to produce pivotal movement of the drill assembly about its pivot axes until the longitudinal axis of the drill assembly is oriented normal to the work surface to be drilled.

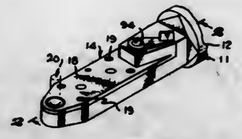


3,512,433
POSITIVE FEED DRILL
Daniel P. Juhasz, Gardena, Luis A. Bohorquez, Inglewood, and Pierre G. Vindez, Redondo Beach, Calif., assignors to Zephyr Manufacturing Co., Inc.—Manufacturing Division, Inglewood, Calif., a corporation of California
Filed Nov. 29, 1967, Ser. No. 686,476
Int. Cl. B23b 45/04
U.S. Cl. 77—7 12 Claims



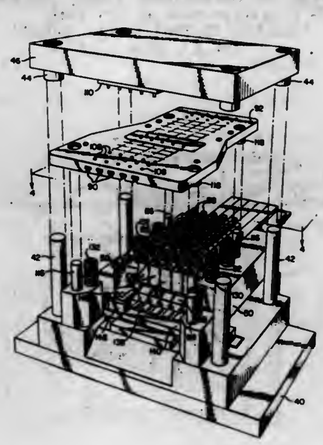
The application discloses a portable power drill adapted to be mounted on various tools and fixtures and embodying a drill spindle and motor in parallel relation, a drive gear train for rotating the spindle, a feed gear train for advancing and retracting the spindle, and a mechano-fluid means for controlling the feed gear train embodying means for adjusting the length and position of the stroke of the spindle, including automatic means for stopping the motor when the spindle has retracted a predetermined distance.

3,512,434
DRILL WITH AUTOMATIC FEED AND QUICK RETRACTION
Daniel P. Juhasz, Gardena, Luis A. Bohorquez, Inglewood, and Pierre G. Vindez, Redondo Beach, Calif., assignors to Zephyr Manufacturing Co., Inc.—Manufacturing Division, Inglewood, Calif., a corporation of California
Filed Nov. 29, 1967, Ser. No. 686,485
Int. Cl. B23b 45/04
U.S. Cl. 77—7 7 Claims



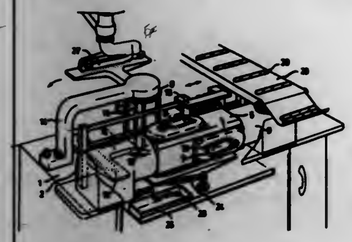
The application discloses portable power drills with which various types of fixtures and clamping devices can be used in conjunction with the drill and work to secure the two together for a given drilling operation, the drill embodying a drill spindle, a power gear train for rotatively driving the spindle, and a feed gear train for advancing and retracting the spindle, together with automatic means for controlling the feed and retraction of the spindle and an automatic means for stopping the motor.

3,512,435
APPARATUS FOR PRODUCING A SET OF CONTROL DETENTS FOR A BUSINESS MACHINE
Clifford W. Boosmann, Harland A. Kaufmann, and Charles E. Mathes, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 9, 1967, Ser. No. 673,829
Int. Cl. B26d 5/30, 5/04
U.S. Cl. 83—71 10 Claims



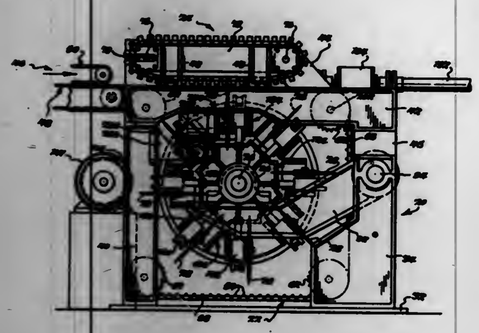
A method and apparatus for producing a set of control detents for a business machine like a cash register. The method includes trimming off the unwanted external control surfaces on a control detent blank and then forming the internal control surfaces desired on said blank as controlled by a punched tape. A special die construction having five shiftable die units is used in the forming operation. Each die unit has nine different die sets which can be selectively positioned over the blank to effect the forming operation in response to instructions from said tape.

3,512,436
APPARATUS FOR CUTTING OUT WRAPPERS OR BINDERS EACH COMPOSED OF AT LEAST TWO LEAF PORTIONS
Dieter Nauber, Jakobsberg, Sweden, assignor to Arenco Aktiebolag, Stockholm Vallingby, Sweden
Filed May 24, 1968, Ser. No. 731,958
Claims priority, application Sweden, June 9, 1967, 8,108/67
Int. Cl. A24c 1/04; B26d 7/18
U.S. Cl. 83—100 4 Claims



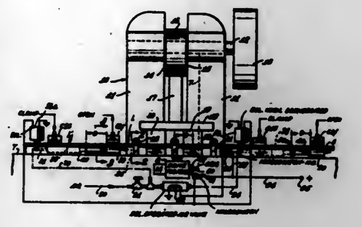
An apparatus in cigar making machines for cutting a wrapper or binder composed of several leaf portions, comprising several cutting dies movable stepwise in a closed path and adapted for cutting said leaf portions, and a suction head adapted to collect, in succession, said leaf portions in proper relationship for forming said wrapper or binder configuration on said suction head.

3,512,437
ORBITING ROTARY CUTTING APPARATUS
Arnold A. Ennesper, Harvey James Spencer, and Anthony R. Wierzba, Green Bay, Wis., assignors, by mesne assignments, to International Paper Company, New York, N.Y., a corporation of New York
Filed June 22, 1967, Ser. No. 648,007
Int. Cl. B26d 7/12
U.S. Cl. 83—174 11 Claims



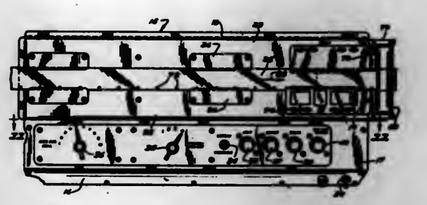
Apparatus for cutting a continuously moving strip into segments of predetermined length including a plurality of generally planar circular cutting blades mounted in circumferentially spaced relation about a first axis positioned adjacent the path of the strip. The blades are caused to orbit about the first axis, and each blade is caused to rotate about a second axis transverse to the plane of the blade. Provision is made for selectively varying the length of the segments cut, for insuring a straight line cut, and for periodically sharpening the blades.

3,512,438
STRIP STOCK FEEDING SYSTEM FOR PUNCH PRESS
James T. Burdge, Panorama City, Calif., assignor of one-half to Doron Plastics, Inc., Monterey Park, Calif., a corporation of California
Filed Dec. 11, 1967, Ser. No. 689,674
Int. Cl. B26d 5/22
U.S. Cl. 83—209 1 Claim



An outfeed system is provided for strip stock in a punch press. It is coordinated with a conventional infeed system, and affords a continuously operating punching system of high production rate having, on the infeed side of the press, an air powered reciprocating feed clamp for intermittently clamping and advancing the strip stock through a fixed distance, a stationary stock clamp on the infeed side of the press for clamping the strip stock alternately with the infeed clamp, in order to hold the stock steady for punching, and has, an addition, on the outfeed side of the punch press, a similar pair of feeding and stock or holding clamps for feeding the strip stock mechanically all of the way through the punch press, and at the same time permitting the strip stock to be punched for its entire length. The outfeed system permits automatic feed of successive strips, punching of each strip from end to end with mechanical indexing to and beyond the trailing end of each strip.

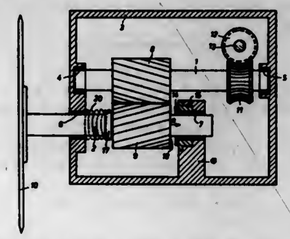
3,512,439
FILM CUTTER
Karl J. Kallenberg and Adrian A. Wersal, Minneapolis, Minn., assignors, by mesne assignments, to Pako Corporation, Minneapolis, Minn., a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,090
Int. Cl. B26d 5/20, 1/30
U.S. Cl. 83—242 15 Claims



A film cutter which can be used for viewing and automatically advancing and cutting film which has been processed. The cutter is designed for use in a continuous system wherein the film has apertures along one edge thereof only and which apertures are indexed in relation to the images or frames on the film. The cutter permits the selection of the number of frames in each of the cut stripe, and the number of cuts that will be made before

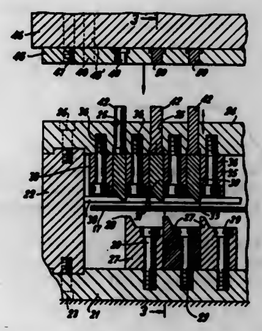
the machine will stop. The unit uses a light table for viewing the negatives, a pawl advancing mechanism which will reciprocate to advance the film one frame each time it operates, and includes interlocks which will operate the mechanism so that a predetermined number of frames pass through the cutter before the cutter is actuated. A rotary type cutter is utilized for cutting the film into the desired segments.

3,512,440
BRAKING DEVICE FOR THE LOAD-CONTROLLED BRAKING OF A DRIVEN, ROTATING COMPONENT
Eduard Frydmann, Kusnacht, Switzerland, assignor to Chr. Ehsele Maschinenfabrik, Kongen (Neckar), Germany
Filed Nov. 13, 1967, Ser. No. 682,026
Claims priority, application Switzerland, Nov. 15, 1966, 16,368/66
Int. Cl. B23d 19/00, 47/12; B26d 1/14
U.S. Cl. 83—491 8 Claims



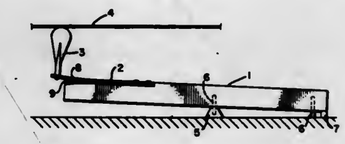
A load-controlled braking device for a rotary cutting tool has helically toothed meshing gears mounted respectively on the driving and driven shafts. The gears are so mounted on their shafts and their teeth are so inclined that during application of increased torque on the cutting tool one of the gears, having a braking member fixed thereon, moves axially on its shaft so that the braking member is pressed against the face of a cooperating, immobile braking member with a force that increases as the torque applied to the tool increases.

3,512,441
ADJUSTABLE GANG SLITTER
Frank R. Benedict, Brightwaters, N.Y., assignor to Hudson Machine & Tool Corporation, Farmingdale, N.Y.
Filed May 14, 1968, Ser. No. 728,993
Int. Cl. B26d 5/08
U.S. Cl. 83—571 11 Claims



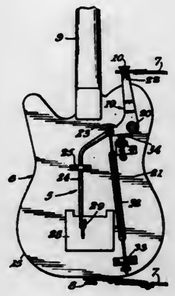
An adjustable gang slitter for slitting collared fin stock fabricated in a progressive air conditioning fin die provided with a plurality of lower stationary blades and a plurality of upper blades aligned with and mounted for vertical movement toward the lower blades for slitting fins passing therethrough. An interchangeable actuator plate, driven by a die ram is provided to activate selected slitter blades, said actuator plate being provided with means which enables a change in the selection of blades desired to be activated.

3,512,442
STRIKING MECHANISMS FOR SOUND PRODUCTION
Gunnar Olof Sjöstrand, Berghamra, Hjulsbro, Sweden
Filed Oct. 9, 1967, Ser. No. 673,699
Claims priority, application Sweden, Oct. 10, 1966, 13,640/66
Int. Cl. G10c 3/12, 3/18
U.S. Cl. 84—243 2 Claims



A striking mechanism for musical instruments in which a string or like sounding element is struck by means of a hammer which with the aid of a key or means actuated by a key is movable toward the string. In this mechanism the hammer is connected to the key or the like by resilient means which, when the movement of the key is stopped by abutment means, permits the hammer to continue its movement toward the string to strike it, but which by its being engaged with an engagement surface provided on the key prevents the hammer from performing a time-consuming reverse pivotment at the return.

3,512,443
SHOULDER STRAP CONTROL FOR STRING INSTRUMENTS
Gene V. Parson, West Hollywood, and Clarence J. White, Sherman Oaks, Calif., assignors of one-third to Edward Tickner, Studio City, Calif.
Filed Oct. 30, 1968, Ser. No. 771,716
Int. Cl. G10d 3/00
U.S. Cl. 84—313 4 Claims



A lever is connected to the shoulder strap of a guitar and, thereby, controlled by relative movements of said instrument and the person playing the same to effect a

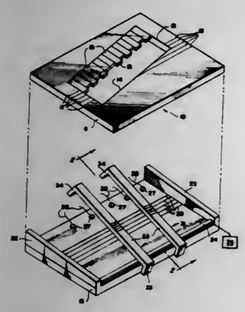
slurring change in the tone of one of the strings of the instrument from the tone to which it is tuned to a tone of higher pitch.

3,512,444
PLUCKING MECHANISM FOR MUSICAL INSTRUMENTS OF THE HARPSICHORD FAMILY
Herbert W. Burton, 917 O St., Lincoln, Nebr. 68508
Filed June 6, 1968, Ser. No. 735,088
Int. Cl. G10c *1/06*
U.S. Cl. 84—258 3 Claims



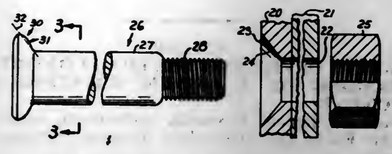
This invention relates to an improved plucking mechanism for musical instruments of the harpsichord family, and in particular this invention provides a harpsichord plucking mechanism that results in improved musical quality and that can be manufactured and maintained, both economically and with consistent quality.

3,512,445
AUDIBLE AND VISUAL MUSICAL TEACHING DEVICE
Phillip L. Aaron, 2916 N. 29th St., Milwaukee, Wis. 53210
Filed Feb. 5, 1968, Ser. No. 703,122
Int. Cl. G09b *15/02*
U.S. Cl. 84—471 8 Claims



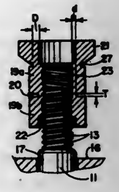
A device for teaching music having a keyboard representation and movable key blocks to represent notes, and a tone generator actuated by the key block to generate a tone of a frequency corresponding to the position of the key block; movement of the key block in a selected position completes a circuit to a tone generator, such as an oscillator.

3,512,446
COUNTERSINK FASTENERS
Jagdish S. Sekhon, Torrance, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Filed Oct. 7, 1968, Ser. No. 765,521
Int. Cl. F16b *5/02, 35/00*
U.S. Cl. 85—9 2 Claims



Countersink fasteners such as headed bolts, nuts and bins in combination with a workpiece having a countersink surface, wherein the fatigue life of the assembly is improved by forming one or the other of the countersink surfaces in a configuration of non-congruency so that material must be displaced in order for the fastener to be installed.

3,512,447
FRANGIBLE NUT FASTENER
Rudolph Marion Vaughn, 2172 Salt Air Drive, Santa Ana, Calif. 92705
Continuation-in-part of application Ser. No. 758,275, Sept. 9, 1968. This application Feb. 3, 1969, Ser. No. 800,808
Int. Cl. F16b *31/02, 39/12*
U.S. Cl. 85—61 5 Claims



A frangible nut is provided for cooperation with a bolt in fastening first and second members together. The frangible nut includes an annular side wall having internal threads for threading to the bolt threads and at least one annular groove intermediate the ends of the nut to define a thinned annular wall section dividing the nut into first and second portions. Driving of the nut by torquing the upper or first portion seats the second portion on one of the members and further torquing then breaks the first portion from the second portion at the thinned wall section effectively provide two nuts. Further torquing of the first portion against the second portion effectively locks the nut portions to the bolt by placing the bolt threads in tension.

3,512,448
BLIND FASTENER
Frederick Arthur Summerlin, Harpenden, and Harvey Philip Jeal, Stevenage, England, assignors, by mesne assignments, to Aerpat A.G., Zug, Switzerland, a Swiss company
Continuation of application Ser. No. 615,710, Feb. 13, 1967. This application Dec. 18, 1968, Ser. No. 785,866
Claims priority, application Great Britain, Feb. 25, 1966, 8,531/66
Int. Cl. F16b *13/04, 33/04*
U.S. Cl. 85—75 3 Claims

A masonry anchor bolt comprises a bolt-member with a wedge on the inner end. When the bolt is drawn into the tubular shell the wedge expands the inner end of the shell to bite into the wall of the hole. The middle part of the shell comprises a number of struts which are skewed about the axis of the tubular shell. When the bolt is drawn into the shell the middle part of the shell collapses longi-



tudinally by the struts becoming more skewed and at the same time moving radially inwards away from the wall of the hole, so that only the tail end part of the shell engages with the wall of the hole.

3,512,449
ACCELERATOR FOR THE BOLT CARRIER OF AN AUTOMATIC GUN
Eugene M. Stoner, Rte. 1, Box 70, Port Clinton, Ohio 44216
Original application Sept. 29, 1965, Ser. No. 491,300, now Patent No. 3,455,204, dated July 15, 1969. Divided and this application July 22, 1968, Ser. No. 763,447
Int. Cl. F41d *5/02*
U.S. Cl. 89—169 13 Claims



An accelerator operably connected between the reciprocating barrel and the bolt carrier of an automatic gun includes a recoil cylinder fixed to the receiver beneath the barrel having a large diameter forward portion in which a recoil piston fixed to the barrel reciprocates and a small diameter rearward portion in which an accelerator piston reciprocates. The accelerator piston is driven by the recoil piston at a faster rate due to the differential piston size, and engages the forward end of an offset body portion on the bolt carrier to accelerate the bolt carrier relative to the barrel. A by-pass groove formed in the cylinder wall decelerates the barrel, and springs also absorb recoil and counter-recoil forces. In a modified embodiment, a mechanical linkage is substituted for the accelerator piston.

3,512,450
MACHINE TOOLS
Pierre Portal, Bologne, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Oct. 7, 1966, Ser. No. 585,125
Claims priority, application France, Oct. 9, 1965, 34,411
Int. Cl. B23d *5/02*
U.S. Cl. 90—28.1 7 Claims

A tubular element is supported for rotation on a reciprocating table with a tool carrying spindle, which is supported for movement laterally of the tube, extending therethrough. A cam track carried by the tube is engaged by a pin carried by the tool support for imparting a rotary movement to the tube upon reciprocation of the

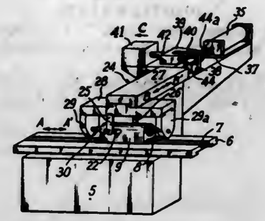
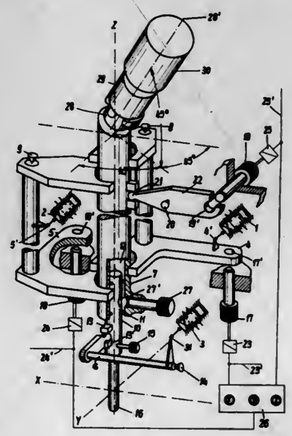


table and tube. Chevron-pattern grooves are cut on the inside wall of the tube by the cutting tools as the tube is simultaneously reciprocated and rotated past them.

3,512,451
TRACING MECHANISM FOR DUPLICATING MACHINE TOOLS PARTICULARLY DUPLICATING MILLING MACHINES
Hans Schäfer, Langen, near Frankfurt am Main, Germany, assignor to Nassovia Werkzeugmaschinenfabrik G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Jan. 17, 1968, Ser. No. 698,628
Int. Cl. B23q *35/04*
U.S. Cl. 90—62 10 Claims

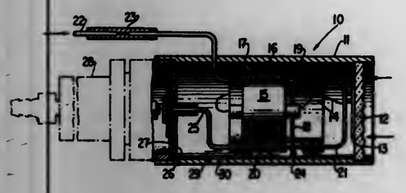


A tracer device for duplicating machine tools which has an advance control device having a measuring head portion thereof surrounding a measuring organ rigidly fixed to the tracer device for providing an advance control force. The axis of rotation of the measuring head in each direction of tracing forms a diagonal which intersects the tracer axis and which does not coincide with the planes formed by the axes of the machine tool. The tracer stem of the tracing device may be locked in any desired one of three orthogonally related axes and has a stylus holder axially adjustable within the tracer stem. The holder is operatively connected to a signaling device

for initiating feed motion. A programming control system is provided for indexing the tracer stem in the three axes of space either manually or automatically.

3,512,452
PHOTO-VALVE
Raymond N. Anger, New York, N.Y., assignor to Cutler Controls Inc., Berwyn, Pa., a corporation of Pennsylvania

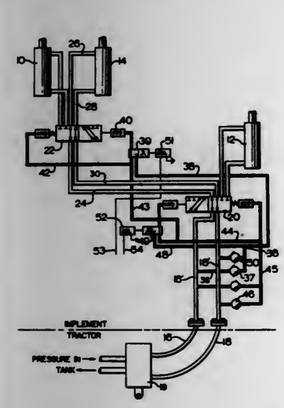
Filed Feb. 2, 1968, Ser. No. 702,573
Int. Cl. F15b 5/00; G05d 10/00; G01n 2/22
U.S. Cl. 91—3 3 Claims



A light sensitive fluidic control device wherein a flowing stream of fluid is varied by an electrical-mechanical transducer in response to a light sensitive cell.

3,512,453
SYSTEM FOR ACTUATION OF HYDRAULIC MOTORS ON TRACTOR POWERED IMPLEMENTS
David J. Balzer, Tazewell County, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

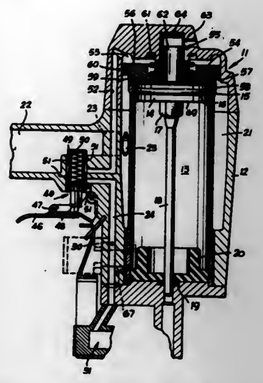
Filed May 22, 1968, Ser. No. 731,123
Int. Cl. F15b 11/16
U.S. Cl. 91—411 4 Claims



The combination with a tractor and an implement powered thereby, in which the implement has hydraulic motors for adjusting some of its components, selector valves to direct pressure to the motors selectively, a pilot pressure system for actuating the selector valves, and an electrical system with solenoid valves to control the flow of pilot fluid. In this system, the pilot fluid is tapped from the main hydraulic lines on the implement and it is, therefore, necessary to have only two hydraulic lines bridging the connection between the tractor and implement, together with necessary electric conduits.

3,512,454
AIR RETURN MECHANISM FOR A FASTENER DRIVING MACHINE
Gary R. Perkins, West Chicago, Ill., assignor to Swingline Inc., Long Island City, N.Y., a corporation of New York

Filed Jan. 2, 1968, Ser. No. 699,986
Int. Cl. F15b 11/08, 13/04; F01b 11/02
U.S. Cl. 91—461 2 Claims

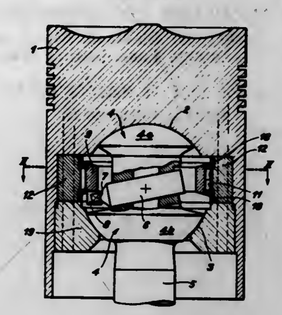


A fastener driving machine is shown having a housing with a first chamber within the housing. A piston is sealingly and reciprocatingly movable within the first chamber. A first valve is utilized to permit pressure fluid to impinge upon one side of the piston and permit the piston to move in one direction. A trigger valve is connected to a conduit which is also connected to the first valve. Pressure air normally fills the first conduit and keeps the first valve in closed position. A second conduit is also connected to the trigger valve and is also normally filled with pressure air. The second conduit is also connected to the lower portion of the first chamber and to a second chamber. The second chamber has a second valve therewithin which is formed with an actuator which is sealingly and reciprocatingly movable therewithin. The actuator has two opposite faces one of which is larger in cross-sectional area than the other. The larger face is adjacent the second conduit and normally has pressure air impinging thereupon. The smaller face normally blocks a port within the chamber which is open to atmosphere. Pressure air also impinges on the smaller face of the actuator. Opening of the trigger valve will permit pressure air to open the first valve and allow pressure air to strike one side of the piston. The opening of the trigger valve will also move the actuator of the second valve into position wherein the port within the second chamber will be opened. Closing of the trigger valve will close the first valve and the second valve and thus will permit pressure air to return the piston to its normal rest position.

3,512,455
INDEXING PISTON FOR AN INTERNAL COMBUSTION ENGINE
Hermann Obermeier, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company

Filed Oct. 25, 1968, Ser. No. 770,656
Claims priority, application Switzerland, Oct. 27, 1967, 15,103/67
Int. Cl. F01b 3/00; F16j 1/24
U.S. Cl. 92—31 2 Claims

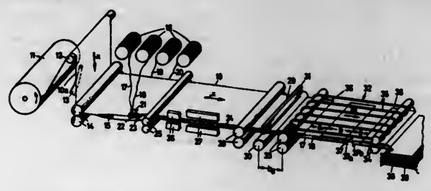
The indexing mechanism for an indexing piston assembly comprises an indexing ring disposed about the spherical bearing of the piston at the small end of the connecting rod, the indexing ring being caused to reciprocate in a plane perpendicular to the longitudinal axis of the piston by the pivoting motion of the connecting rod relative to the piston. Rollers received in recesses formed in the inner cylindrical surface of a roller retainer ring are



urged by springs into jamming engagement with the outer cylindrical surface of the reciprocating indexing ring when the indexing ring rotates in one direction, the rollers being released from said jamming engagement when the indexing ring rotates in the other direction.

3,512,456
METHOD AND APPARATUS FOR MECHANICALLY PRODUCING STRING-TIED BAGS
Alfons Meyer, 40 Donnaschwabenstrasse, 705 Waiblingen, Germany

Filed May 4, 1966, Ser. No. 547,567
Claims priority, application Germany, May 8, 1965, M 65,176; Jan. 12, 1966, M 67,977
Int. Cl. B31b 1/90, 49/04; B65b 61/14
U.S. Cl. 93—8 26 Claims

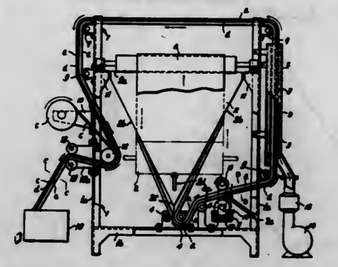


A web of superimposed layers is continuously transported and supplied with two pairs of strings which are placed in folded over tubular hems and drawn from supply bobbins when bag sections are severed, welded, and then transported at a higher speed than the web whereby each bag has strings longer than the width of each bag, which strings are tied to form two draw string loops.

3,512,457
METHOD AND APPARATUS OF MAKING BAGS OF THERMOPLASTIC FILM HAVING INTEGRAL SEALABLE FLAPS
Takashi Watanabe, Tokyo, Japan, assignor to Tohcello-Shoji Kaisha Co., Ltd., Tokyo, Japan

Filed Mar. 1, 1968, Ser. No. 709,712
Claims priority, application Japan, Oct. 13, 1967, 42/65,614
Int. Cl. B31b 1/00
U.S. Cl. 93—8 4 Claims

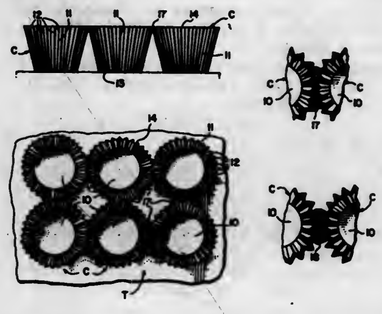
A device for manufacturing bags from a continuous longitudinally extending sheet of thermoplastic resin film, the device is formed of a frame member, and means for passing the sheet of film over the frame through the various parts which transform the film into a bag having a sealable flap. Initially the sheet of film is passed downwardly over a plate member having converging sides which meet at an apex at the lower end of the plate, as as the film passes over the plate it is caused to fold over upon itself and the folding is completed as the film passes between a pair of rollers. The film is folded along a longitudinal fold line with one section overlapping the other so that the edge of one section extends outwardly from the edge of the other forming a strip along the edge which is not in contact with the other section. After folding, the strip along one section of the film is coated with a narrow band of pressure sensitive binder material



and the film is passed through a drying chamber for a sufficient length to assure that it is completely dried. Next, the film is passed over a roller along with a narrow width of pressure adhering tape which is superimposed on the band of pressure sensitive binder material. As it completes its passage over the frame of the device the folded over sheet of film is welded at spaced locations along lines arranged transversely to the longitudinal path of travel. The sheet of film is then cut along the welded lines forming individual bags. The outstanding strip located along one section of the film forms a sealable flap by removing the tape from the band of binder material. As long as the tape is retained in place adjoining bags will not become attached to one another.

3,512,458
METHOD OF MAKING AN ADHESIVELY JOINED ARTICLE HOLDING TRAY
Albert L. Ehe, Jamaica Estates, N.Y., assignor to Multicup Automation Company, Inc., a corporation of New York

Filed June 14, 1968, Ser. No. 737,035
Int. Cl. B31b 11/26, 1/62, 49/02
U.S. Cl. 93—37 3 Claims



This specification discloses an article holding compartmented tray, the individual elements of which are preferably intended for the depositing of pieces of food, such

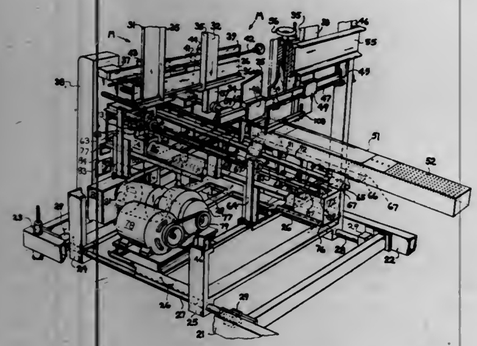
as confections, baked goods and candy therein. The tray comprises a plurality of cups of a suitable material, each having a corrugated wall. When assembled the upper edge of each wall abuts or engages the corresponding edge portions of adjacent cups. An adhesive is supplied between engaging edge portions to maintain the assembled relation until the food item has been deposited therein.

3,512,459

CONTAINER BLANK HANDLING APPARATUS

Frank J. DiFrank, 3442 Woodley Road, Toledo, Ohio 43606

Filed July 14, 1967, Ser. No. 653,449
Int. Cl. B31b 1/26
U.S. Cl. 93—51 6 Claims



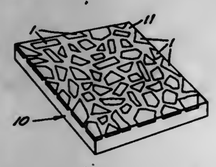
This application discloses apparatus for successively transferring relatively flat fibreboard container blanks in a vertical stack thereof to another location for processing of the blanks at such other location, for example, for erection of the blanks into upright trays. The apparatus comprises a vertical hopper with a gate feed release system and a horizontally reciprocatable vacuum feed table. The feed table grasps, by vacuum, the lowermost of the blanks in the hopper when the feed table is in a given or first position and transfers such blank through the gate as the feed table is moved to another or second position. Reciprocation of the feed table is effected by a double acting pneumatic cylinder.

3,512,460

CERAMIC CHIPS AND METHOD

Oakley W. Surine, Maplewood, and Henry L. Weisbecker, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Continuation-in-part of application Ser. No. 497,203, Oct. 18, 1965. This application Nov. 24, 1967, Ser. No. 701,022
Int. Cl. E01c 11/24
U.S. Cl. 94—5 9 Claims



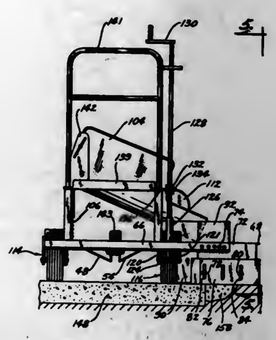
Dense flat fired ceramic chips formed from 40 to 60% feldspar and 40 to 60% clay, useful for floor inserts, etc., formed by extrusion, drying, breaking and then firing by continuously tumbling in rotary kiln at 1100° C. to 1350° C.

3,512,461

HIGHWAY SHOULDER CONDITIONING DEVICE

Reinhold D. Witchey, W. 4th Road, Rte. 1, and Edward A. Green, 251 Autumn Lane, both of Waterloo, Iowa 50701

Filed Jan. 19, 1968, Ser. No. 699,129
Int. Cl. E01c 19/12
U.S. Cl. 94—44 1 Claim



A highway shoulder conditioning device adapted to be detachably connected to the rearward end of a dump truck containing gravel or the like. The device includes a wheeled frame means having a chute means which is adapted to receive the gravel from the truck and to direct the same into an adjustable width hopper means which is positioned over the edge of the road and the rut formed adjacent thereto. A strike plate is secured to the rearward end of the hopper means which levels the gravel at a predetermined height as the dump truck pulls the device along the highway.

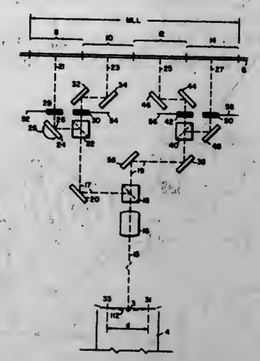
3,512,462

PHOTOGRAPHIC COMPOSITION APPARATUS

Louis M. Moyroud, Medford, Mass. (202 Grove Way, Delray Beach, Fla. 33444)

Continuation-in-part of application Ser. No. 506,936, Nov. 9, 1965. This application Feb. 23, 1967, Ser. No. 617,912
Claims priority, application Great Britain, Feb. 22, 1966, 7,752/66
Int. Cl. B41b 21/26
U.S. Cl. 95—4.5 4 Claims

An optical system for forming one or more short segments of composed text into one long line of text. The short segments comprising generally alphanumeric characters can be displayed on the face of a cathode ray tube or projected by other types of character presentation systems commonly used in photographic type composing machines, to an image plane. A plurality of beam splitters and associated shutters are positioned between the character presentation system and the image plane. The beam splitters and associated shutters merge the image segment into a long line of text. An accumulator and associated control circuits store each line segment prior to projection. Each segment is terminated after counting a predetermined number of character width units, prior to initiating the next segment on the line. The optical system can automatically change the point size of a projected character by selectively energizing one of a plurality of light shutters.

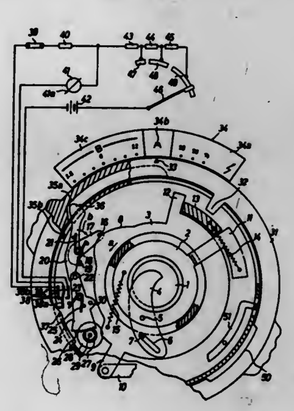


3,512,463

CAMERA WITH BUILT-IN EXPOSURE METER FOR DAYLIGHT AND FLASH PHOTOGRAPHY

Gerd Kiper, Unterhaching, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

Filed July 18, 1967, Ser. No. 654,098
Claims priority, application Germany, July 28, 1966, A 53,121; Jan. 12, 1967, A 54,594, A 54,595
Int. Cl. G03b 7/12, 7/16
U.S. Cl. 95—10 37 Claims



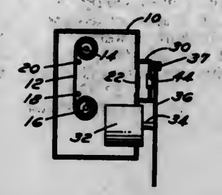
A manually actuatable selector can adjust the diaphragm of a camera in accordance with the guide number or another characteristic of a flash unit or another source of artificial light. The selector then displaces one of two relatively movable rings which control the aperture size. The other ring can be adjusted as a function of the intensity of scene light, as a function of the distance from the subject, or by the selector when the operator wishes to determine the aperture size by hand.

3,512,464

DEVICE FOR REMOVING THE EFFECT OF BLURRING IN PHOTOGRAPHY

Gary Don Cochran and Irvin W. Kay, Ann Arbor, Mich., assignors to Conductron Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed Nov. 21, 1966, Ser. No. 595,857
Int. Cl. G03b 41/04
U.S. Cl. 95—11 5 Claims



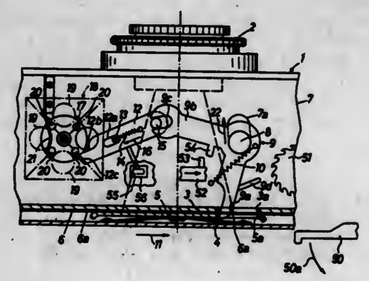
A camera system for creating image to remove the effect of relative motion between light sensitive film and and object to be photographed in which the light aperture of a camera is associated with a light modulator to modulate light from the object in a predetermined and progressively decreasing series of light passes so that the film as exposed has a plurality of light images with an imposed frequency modulation, and a system for recreating unblurred image utilizing a spatial frequency transform of the recorded image and filter means to select certain of the frequencies in the modulation to create an unblurred image.

3,512,465

CAMERA FOR OPERATION IN DAYLIGHT AND ARTIFICIAL LIGHT

Alfred Winkler and Heinz Ernst, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

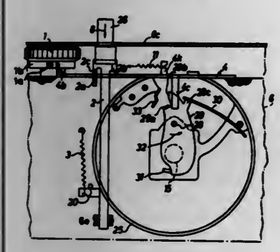
Filed Apr. 13, 1967, Ser. No. 630,639
Claims priority, application Germany, May 12, 1966, A 52,454
Int. Cl. G03b 19/04
U.S. Cl. 95—11 16 Claims



A still camera which has a socket for the base of a rotary multiple flash bulb holder and an indexing unit receiving motion directly from the film during operation of the film transporting mechanism to thereby index the multiple flash bulb holder. The holder or the socket is provided with pin-shaped followers which are engaged seriatim by an output member of the indexing unit in response to successive operations of the film transporting mechanism, and the indexing unit includes an input mem-

ber in the form of an arm provided on a bell crank lever and receivable in successive openings provided in the film at intervals corresponding to distances between the centers of successive film frames. The indexing unit also actuates the frame counter and carries an index or pointer to allow for observation of its position.

3,512,466
DOUBLE EXPOSURE PREVENTING MEANS FOR PHOTOGRAPHIC CAMERAS
Günter Fauth, Unterhaching, and Helmut Nusser, Grafing-Stadt, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Aug. 24, 1967, Ser. No. 663,140
Claims priority, application Germany, Aug. 27, 1966, A 53,359
Int. Cl. G03b *19/04*
U.S. Cl. 95—31 18 Claims

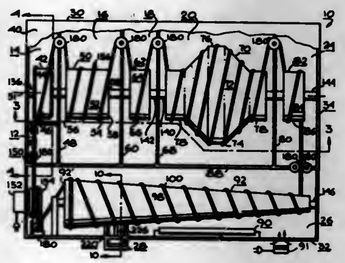


The blocking member of a still camera is movable by the film transporting mechanism from an uncocked position in which the blocking member prevents actuation of the shutter release to a cocked position in which the blocking member prevents further operation of the film transporting mechanism. The blocking member is biased to uncocked position and can move to such position in response to actuation of the shutter release. The normally closed shutter opens to admit scene light through the exposure aperture against an unexposed film frame in response to movement of the blocking member to uncocked position. The blocking member can also close the synchronizing switch of the flash circuit, either directly or through the intermediary of the shutter, and the blocking member can cooperate with a retard mechanism to automatically determine the exposure time, or with a manually operable device which is operated when the user wishes to select the exposure time by hand.

The shutter can comprise one, two or more blades and the blocking member can cooperate with the shutter directly or through the intermediary of one or more levers rings or other suitable motion transmitting devices.

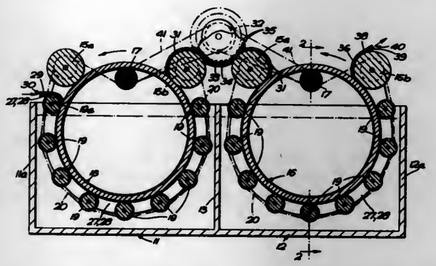
3,512,467
X-RAY FILM DEVELOPING ARRANGEMENT
Norman Schaffer, 813 S. Stanley Ave., Los Angeles, Calif. 90036
Filed July 23, 1968, Ser. No. 746,856
Int. Cl. G03d *3/10*
U.S. Cl. 95—93 14 Claims

A continuous, automatic X-ray film developer, particularly adapted to rapid processing of a large number of X-ray films, in which there is provided a plurality of liquid containing tanks positioned adjacent each other. A first of these tanks may contain a preliminary water bath; the second, X-ray film developer fluid; the third, a water rinse; the fourth, X-ray film fixer fluid; and the fifth, a second water rinse. A drying chamber may be positioned adjacent to the plurality of tanks. Each of the tanks may have a rotatably mounted drum therein, and each of the drums may be provided with a spiral, belt accepting groove thereon. A continuous, flexible resilient, belt is wound around each of the drums in the spiral grooves thereon, and a drive means rotates the belt to rotate each of the drums. Slits for holding X-ray films are provided on the belt, and, as the belt is rotated, it drives each of the rotating drums and is sequentially exposed, in order, to the above-mentioned fluid baths and to the



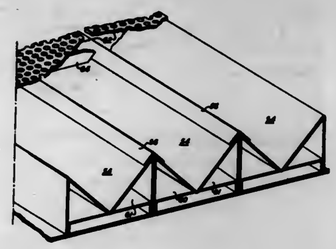
drying chamber. Suitable heater means are provided in the drying chamber for drying the developed X-ray film. The number of grooves in each of the drums determines the length of time that the X-ray films are exposed to each of the different liquids contained in the plurality of tanks. Means for loading the film onto the belt and means for removing the developed film after it has passed through the complete cycle are also provided.

3,512,468
PHOTOGRAPHIC APPARATUS
Keith Albert Frank Haynes, Garston, England, assignor to John Hadland Photographic Systems Limited, Bovingdon, Hertfordshire, England, a British company
Filed Sept. 13, 1967, Ser. No. 667,585
Claims priority, application Great Britain, Sept. 15, 1966, 41,232/66
Int. Cl. G03d *3/12, 3/08*
U.S. Cl. 95—94 7 Claims



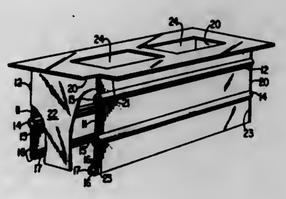
A conveying device for conveying photographic film or paper through a tank containing processing liquid. The device has a large annular wheel member, rotatably mounted at its upper edge and several smaller drive applying rollers positioned around the wheel member. The rotary mounting for the wheel member is located in the upper part of the wheel member and above the level of processing liquid in the tank. Guide members are provided for engaging the edges of the film and are spaced from the periphery of the wheel member. The wheel member and rollers drive the film and thread it between the wheel member and guides once the leading edge of the film is inserted in the device.

3,512,469
FLOOR FOR BLAST ROOM WITH UNIFORM DOWN-DRAFT VENTILATION
Donald L. Temple and Nathan Oberg, Washington, Mo., assignors to Zero Manufacturing Company, Washington, Mo., a corporation of Missouri
Original application Apr. 28, 1967, Ser. No. 634,586, now Patent No. 3,417,719. Divided and this application May 1, 1968, Ser. No. 725,869
Int. Cl. F24f *13/18*
U.S. Cl. 98—31 6 Claims



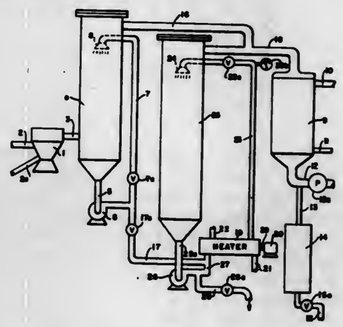
A blast room which has air drawn through a pervious top downwardly through a perforated floor and means for separating and exhausting the air and collecting the blasting material. The top is louvered by three tiers of angle beams resting on supports and alternately disposed so that an upwardly directed air blast sufficient to lift a beam moves same to block the space between two adjacent beams in the tier above. The floor includes a perforated grating lying on detached and readily removable beams of M cross section having apertures in the central lower apex, there being two inclined longitudinally extending plates within the beam on either side of said apex. In one embodiment the plates extend normally from the vertical legs of the beam. In another they are vertical. In a further embodiment an inclined angle beam is inverted above the apex of the M-beam with slots disposed along the edges of the angle beam.

3,512,470
VENTILATOR OUTLET BODIES
Robert M. Warren, Jr., Red Bank, N.J., assignor to Aeronca, Inc., New York, N.Y., a corporation of Ohio
Filed Feb. 19, 1968, Ser. No. 706,587
Int. Cl. F24f *13/00*
U.S. Cl. 98—101 2 Claims



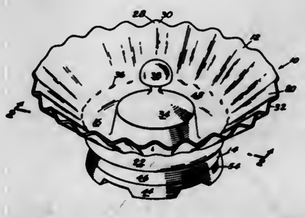
An outlet body for air heaters, ventilators or the like wherein mitering at the corners is eliminated and which includes an extruded continuous aluminum strip face plate having preformed depending side webs. The side webs are of lesser lengths than the face plate and closure plates are arranged at the ends thereof so that the webs and closure plates are inset relative to the face plate and the latter overlies the ends thereof. Spaced longitudinal arcuate channels are formed in inner faces of the webs to provide seats for louvers, and suitable openings are provided in the face plate.

3,512,471
APPARATUS FOR REMOVING WATER BY EVAPORATION FROM LIQUID MIXTURES
Ralph G. Sargeant, 408 W. Windsor, Lakeland, Fla. 33803
Original application June 21, 1963, Ser. No. 289,702, now Patent No. 3,428,463. Divided and this application Sept. 27, 1968, Ser. No. 763,171
Int. Cl. A23b *5/02*
U.S. Cl. 99—246 6 Claims



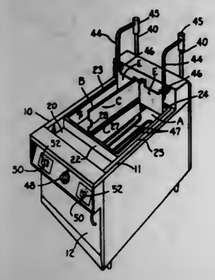
Uses a heater of the "swept surface" type, and passes the liquid in a confined stream first through this heater and then through a special electrode device where it is subjected to high frequency electrical energy. Discharges the liquid from the swept surface heater into an evaporating chamber. Re-cycles the liquid through a deaerating chamber to remove air before passing it through the heater. Also provides means for vaporizing fresh fruit juice, causing the vapors to flow through a conduit, and sprays across such conduit relatively cold concentrated juice, whereby the vapors are condensed and absorbed by said concentrated juice.

3,512,472
COOKING UTENSIL
Robert E. Berchtold, Box 46, and Edward E. McCullough, 14 Sumac Way, both of Brigham City, Utah 84302
Filed June 15, 1967, Ser. No. 646,269
Int. Cl. A47j *37/12*
U.S. Cl. 99—403 10 Claims



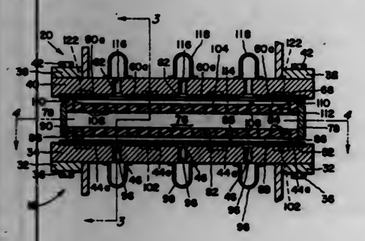
A cooking utensil for fondue cooking, consisting essentially of a dish having an annular trough for containing the cooking liquid, an annular flange fixed to the outer edge of the trough and sloping upwardly and outwardly therefrom at an angle such that food on skewers that rest on the flange may be immersed in the cooking liquid, and an electric heater shaped to support the dish so that a heating element thereof is adjacent the trough.

3,512,473
COVER ASSEMBLY FOR DEEP FAT FRYER
Lewis F. Moore, Robert L. Dunkelman, and Travis E. Schermerhorn, Jr., Shreveport, La., assignors to The Frymaster Corporation, Shreveport, La., a corporation of Louisiana
Filed Feb. 19, 1968, Ser. No. 706,414
Int. Cl. A47j 37/12
U.S. Cl. 99—407 6 Claims



A deep fat fryer provided with a pair of independently operable lifting mechanisms for automatically raising and lowering a basket into a cooking vat. A cover assembly is provided for the deep fat fryer which includes a pair of hinged lids for covering the top of the vat when such are in a closed position. The lids can be independently closed so that edibles can be cooked in a substantially closed compartment on one side of the vat, while the other side remains open. The lids are automatically raised responsive to the baskets being raised.

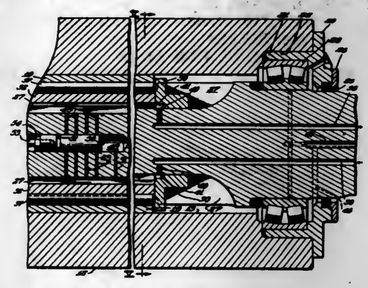
3,512,474
PRESS FOR LIQUID-SOLID MIXTURES
Neil Malarkey, Jr., Nashua, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,310
Int. Cl. B30b 9/24, 5/04
U.S. Cl. 100—118 18 Claims



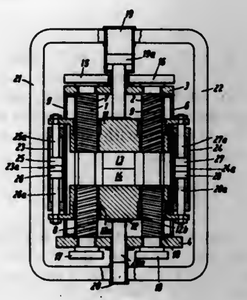
A press for separating liquid from liquid-solid mixtures, including a narrowing processing chamber bounded by conveyor belts adapted to permit fluid flow from the processing chamber. Porous filter belts overlay the conveyor belts and are driven thereby longitudinally through the processing chamber.

3,512,475
SELF-DAMPED CALENDER ROLL
Edgar J. Justus, Beloit, Wis., and Carl B. Dahl, Rockton, Ill., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 572,423, Aug. 15, 1966. This application Sept. 21, 1968, Ser. No. 764,372
Int. Cl. B30b 3/04; B21b 13/02
U.S. Cl. 100—170 20 Claims

Calender roll having opposed pressure shoes reaching against the interior of the roll. Lubricant is circulated through the roll to establish a film of oil between the pressure shoes and the cylindrical interior wall of the roll to maintain the roll and lubricant at a pre-selected temperature range. Damping orifices are in communication with the pressure lines supplying pressure to pressurize the pressure shoes. A valve is provided to vary the damping effect of the damping orifices.

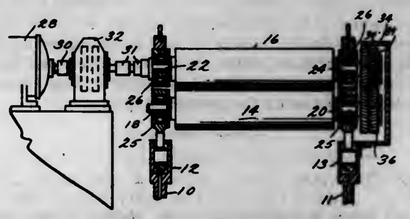


3,512,476
SCREW PRESS WITH TWO OR MORE SCREWS
Otto Georg, 12 Oststrasse, 5805 Breckerfeld, Germany
Filed Sept. 13, 1967, Ser. No. 667,602
Int. Cl. B30b 1/08
U.S. Cl. 100—270 14 Claims



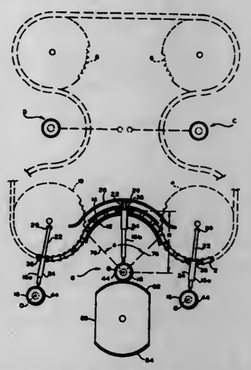
A screw press in which an upper press carriage and a lower press carriage can be brought together with a work-piece between them by rotating at least two screws which are engaged in both press carriages. The screws are provided with flywheels so that as the press carriages are brought together, energy is imparted to the flywheels and this energy is converted to a high pressure when both press carriages come into contact with the work-piece and the press carriages are brought to rest in a very short distance. In general, the screws each engage the two press carriages with threaded portions of opposite hand; there are two flywheels on each screw arranged adjacent a respective screw thread; the inertia of the flywheels is made proportional to the pitch of the adjacent screw thread. In one particular embodiment, the pitch of one screw thread is 0 so that the screw is rotatable in but axially held in relation to one of the press carriages; in this particular case, the inertia of the flywheel associated with the thread of 0 pitch is also 0, that is the flywheel is omitted: thus the screws of this press have only one threaded portion and only one flywheel adjacent the threaded portion.

3,512,477
MATCHED ROLL REGISTRY SYSTEM
Robert F. Nelson, Westfield, N.J., assignor to Modern Engraving & Machine Corporation, Hillside, N.J., a corporation of New Jersey
Filed Aug. 21, 1967, Ser. No. 661,899
Int. Cl. B44b 5/00; F16h 55/18; B41f 13/24
U.S. Cl. 101—23 2 Claims



Apparatus for rotary embossing and engraving having structure for securing and maintaining longitudinal and circumferential alignment of the rolls involved, by separate gears on the respective roll shafts. One of the gears is split and adjustable to obtain positive wedging of the teeth of both gears to prevent backlash. Either of the gears has a tongue and the other a groove to prevent longitudinal play.

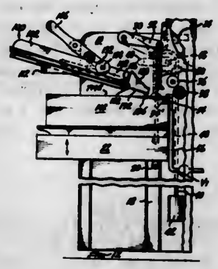
3,512,478
CONVEYING APPARATUS FOR PRINTING EQUIPMENT
Earl E. Rose, Fulton, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 23, 1967, Ser. No. 648,366
Int. Cl. B41f 17/28
U.S. Cl. 101—38 3 Claims



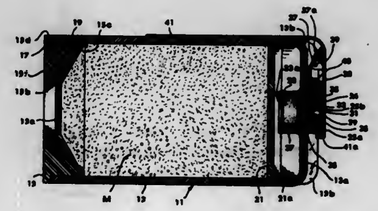
Conveying apparatus for the continuous feeding of containers to printing equipment which is capable of momentarily halting the translation of articles carried by a continuously traveling, endless chain while various printing operations are being performed on the articles.

3,512,479
AUTOMATED OVERCHUTE FEED MECHANISM FOR A PRINTING PRESS AND CONTROL SYSTEMS THEREFOR
Max D. McHenry, Enumclaw, and Richard E. Parks, Seattle, Wash., assignors, by mesne assignments, to Amadyne, Inc., Seattle, Wash., a corporation of Washington
Filed Oct. 31, 1967, Ser. No. 679,376
Int. Cl. B65h 3/44
U.S. Cl. 101—232 31 Claims

Overchute feed mechanism for use in conjunction with offset duplicator type paper printing equipment and the like, characterized by automated activation of either the main paper feeding mechanism or the overchute paper feeding mechanism in selected sequence, for a predetermined sheet count per sequencing cycle, and for a predetermined number of cycles per printing run. The automated counting, sequencing and recycling control of the printer and respective feed mechanisms is accomplished by preset sheet counters for each feed mode, feed sequence selection means, and in one form of the invention a preset recycle control means. Also provided are hold or interrupt control means, single feed mode selection means, automatic synchronization of the feed means with the duplicator, and end-of-run signal output means. The overchute feed mechanism is characterized by utilization of a single vacuum type sheet pickup means for both main sheet feed and overchute sheet feed, and by friction feed of the overchute sheets, actuated by an interruptable drive training under control of solenoid means maintained under steady state energization during a given overchute feed sequence.



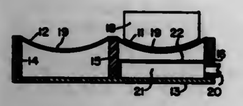
3,512,480
DIRECTIONAL DISPENSING GRENADE WITH EXTERNALLY OPEN, INTEGRALLY FORMED AND INTERNALLY CLOSED, PROPELLANT-CHARGE WELL
Irwin R. Barr, Lutherville, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Continuation of application Ser. No. 539,101, Mar. 31, 1966. This application Dec. 4, 1967, Ser. No. 699,277
Int. Cl. F42b 27/00
U.S. Cl. 102—64 7 Claims



A directional dispensing grenade is disclosed having a canister, a portion of which has a substantially constant cross-sectional bore area with an obturating piston disposed therein that is adapted to be propelled through the canister. The open bore end of the canister is closed with a cap extending across the open bore end and a frusto-conical surface slopes inwardly from the bore wall to a blow-out disc formed integrally with the end closure cap. Between the piston and the end cap is a charge of powder material to be dispensed which, when the piston

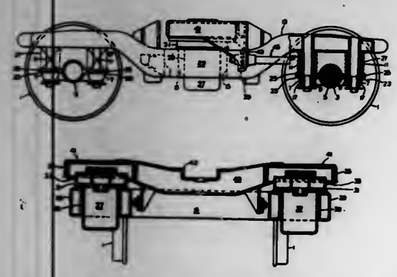
exerts a force against it, causes the disc to be blown out and is expelled through the resulting blow-out orifice in the end cap. In the opposite end of the canister is an integrally formed, internally protruding and internally closed but externally open propellant-charge well with a rupturable bottom. The well contains an ignitable propellant-gas-generating charge which is effectively sealed therein by a cap inserted into the well which has a percussion primer and a fuze disposed therein that are adapted to ignite the propellant-gas-generating charge to produce a propellant gas which will rupture the bottom of the well and propel the piston through the canister. The striking surface of the percussion primer is externally exposed and adapted to be struck by the firing pin of a resiliently biased hammer which is mounted between two parallel ribs and is normally prevented from striking the percussion primer by a handle and a safety pin which releasably retain the hammer in a resiliently biased, cocked position.

3,512,481
AIR SUPPORTED AND AIR PROPELLED VEHICLE RACERS
William R. Hershey, 7431 S. Mingo Lane, Madeira, Ohio 45243
Filed Sept. 18, 1967, Ser. No. 668,353
Int. Cl. B60v *1/04*; B61b *13/08*
U.S. Cl. 104—23 2 Claims



Air supported vehicles on multiple tracks propelled by jet streams of air.

3,512,482
RESILIENT RAILWAY VEHICLE TRUCKS
Richard L. Lich, Town and Country, Mo., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware
Filed Oct. 24, 1968, Ser. No. 770,146
Int. Cl. B61f *5/26, 5/10, 3/02*
U.S. Cl. 105—224.1 10 Claims



A railway vehicle truck in which light weight and simplicity of construction, along with improved riding qualities and less maintenance are achieved by forming the journal boxes with upwardly open inverted conical wings, providing the truck frame with depending inverted conical elements at both sides of each journal box and receiving them in the journal box wings, and positioning a conical annulus of elastomeric material between the mating conical surfaces of the wings and conical elements whereby the journal boxes are freely vertically movable with respect to the frame through shear in the elastomeric annuli but are guided vertically by the resistance of the elastomeric annuli to compression, and vertically acting springs between the journal boxes and the truck frame for supporting the truck frame on the journal boxes. The truck is additionally simplified and lightened by the provision of a vertical cylindrical aperture through the frame side members, in which is matingly received the depending cylindrical surge chamber of a flexible-wall pneumatic cushion device, seated on the upper surface of the side members, which are depressed between the axles to provide lower height. A transverse load supporting bolster is carried on the pneumatic springs.

3,512,483
MECHANISM FOR CLOSING A ONE-SHELL ROOF FOR RAILWAY FREIGHT VEHICLES
Karl Raab, Frankfurt am Main, Helmut Konig, Minden Westphalia, and Christian Stiefel and Wilhelm Blank, Aachen, Germany, assignors to Waggonfabrik Talbot, Aachen, Germany
Filed June 20, 1966, Ser. No. 558,868
Claims priority, application Germany, June 24, 1965, W 39,409
Int. Cl. B61d *39/00*
U.S. Cl. 105—377 10 Claims

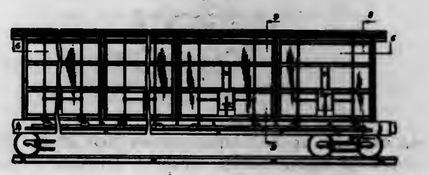


Closure of a one-shell tiltable roof of freight vehicles, especially railway freight vehicles, extends over the entire length of the car box and in closed position is sealed at the lateral longitudinal edges of the roof with regard to the side wall upper frame while for purposes of obtaining a roof loading opening corresponding to the loading bottom surface of the car, the roof shell is supported at both ends by supporting columns, rotatable at the car end face walls in fixed bearings, and closing devices are operable for each side of the car independently of each other. Pressure members are operable which are adapted to press tangentially to the tilting arc of the roof below the ends of the lateral longitudinal edges of the roof shell of the tilted back roof and thereby force the distorted roof into a closing position parallel to the longitudinal axis of the car and hold the roof in this position.

3,512,484
ALL-DOOR RAILROAD CAR
Thorvald Madland, Arlington Heights, and Irving D. Ross, Jr., Barrington, Ill., assignors to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 6, 1967, Ser. No. 674,380
Int. Cl. B61d *19/00*
U.S. Cl. 105—378 22 Claims

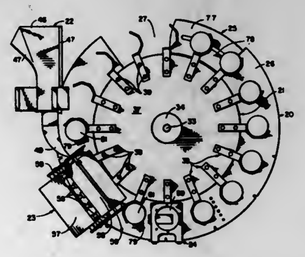
An all-door railroad car is disclosed in which a plurality of plug doors may cooperate to close an opening

substantially along the length of the car and generally defined by the side sill, side plate and at least a pair of vertically extending posts. The doors are supported on a pair of tracks attached to the side of the car. Some of the doors are carried on one of the tracks while the remaining doors are carried on the other of the tracks, thereby permitting the doors to be superimposed, one over the other when exposing a variably-positionable door opening. Coplanar sealing surfaces are formed on the side sill and the side plate of the car. Similarly, each of the vertically-extending posts at the ends of the opening of the car includes a sealing surface formed thereon which



is substantially coplanar with the sealing surfaces on the side sill and the side plate. Each of the plurality of doors when closing the opening defined by the side sill, side plate, and vertically-extending posts, is in a sealing engagement therewith, as well as with each adjacent door along vertical overlapping edges. Retainer means are provided to retain the top end of the doors in a proper cooperative relationship with the car. An additional support means arrangement is likewise disclosed as comprising brackets on preselected doors designed to be received in recesses in the side plate and side sill to restrain vertical and horizontal shifting of the doors when closed.

3,512,485
MECHANISM FOR PLACEMENT OF SECOND COOKIE ON FROZEN ICE CREAM SANDWICH ELEMENT
Harold L. Komberec and Dillon K. Kilcup, both of N. 1511 Wall St. 99201, and Alfred T. Smith, W. 1012 Cleveland Ave. 99205, all of Spokane, Wash.
Filed Oct. 16, 1967, Ser. No. 675,695
Int. Cl. A23g *5/00*
U.S. Cl. 107—1 5 Claims



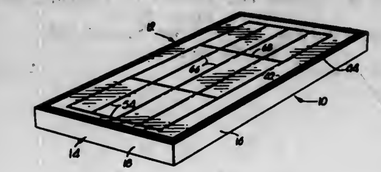
A mechanism to accept a frozen slab of ice cream with a cookie on top thereof, turn the element over, heat the upper surface thereof to form a bond with a second cookie, place a second cookie thereon to establish a bond therewith, and deposit the entirety for further processing. The mechanism operates in a circular course to provide a continuous operation that is capable of receiving product and redepositing it upon the same line. The mechanism is adapted to comply with sanitary codes of the several states.

3,512,486
COMBINED FOLDING IRONING BOARD, TABLE, DRAWING BOARD AND EASEL
Felix P. Blanchard, 236 Concord Ave., San Antonio, Tex. 78201
Filed Feb. 1, 1968, Ser. No. 702,279
Int. Cl. A47b *85/00*
U.S. Cl. 108—13 7 Claims



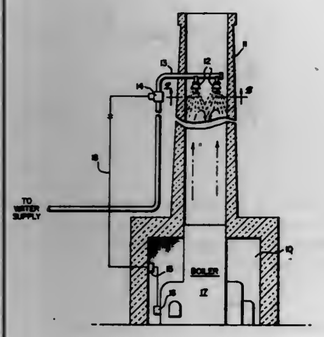
The device is foldable and secured in a compact package with carrying handle. When unfolded, spring loaded legs extend, Y lock and diagonal member in conjunction with adjusting bracket support the multiplicity of working surface in a series of selected predetermined desirable positions. The combination is readily convertible to uses, as ironing board, table, drawing board and easel.

3,512,487
METHOD AND APPARATUS FOR HOLDING PATTERNS ON A SURFACE
Hugo E. Kranz, Overland Park, and Kenneth R. Kranz, Mission, Kans., assignors to Replica Associates, Inc., Kansas City, Mo., a corporation of New York
Continuation-in-part of application Ser. No. 669,440, Sept. 2, 1967. This application Apr. 8, 1969, Ser. No. 814,308
Int. Cl. A47b *13/00*
U.S. Cl. 108—23 8 Claims



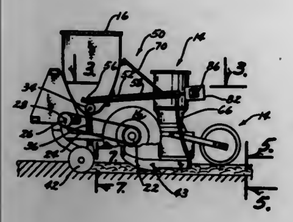
Apparatus for holding patterns on a lay marker table so that the patterns will be held absolutely flat and immobile with respect to the surface of the table for accurate reproduction on a piece of sensitized copy material, the apparatus including a pair of opposed sheets of material overlying the surface of the table, the patterns and the copy material being positioned between the sheets, the sheets being suitably sealed about the edges thereof to present an airtight enclosure, and means for withdrawing air from the enclosure to thereby flatten said sheets and therefore said patterns and said copy material with respect to said surface. The method of holding the patterns on the surface by use of said apparatus includes the steps of placing a first sheet of material on the surface; positioning the patterns on the first sheet of material; placing a second sheet over the patterns; sealing the edges of the sheets together; and withdrawing air from between the sheets whereby to cause the same to flatten the patterns with respect to the suface and thereby immobilize the same against movement.

3,512,488
COMBUSTION APPARATUS
Benjamin Withorn, 1117 S. Quincy St., Apt. 303, Arlington, Va. 22204
Continuation-in-part of application Ser. No. 652,293, July 10, 1967. This application July 22, 1969, Ser. No. 843,685
Int. Cl. F23j 15/00
U.S. Cl. 110—119 4 Claims



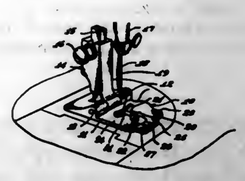
The patent specification and drawings disclose an arrangement of parts which can easily be installed in an existing smokestack or stack flue and is adapted to sprinkle either a steam or a fine mist of water against the uprising flue gases so as to mingle with the same and to cause the soot particles to become heavier by the addition thereto of the steam or water mist thus causing rapid precipitation of the same, within the stack thereby preventing their escape into the surrounding atmosphere.

3,512,489
PLANTER AND FERTILIZER ATTACHMENT
Charles W. Coldren and Richard G. Hopkins, both of Laurens, Iowa 50554
Filed Feb. 21, 1967, Ser. No. 617,534
Int. Cl. A01c 5/08
U.S. Cl. 111—34 4 Claims



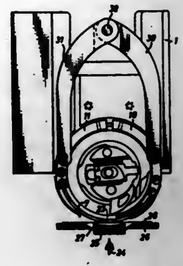
A corn planter and fertilizer dispensing system wherein an auxiliary fertilizer attachment is provided for supplying fertilizer directly on the planted seed to supplement fertilizer placed below and to the sides of the seed. The auxiliary fertilizer attachment is fed from the fertilizer container on the planter and is driven by the ground support wheel power means. An auger extends from the fertilizer container to a pair of outlet openings in an auger tube which are in communication with flexible conduits extending to the rear ends of seed planting shoes such that the fertilizer from the auxiliary fertilizer attachment is positioned in close proximity to the seed.

3,512,490
OVERCASTING FOOT ATTACHMENT FOR SEWING MACHINES
David L. Wener, 324 N. Palm Canyon Drive, Palm Springs, Calif. 92262
Filed Apr. 29, 1968, Ser. No. 725,010
Int. Cl. D05b 29/00
U.S. Cl. 112—235 8 Claims



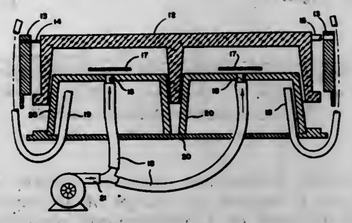
An overedge or overcasting presser foot attachable to a household zigzag sewing machine. Disposed between the presser foot forward edge and the needle opening is an edge guide wall. Projecting laterally from the base of the guide wall is a flat positioning blade that slides beneath the material margin to slightly raise the edge and position it against the guide wall to keep the edge in perfect alignment during stitching. A tongue extends rearwardly through the needle opening to assist in making the stitches sufficiently taut to prevent the edge from ravelling and curling.

3,512,491
THREAD CUTTING MECHANISM FOR LOCKSTITCH SEWING MACHINES
Alfred Heimann, Senne, Horst Thiele, Ubbedissen, and Wilfried Strothmann, Amshausen, Germany, assignors to Kochs Adlernahmaschinen Werke AG, Bielefeld, Germany
Filed Sept. 27, 1968, Ser. No. 773,359
Claims priority, application Germany, Sept. 27, 1967, 1,660,916
Int. Cl. D05b 65/00
U.S. Cl. 112—252 13 Claims



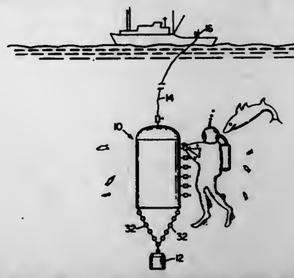
A thread trimming mechanism for lockstitch sewing machines provided with means for withdrawing of a sufficient length of bobbin thread prior to the cutting of the thread by the cutting mechanism in the immediate proximity of the workpiece after the end of sewing operation. An arcuate cutting blade and an arcuate counterknife are mounted for oscillation concentrically about the loop taker in a contrary direction to one another to cut the thread within the path of motion of the needle. A thread draw-off means, which is in operation until the thread cutting operation, is provided.

3,512,492
FLOATING STRUCTURE AND METHOD OF MAKING
Glenn Edward Hagen, Barataria Seaway, Lafitte, La. 70067
Filed Jan. 31, 1968, Ser. No. 701,960
Int. Cl. B63b 35/00; B63c 1/02
U.S. Cl. 114—.5 1 Claim



An open-bottomed floating structure, e.g. a platform, of molded material, particularly concrete, having tapered skirts. Air escapes holes are included near the bottom of the outer skirts and air injection means of minute dimensions are located in the inner skirts or baffles, both for stabilization purposes. The method of manufacture includes immersing the mold and molded structure in water, bushing the mold and pumping air between the structure and mold, thereby releasing the structure to float to the surface. The mold is then resurfaced to be reused.

3,512,493
ADJUSTABLE BUOYANCY LIFT DEVICE
Lawrence William Hallanger, Oxnard, Calif., assignor to the United States of America, as represented by the Secretary of the Navy
Filed Apr. 23, 1968, Ser. No. 723,492
Int. Cl. B63c 7/08
U.S. Cl. 114—53 7 Claims



The present invention is an adjustable buoyancy device for lifting objects in water. The lift device includes a hollow container which at its bottom end is communicable with the outside water environment. Provision is made to open the container to a gas pressure source so that water within the container can be displaced therefrom and means are provided to open the container to selected water pressures so that the amount of water therein and accordingly the buoyancy thereof can be varied for lifting purposes.

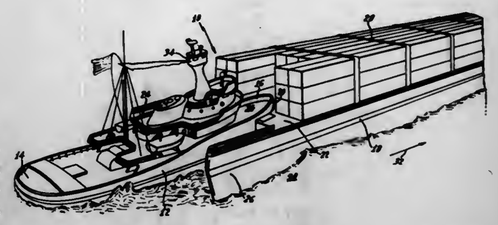
3,512,494
SUBMERSIBLE WATERCRAFT
Resta S. Gregoire, Newport, Pa., assignor to Gregoire Engineering & Development Co., Adelphi, Md., a corporation of Maryland
Filed June 11, 1968, Ser. No. 756,696
Int. Cl. B63b 1/10
U.S. Cl. 114—61 5 Claims

The present invention comprises a streamlined hull of a catamaran type having a tear drop sectioned pontoon portion along each side with a horizontal substantially rectangular shaped body portion fixed between the pontoon portions, and a pair of power pods with a tear drop vertical cross section taken axially of the craft, an impeller on a shaft extending from a motor in each pod through the pointed edge at the outer end of each pod, and each pair of pods being rotatably mounted for independent angular adjustment about a horizontal axis at each end of the craft, said horizontal axis extending substantially through the radial center of the round end of the tear drop section of the pods. The impeller drive motors are independently controlled for operation in either direction so that unique maneuverability is obtain-



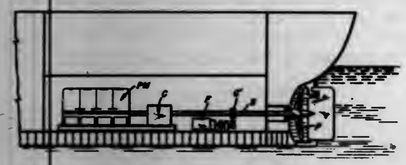
able either on or under the surface of the water by proper coordination of the speed and direction controls for the operation of the four power pods, or even if only one pair of pods are operated to provide rolling, looping speed and direction controls. The power pod and cargo and operating equipment spaces are not closed for pressurization so that the outside walls of the hull body may be comparatively light even for operation at great depths since the same pressures are effective on both sides of these walls no matter how deep the operation. The spherical or tubular personnel housing portions of the hull, occupying only a small portion of the entire hull space, will be comparatively light in structure because of the smaller dimensional requirements.

3,512,495
SELECTIVELY CONNECTABLE BOAT AND BARGE
Edwin H. Fletcher, Jacksonville, Fla., assignor to United States Freight Company, New York, N.Y., a corporation of Delaware
Filed Oct. 20, 1966, Ser. No. 588,162
Int. Cl. B63b 3/02, 21/00
U.S. Cl. 114—235 36 Claims



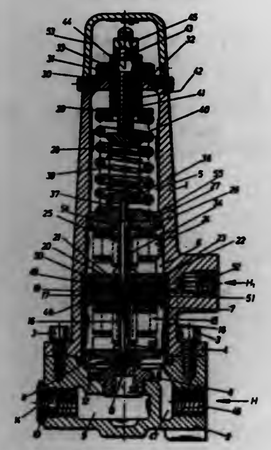
The combination of an independent powerless cargo carrying watercraft and an independent powered watercraft for pushing the cargo carrying watercraft with the cargo carrying watercraft having a well in its stern portion and the bow portion of the powered watercraft being disposed within the well. Additionally the combination includes selectively operable means disposed between the well and the bow portion for connecting the powered watercraft to the cargo carrying watercraft to provide a positive force transmitting connection therebetween during both forward and reverse movement of the powered watercraft. The means connecting the powered watercraft to the cargo carrying watercraft may include yieldable means to permit some, but limited, universal movement between the powered watercraft and the cargo carrying watercraft.

3,512,496
ANTI-FOULING MEANS FOR MARINE PROPELLERS
Seth Hawkins, Fairfax, Va., assignor to Robert Taggart, Incorporated, Fairfax, Va.
Filed May 28, 1968, Ser. No. 732,641
Int. Cl. B63b *59/00*
U.S. Cl. 115—.5 11 Claims



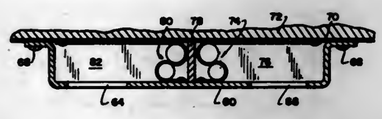
A means for inhibiting fouling of an underwater propeller on a marine craft involving the turning of the propeller at no less than a certain speed while the craft is in stopped condition in the water.

3,512,497
LEAKAGE INDICATING DEVICE FOR AIR BRAKING SYSTEMS
Erich Falke, Munich, Germany, assignor to Knorr-Bremse GmbH, Munich, Germany, a limited liability company of Germany
Filed June 4, 1968, Ser. No. 734,403
Claims priority, application Germany, June 9, 1967, 1,605,272
Int. Cl. B60g *1/26*; G01l *7/16*
U.S. Cl. 116—55 9 Claims



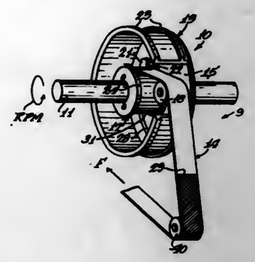
A device for indicating unintentional leakages in the main air line of a railway vehicle air braking system having a driver operated brake controller valve with the air line supplying air to the controller valve having a restricted portion to throttle the air flow. The device is responsive to the unthrottled air pressure and to the difference between the unthrottled air pressure and throttled air pressure. Adjustable springs are provided which are adjusted with respect to the flow characteristic of a particular braking system. The device will give an indication when there is any deviation of the relationship of unthrottled air pressure and difference in pressures to the flow characteristic.

3,512,498
INERTIA-OPERATED IMPACT MONITOR AND INDICATOR FOR VEHICLES
Robert W. Luebke, Baltimore, Md., assignor to General Standard Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 17, 1968, Ser. No. 784,323
Int. Cl. G01p *15/00*
U.S. Cl. 116—114 11 Claims



An impact monitor and indicator, primarily for railroad cars, to indicate the receipt of an impact force thereby in excess of a predetermined magnitude. The impact monitor and indicator is designed to be attached to an object, such as a vehicle, and is inertia responsive to impacts sustained thereby to monitor and indicate the occurrence thereof. When an impact indication has been made by the device and observed, it may be reset for subsequent monitoring and indicating.

3,512,499
LINEAR SCALE INSTRUMENT WITH VARIABLE SPEED TAPE DRIVE
William G. Runde, Pompano Beach, and Arthur J. Bromley, Lauderdale-by-the-Sea, Fla., assignors to McGraw-Edison Company, a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,686
Int. Cl. G01d *13/06*
U.S. Cl. 116—129 13 Claims

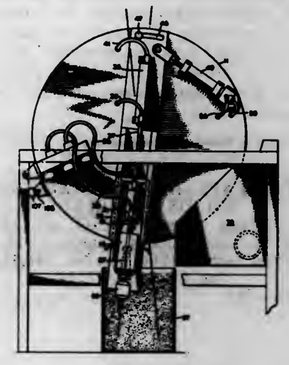


A linear scale instrument with an expanded scale portion and having drive means for automatically changing the drive ratio between the input shaft of the instrument and the indicator at the point at which the indicator crosses over between the expanded scale portion and the normally calibrated portions of the scale. The drive means including a pair of different diameter, concentric drums on which an indicator tape is alternatively wound to achieve different drive ratios as the readout line traverses the different scale portions.

3,512,500
APPARATUS FOR ENCAPSULATING ELECTRIC COIL STRUCTURES
Roy L. Swanke, Newington, and Lowell J. Timmerman, Winsted, Conn., assignors to Dynamics Corporation of America, New York, N.Y., a corporation of New York
Filed June 30, 1966, Ser. No. 561,905
Int. Cl. B05c *11/14*
U.S. Cl. 118—5 5 Claims

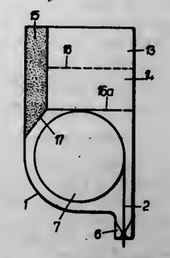
Apparatus for encapsulating electric coil configurations in a thermoplastic material of a powdered form. The wire

of the coil is heated and subsequently immersed in the thermoplastic material for a predetermined time. The



apparatus is mounted on a rotatable base with an extensible work gripper so that the operation may be automatically programmed.

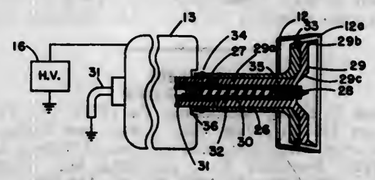
3,512,501
CONTAINER WITH A TAPE-SHAPED MATERIAL
Hans Joachim Bamert, 28 Gutenbergstrasse, 854 Schwabach, Germany
Filed Nov. 15, 1966, Ser. No. 594,617
Claims priority, application Germany, Dec. 20, 1965, B 85,054
Int. Cl. B05c *3/12*
U.S. Cl. 118—405 9 Claims



A container for a roll of coatable flexible tape for its withdrawal by unwinding and by simultaneously applying a coating compound, comprising tape storage means to store said roll of tape and permitting unwinding of said tape; coating storage means to separately store said coating compound; a conduit channel between said tape storage means, and coating outlet means aligned in such a manner that the coating covers said tape during its discharge upon opening of said seal; a tubular extension extending tangentially from the periphery of said tape storage means, said tubular extension including a tape outlet.

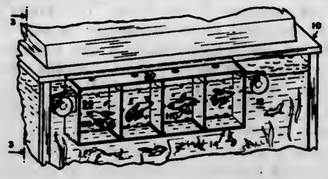
3,512,502
ELECTROSTATIC COATING APPARATUS
Edward W. Drum, Marion, Ind., assignor to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana
Filed Oct. 21, 1966, Ser. No. 588,428
Int. Cl. B05b *5/04*
U.S. Cl. 118—624 10 Claims

A spraying electrode that forms an annular spray pattern can be made to produce a smaller pattern and a more uniform coating by providing the spraying electrode with a small inner electrode and a plastic member having a forward edge extending forwardly of the inner electrode adjacent the spraying electrode. A uniform coating of greater extent can be obtained by a plurality of closely spaced spraying electrodes, each provided with



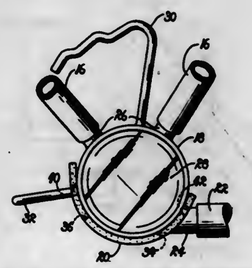
an inner electrode and a plastic member between the inner electrode and the spraying electrode, without significantly increasing the spray particle size. Further increases in the uniformity and extent of the coating of such a plurality of atomizers may be obtained by oscillating the atomizer.

3,512,503
COMPARTMENTED FISH DISPLAY CASE
Allan H. Willinger, New Rochelle, N.Y., assignor, by mesne assignments, to Mattel-Aquarium, Inc., Hawthorne, Calif., a corporation of Delaware
Filed Aug. 16, 1968, Ser. No. 753,106
Int. Cl. A01k *63/00*
U.S. Cl. 119—5 4 Claims



A compartmented display case for separately maintaining and showing fish, as for example "Siamese fighting fish," within an aquarium tank therefor, and comprising an elongated transparent housing provided with at least one open side facilitating the mounting of one transparent divider within the same and wherein the tank wall serves as a closure for this opening in the mounted position of the display case within the tank.

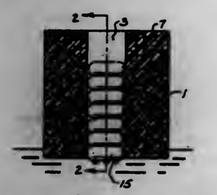
3,512,504
MILKING CLAW PROTECTOR
Daniel B. Marley, 3125 N. Millburn, Fresno, Calif. 95705
Filed Nov. 9, 1967, Ser. No. 681,758
Int. Cl. A01j *7/00*
U.S. Cl. 119—14.54 7 Claims



Protector for a milking claw having oppositely directed lateral projections, the protector being in the form of a

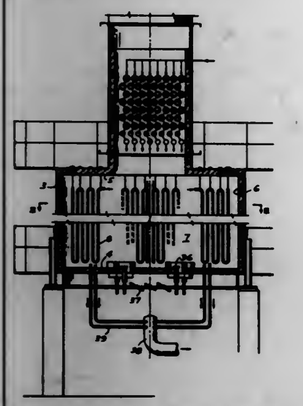
pad of resilient material of elongated shape having a perforated opening at each end thereof, one opening being adapted to receive one of the projections and the pad to be stretched around the underside of the milking claw for reception of the other lateral projection in the other opening, the pad having transverse dimensions greater than similarly directed dimensions of the claw to provide protective edges extending therebeyond on both sides thereof.

3,512,505
FISH FEEDER
Frank T. Cross, Alexandria, Va. (5717 56th Place, Apt. 102, Riverdale, Md. 20840), and William B. Harvey, Greenbelt, Md. (% Russell-William Ltd., 1126 Frederick Ave., Rockville, Md. 20850)
Filed Mar. 26, 1968, Ser. No. 716,041
Int. Cl. A01k *61/02*
U.S. Cl. 119—51 10 Claims



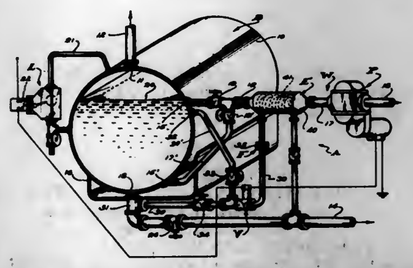
A fish feeder comprises a block of plastic foam having a vertical collimating chute therein that opens through the lower surface of the block. The lower end of the chute is restricted so as to support in the chute an upright file of charges of fish food, for example in gelatin capsules. When the block is floated on the water, only the lowermost charge is exposed to water and disintegrates to release a charge of fish food. The disintegration of the charges is so slow that a charge is released only once every several hours. The feeders can be rechargeable or can be of the type that is discarded after a fixed quantity of fish food is dispensed.

3,512,506
COMPACT MULTIPATH PROCESS HEATER
Peter von Wiesenthal, 17 E. 89th St., New York, N.Y. 10028
Filed Apr. 22, 1968, Ser. No. 722,830
Int. Cl. F22b *21/24*
U.S. Cl. 122—356 1 Claim



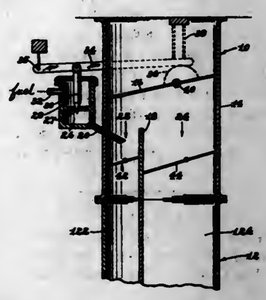
This disclosure relates to direct-fired process heaters for use in petroleum refining, chemical manufacture and the like. A vertical cylindrical heater is presented which offers a smaller furnace chamber than heretofore and which has a particularly simple outlet arrangement. A number of like paths are provided in the radiant coil with with each path having a like portion of vertical tubes mounted in a radial plane relative the furnace chamber and another like portion of its tubes mounted against the wall. A central outlet manifold positioned below the floor permits vertical growth relative the cylindrical walls. Burners are floor mounted and arranged between the radially oriented tubes.

3,512,507
METHOD AND APPARATUS TO CONTROL WATER SOLIDS IN BOILERS
Richard T. Dixon, Glendale, Calif. (% Dixon Boiler Works, 1625 Naud St., Los Angeles, Calif. 90012)
Filed Sept. 6, 1968, Ser. No. 758,091
Int. Cl. F22b *37/54*
U.S. Cl. 122—382 10 Claims



Means to prevent the accumulation of and to maintain a predetermined quantity of solids in the water in a boiler having an intermittently operated water feed or make-up apparatus, said means being designed to tap off a predetermined amount of water in the boiler when make-up water is injected therein, the volume of water tapped out being in predetermined ratio to the volume of water injected and containing substantially the same quantity of solids as is carried into the tank by the make-up water.

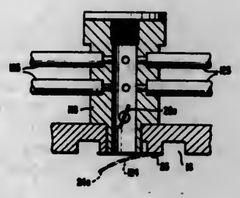
3,512,508
INTERNAL COMBUSTION ENGINE CHARGE FORMATION AND INDUCTION SYSTEM
Albert H. Winkler, Rushcutter's Bay, New South Wales, Australia, assignor to The Bendix Corporation, Elmira, N.Y., a corporation of Delaware
Filed May 8, 1968, Ser. No. 727,633
Int. Cl. F02m *7/22, 11/02, 23/02*
U.S. Cl. 123—119 9 Claims



A combined carburetion and manifold system to reduce exhaust emissions without a decrease in engine performance. A metered air/fuel mixture is discharged into the primary intake system of a duo-intake manifold system.

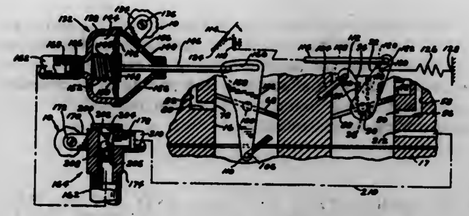
The primary passage may be heated through spot contact with the exhaust manifold to prevent fuel condensation and accumulation on the manifold walls. The secondary intake system would supply metered air separately to the combustion cylinders. Accurate fuel metering for total air flow is achieved by air valving means which meters total air flowing into both primary and secondary intake systems.

3,512,509
CONTROL MECHANISM FOR EXHAUST RECYCLE SYSTEM
Harold D. Daigh, Rolling Hills Estates, Calif., assignor to Atlantic Richfield Company, New York, N.Y., a corporation of Pennsylvania
Original application Aug. 7, 1967, Ser. No. 658,903. Divided and this application Apr. 10, 1969, Ser. No. 814,927
Int. Cl. F02m *25/06*
U.S. Cl. 123—119 7 Claims



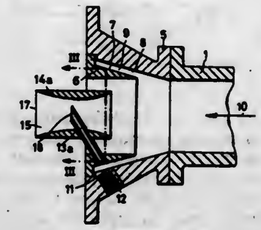
A control mechanism for exhaust recycle systems used with internal combustion engine vehicles. The control mechanism comprises thermally activated valve means mounted in the exhaust recycle conduit for preventing the recycle of exhaust gases if a sensed temperature corresponding to that of the engine, such as the induction system temperature, is below a predetermined level. The temperature sensitive valve means is a bimetallic strip of two metals having different coefficients of thermal expansion.

3,512,510
MULTISTAGE CARBURETOR
William O. Manning, Plymouth, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed Nov. 9, 1967, Ser. No. 681,868
Int. Cl. F02m *11/04, 11/10*
U.S. Cl. 123—127 6 Claims



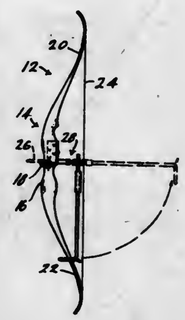
A carburetor, having primary and secondary induction passages with mechanically actuated primary and secondary throttle valves respectively situated in the induction passages, is provided with a pressure responsive diaphragm member exposed to engine vacuum and adapted to operatively engage the secondary throttle to prevent the opening of the secondary throttle during certain periods of engine operation.

3,512,511
APPARATUS FOR REDUCING NOXIOUS COMPONENTS OF THE EXHAUST GASES OF INTERNAL COMBUSTION ENGINES
Werner Rappoldt, Mittelweg 20, Frankfurt am Main, Germany
Filed Feb. 26, 1968, Ser. No. 708,086
Int. Cl. B01f *3/02*; F02m *7/00*
U.S. Cl. 123—131 6 Claims



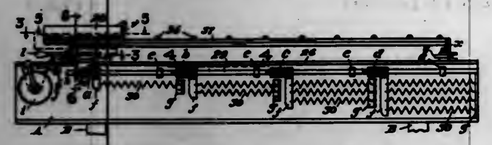
A venturi tube extends along the fuel-air mixture stream in the suction line leading from the carburetor to the engine cylinder head of an internal combustion engine, and a tube discharges atomized fuel condensate collected in an annular groove in the suction line wall in admixture with air at the constricted portion of the venturi tube.

3,512,512
ARCHERY BOW
Paul L. Wentz, 1733 N. Countyline St., Fostoria, Ohio 44830
Filed Dec. 14, 1967, Ser. No. 690,627
Int. Cl. F41b *5/00*
U.S. Cl. 124—24 7 Claims



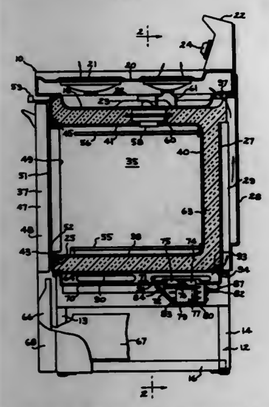
An archery bow of the recurve type has an elongate member extending rearwardly from a central portion thereof to aid the archer in shooting an arrow. The elongate member has a handle at the rear end which supports the archer's hand when he draws back the arrow and the bow string. The elongate member enables the archer to hold the arrow steady, to release it uniformly, and draw back the arrow a constant amount. The elongate member also tends to act as a stablilizer to dampen vibration and to eliminate arm slap. The elongate member is attached directly on the center line of the bow adjacent the arrow guide. A handle at the end of the member can be adjusted toward and away from the bow and can be pivoted to enable the archer to adjust it to his chin. The elongate member also can be folded, if desired.

3,512,513
ELASTIC TYPE MULTISTAGE CATAPULT
John D. Griffith, 625 N. Kalmann Ave., Compton, Calif. 90220
Filed Aug. 7, 1967, Ser. No. 665,659
Int. Cl. F41f 7/00
U.S. Cl. 124—26 8 Claims



A machine for ejecting objects by spring action wherein the object is carried on an elongate guideway and is advanced by a series of successively operated spring actuated power units of progressingly increasing magnitude, whereby the object is set in motion by the weaker unit with its movement along the guideway accelerated by the action of the remaining power units whereby the object will be ejected from the guideway under high velocity; the power units being retracted and the springs thereof thereby retensioned so as to condition the machine for another operation.

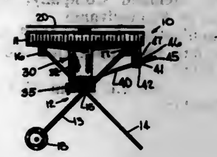
3,512,514
AIR COOLING SYSTEM FOR WALLS OF SELF-CLEANING OVEN
Louis A. Vonasch, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 18, 1968, Ser. No. 768,680
Int. Cl. F24c 15/32
U.S. Cl. 126—21 4 Claims



This invention pertains to a baking and broiling oven which is also capable of a high temperature operating cycle to remove the food soils lodged on the walls forming the oven cavity by a pyrolytic process whereby the soil is transformed into gaseous degradation products which are exhausted from the oven.

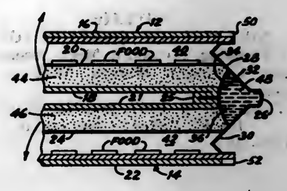
This invention is directed toward an improved air cooling system for the walls of a high temperature self-cleaning oven where the cooling system is efficient both in a natural draft mode during normal cooking as well as in a forced draft mode during the heat-cleaning cycle. A plenum chamber is located beneath the oven and it has an air inlet opening in its bottom with a cooling fan mounted in the opening. Vertical air channels extend up the two opposite sides of the oven as well as up the back of the oven and the air discharges underneath the cooktop of the range. Graduated orifices communicate between the plenum chamber and the vertical air channels, and the air inlet to the cooling system is at the bottom of the oven and the air outlet is at the top of the oven to create a high chimney effect for the system.

3,512,515
OUTDOOR BROILER HAVING ROTARY GRILL
John A. McGee, P.O. Box 65, Nashville, Tenn. 37202
Filed July 9, 1968, Ser. No. 743,367
Int. Cl. A47j 37/00
U.S. Cl. 126—25 1 Claim



An outdoor broiler having an open brazier or pan, supported by an undercarriage, and a grill fixed to the top of a hollow post received through a bearing in the center of the brazier for rotatable and axial movement, a non-circular drive shaft extending through a similar non-circular opening in the bottom of the post for free relative axial movement, but for unitary rotatable movement, and a motor on the undercarriage drivingly connected to the draft.

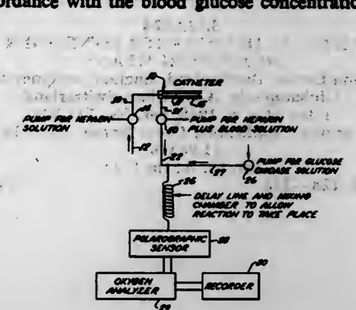
3,512,516
COMBINED FOOD PACKAGING AND FOOD COOKING DEVICE
Robert R. Glass and Jerome L. Meyers, both of 25 Central Park W., New York, N.Y. 10023
Filed June 4, 1968, Ser. No. 734,462
Int. Cl. F24j 1/00
U.S. Cl. 126—263 7 Claims



This invention relates to a package for storing and heating food comprising at least one compartment for storing food and means for heating food by an exothermic physiochemical reaction effected by the mixing of a chemical compound and a liquid at a location isolated from the food storing compartment.

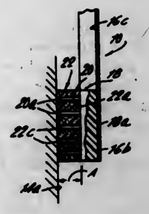
3,512,517
POLAROGRAPHIC METHOD AND APPARATUS FOR MONITORING BLOOD GLUCOSE CONCENTRATION
Arnold H. Kadish, Beverly Hills, and David A. Hall, San Gabriel, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Nov. 30, 1964, Ser. No. 414,685
Int. Cl. A61b 5/00
U.S. Cl. 128—2 22 Claims

Method and apparatus for continuously monitoring a human being's blood glucose concentration. Means is provided for sampling in vivo the blood of a human patient. The blood is diluted by an anti-coagulant and then reacted with glucose oxidase, an enzyme catalyst solution, whereby the oxygen dissolved in the solution is depleted in accordance with the blood glucose concentration. The



remaining oxygen dissolved in the solution is measured by a polarographic oxygen sensor whereby the initial and final oxygen levels of the solution provides a measure of the blood glucose concentration.

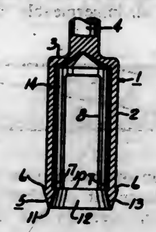
3,512,518
BRUSH DEVICE FOR COLLECTING CELLULAR OR BACTERIAL SPECIMENS
Sidney Mishkin, 11 Woodey Lane, Great Neck, N.Y. 11023, and Robert E. Bidwell, 40 Florida St., Farmingdale, N.Y. 11735
Filed Nov. 14, 1966, Ser. No. 593,795
Int. Cl. A61b 10/00
U.S. Cl. 128—2 5 Claims



A brush device for collecting a cellular or bacterial specimen from a surface. A member has scraping elements projecting outwardly therefrom and a compressible body attached thereto and located about the scraping elements. The free ends of the scraping elements are normally located below the surface of the compressible body but they project outwardly therefrom when the body is compressed for a scraping operation. As the scraping elements then return to their normal position, they wipe the collected specimen onto the surface of the compressible body.

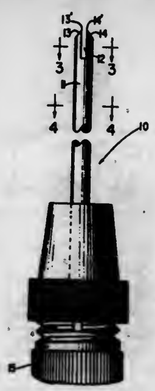
3,512,519
ANATOMICAL BIOPSY SAMPLER
Robert M. Hall, 1253 Coast Village Road, Santa Barbara, Calif. 93103
Filed Oct. 26, 1967, Ser. No. 678,319
Int. Cl. A61b 10/00
U.S. Cl. 128—2 1 Claim

A biopsy sampler for use with high speed surgical instruments being a generally cylindrically shaped body with an annular cutting element at its forward end, the cross-section of which is in the shape of a spear head. The cylindrically shaped body is provided with a transverse opening for transverse removal of the specimen



after the specimen has been severed from the body tissue under examination.

3,512,520
ANTIGENIC TEST APPLICATOR
Michael N. Cowan, 2065 Queens Lane, San Mateo, Calif. 94402
Filed Nov. 1, 1967, Ser. No. 679,793
Int. Cl. A61b 5/10, 17/20
U.S. Cl. 128—2 4 Claims



Antigenic test applicator for effecting slight fracture of the outer surface of the skin to facilitate local absorption of antigenic test material with a minimum of trauma and without drawing blood including a solid elongated body that does not come to a point and hence does not penetrate, its outer applicator tip end being provided with slightly spaced blunt, chisel-like tips or tines that are not razor sharp but merely sharp-edged defining a slot for antigenic test material, the solid body of the applicator below the slot eliminating any capillary action and thus conserving expensive antigenic test material as well as facilitating cleansing and sterilization of the applicator, the applicator being removably mountable on a support like a jeweler's vise for use and readily removable therefrom after use for cleansing and sterilization.

3,512,521
BREATH ISOLATOR FOR PULMONARY FUNCTION TESTING
William C. Jones, 16 W. 328 Walnut Lane, Timber Trails, Elmhurst, Ill. 60126
Filed Dec. 6, 1965, Ser. No. 511,721
Int. Cl. A61b 5/08
U.S. Cl. 128—2.08 8 Claims

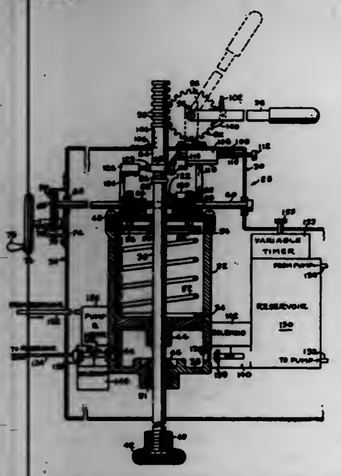
A breath isolator adapted to be interposed between a patient and a spirometer during pulmonary function testing. The isolator includes a casing having a chamber which communicates with the spirometer. Within the chamber is a disposable and collapsible breathing bag

formed of air-impermeable material and communicating with a tube into which the patient breathes. The bag thereby constitutes an air-impermeable barrier within the



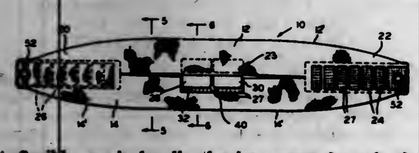
chamber, the portion of the chamber outside of the bag constituting a displacement chamber from which air is displaced as a patient breathes into the bag.

3,512,522
CLOSED CHEST CARDIAC MASSAGE APPARATUS
Malcolm B. Greenlee, Rockville, and Lawrence M. Mastracci, Silver Spring, Md., assignors to Research Corporation, New York, N.Y., a nonprofit corporation of New York
Filed Mar. 1, 1968, Ser. No. 709,762
Int. Cl. B01d *15/00*
U.S. Cl. 128—53 11 Claims



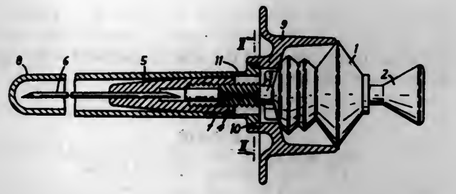
The patient is strapped on a back plate, whereupon a supporting frame is assembled and carries above the patient an apparatus having a reciprocating stem provided with a cushion foot at its lower end engageable with the patient's chest. The shaft is reciprocated, the massage foot being moved away from the patient by fluid pressure and being moved toward the patient by predetermined spring pressure, to bring about cardiac action.

3,512,523
CERVICAL COLLAR WITH MEANS FOR VARYING THE HEIGHT AND SHAPE THEREOF
Harry E. Barnett, 6841 S. Constance Ave., Chicago, Ill. 60649
Filed Feb. 27, 1967, Ser. No. 618,777
Int. Cl. A61h *1/02*; A61f *13/12*
U.S. Cl. 128—75 5 Claims



A flexible cervical collar having means for selectively adjusting the height and/or shape of the same. The cervical collar includes means for converting the same to a traction head halter.

3,512,524
MEDICAL DEVICE WITH CONTAINER RUPTURING MEANS
John Drewe, Bentingford, England, assignor to Globampoule, A.G., Chur, Switzerland
Filed Mar. 6, 1968, Ser. No. 711,644
Claims priority, application Great Britain, Mar. 14, 1967, 11,983/67
Int. Cl. A61m *5/18*
U.S. Cl. 128—216 6 Claims

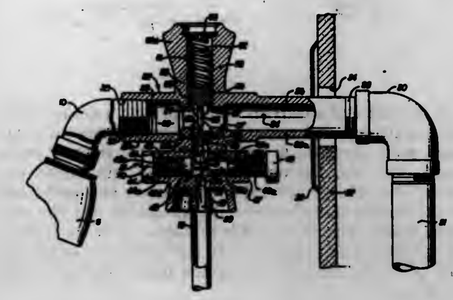


The container of a hypodermic syringe or eye-drop dispenser has a hollow projection on the end of which is screwed a nozzle having a hollow needle mounted in its tip and pointing towards the projection. Removably fitted on a cylindrical part of the container adjacent the base of the projection is a cover for the projection and nozzle. Rotation of the cover in a given direction first acts through a driving connection to screw the nozzle further onto the projection, causing the needle to pierce the end of the latter, and then frees the driving connection to facilitate removal of the cover.

3,512,525
FLOW REGULATING IRRIGATING DEVICE
Josephus C. Crowley, Jr., 5049 El Adobe Lane, La Crescenta, Calif. 91214; Harry C. Foster, 17601 Superior, Northridge, Calif. 91324; and Maurice St. Clair, 1311 Panorama Drive, Bakersfield, Calif. 93305
Filed July 3, 1967, Ser. No. 650,912
Int. Cl. A61m *7/02*; F16k *31/143*
U.S. Cl. 128—229 10 Claims

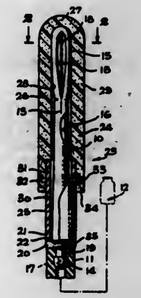
This invention relates generally to hygenic equipment, and more specifically concerns regulation of water flow in a side stream from a main flow line, and to an irrigation tip.

Basically, the invention employs a body connectible in water ducting and having a principal passage for passing water in main stream to a principal outlet, as for example a shower head, the body having a side passage communicating with the principal passage for receiving a side stream of the water therefrom, and the side passage terminating at an auxiliary outlet through which the side stream is flowable to an irrigation tip or instrumentality; first valving carried by the body and movable between a first position blocking the side stream flow to the auxiliary outlet and a second position unblocking the side stream flow; and side stream flow control means including an orifice element carried by the body and through which the side stream is flowable, a plunger element projecting through the orifice element, one of the elements having variable cross-section along its length, an actuator having a piston surface exposed to the main stream and movable to displace one of the plunger and orifice elements relative to the other to vary the clearance between them, and



a spring to yieldably resist actuator displacement tending to reduce such clearance in response to an increase in main stream pressure applied to the actuator piston surface. Typically, the body has thread connections for the ducting at opposite ends of the principal passage, and the ducting includes a shower head terminal. Further a flexible tube typically attached to the body at a nipple defining the auxiliary outlet, the tubing hanging downwardly in a shower stall to the douche tip.

3,512,526
SPONGE SHEATH FOR DOUCHE TIP
Sol B. Fielding, 11930 Kearsarge St., Los Angeles, Calif. 90049
Filed Nov. 24, 1967, Ser. No. 685,628
Int. Cl. A61b *19/00*; A61m *3/00, 7/02*
U.S. Cl. 128—239 17 Claims



A sheath of soft porous sponge material to be received about a douche nozzle for protecting the nozzle against contact with the vaginal tissues and permitting a user to clean or apply medication to those tissues with a rubbing action of the soft sheath, while fluid may flow through the sheath to the areas being treated. A tubular element is either permanently or detachably connected to and projects beyond the open end of the sheath, to provide a handle area by which the sheath may be manipulated, and to limit the extent to which the assembly may be slipped onto the douche nozzle.

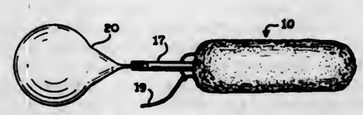
3,512,527
DRESSING, IN PARTICULAR FOR NATURAL CAVITIES OF THE HUMAN BODY
Marguerite Desoye, 107 Avenue Marcel Cachin, Chatillon-sur-Bagneux, Hauts-de-Seine, France, and John Clemow, 8 Boulevard de l'Hopital 13 eme, Paris, France
Filed Oct. 9, 1967, Ser. No. 673,807
Claims priority, application France, Oct. 17, 1966, 80,276
Int. Cl. A61m *35/00*
U.S. Cl. 128—261 6 Claims



The dressing consists of a hollow rigid cap of appropriate form made of a substance capable of dissolving or softening progressively, fixed to a tampon made of an aerated flexible substance equally capable of softening or dissolving progressively, a small tube open at least at one end serving to protect the tampon and to aid the insertion of the dressing which stay in the organ after withdrawal of the protective tube,

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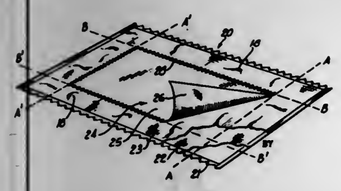
3,512,528
EXPANDABLE TAMPON
Howard A. Whitehead, Appleton, and William J. Mattes and Robert F. Skora, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,910
Int. Cl. A61f *13/20, 5/46*
U.S. Cl. 128—285 19 Claims



An expandable catamenial tampon in the form of an elongate hollow shell of absorbent material collapsed to a size suitable for insertion in the vaginal tract. The tampon has a fluid-permeable outer surface, an inner sack, and a withdrawal string. The leading end of the shell is closed. The trailing end of the shell to which the with-

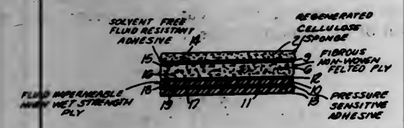
drawal string is attached has a restricted aperture, into which there is inserted a removable fill tube for introducing gas, liquid, or foam under sufficient pressure to inflate the tampon after insertion. The inner sack may be semi-permeable or impervious. The tampon is inserted into the vaginal canal in collapsed condition and expanded in place to form a flexible seal with the vaginal wall to prevent leakage of body fluids.

3,512,529
DIAPER
Melvin Nimoy, East Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed June 22, 1967, Ser. No. 648,138
Int. Cl. A61f 13/16
U.S. Cl. 128—287 4 Claims



The instant invention is with respect to an adult diaper having a water repellent layer where fabric bunching due to differential in shrinkage in the diaper is obviated, diaper flexibility is insured and the useful life of the diaper is increased.

3,512,530
MULTIPLE PLY SANITARY NAPKIN WITH REGENERATED CELLULOSE SPONGE
John Leslie Jones, Sr., 1070 Glen Oaks Blvd., Pasadena, Calif. 91105
Filed Oct. 16, 1967, Ser. No. 675,556
Int. Cl. A61f 13/18
U.S. Cl. 128—290 7 Claims



This invention teaches a single use, multiple ply, menstrual sanitary napkin, the multiple plies being adhesively bonded together. A regenerated cellulose or viscose cellulose sponge layer, uniformly compressed, in the one dimension normal to the nomal absorbtive napkin surface, to minimum pore size openings, constitutes the inner, shaped, menstrual fluid absorbent layer. Outward from this cellulose sponge layer is an adhesive fluid resistant layer which acts to bond the cellulose sponge layer to a larger cellulosic non-woven felted ply area. In turn the felted ply area is bonded on its other planar surface to a thin flexible high wet strength ply. A thin pressure sensitive adhesive layer with a release sheet forms the outermost layer of the napkin and acts as a means to attach it to the sanitary belt of a user. The non-woven felted ply area acts as a secondary or back up absorber for the cellulose sponge layer which is in contact with the user. The adhesive layer between the sponge layer and felted ply layer is formed by a long narrow adhesive bond so as not to retard the flow of fluids therebetween.

3,512,531
METHOD AND APPARATUS FOR CRYOSURGERY
Ralph E. Crump, Trumbull, and Frank L. Reynolds, Monroe, Conn., assignors to Frigitronics, Inc., Bridgeport, Conn., a corporation of Connecticut
Filed Jan. 11, 1968, Ser. No. 697,177
Int. Cl. A61b 17/36
U.S. Cl. 128—303.1 12 Claims



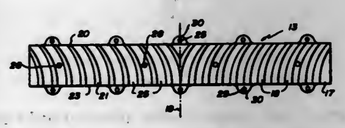
A method and apparatus for performing a cryosurgical endarterectomy. A cryosurgical instrument has an elongated probe designed to operate below the freezing point along one side, the opposite side remaining relatively warm. The probe is inserted into the artery and positioned in the demarcation between the adventitia and the diseased intima with its cold side in contact with the intima. The probe is then caused to cool and adhere to the intima. The probe and attached intima are then withdrawn from the artery.

3,512,532
GIRDLE CONSTRUCTION
Edward R. Sutter, Cook County, Ill., assignor to Miss America Brassiere Company, Inc., a corporation of Illinois
Filed Apr. 20, 1967, Ser. No. 632,427
Int. Cl. A41c 41/00
U.S. Cl. 128—522 4 Claims



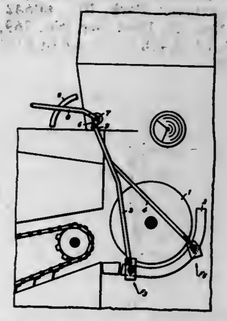
A girdle embodying a novel stretch panel present therein to minimize "creeping."

3,512,533
THRESHING CYLINDER BAR
Jacob L. Loewen, P.O. Box 820, Altona, Manitoba, Canada
Filed Apr. 28, 1967, Ser. No. 634,584
Int. Cl. A01f 12/20
U.S. Cl. 130—27 2 Claims



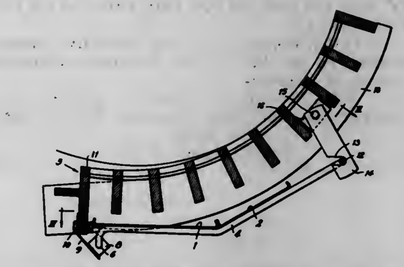
Cylinder bars for combines and the like having arcuately curved teeth curving inwardly from each end towards the centre and having a narrower width at the front than at the rear end thereof. Also the spaces between the teeth widen out from the front to the rear thereof.

3,512,534
SUSPENSION OF THE CONCAVE OF COMBINES
Edward W. Rowland-Hill, Oostende, Gerard O. Jacobs, Ichtegem, and François Van Herpe, Gent, Belgium, assignors to Clayson N.V., Zedelgem, Belgium, a company of Belgium
Filed Dec. 18, 1967, Ser. No. 691,416
Claims priority, application Belgium, Dec. 19, 1966, 46,343
Int. Cl. A01f 12/28
U.S. Cl. 130—27 7 Claims



Improved suspension of the concave of combines, whereby, after having adjusted the distance between threshing drum and concave, the latter can be fixed to the frame of the combine.

3,512,535
SUSPENSION MEANS FOR THE AWNING PLATES OF COMBINES
Frans J. De Coene, Zedelgem, Belgium, assignor to Clayson N.V., Zedelgem, Belgium, a company of Belgium
Filed Dec. 18, 1967, Ser. No. 691,315
Claims priority, application Belgium, Dec. 19, 1966, 46,342, Patent 691,386
Int. Cl. A01f 12/18
U.S. Cl. 130—27 7 Claims

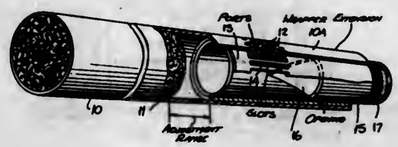


Improved suspension for the awning plates of combines, wherein said awning plates are mounted on supports which, on one hand are movably connected with the concave of the combine and, on the other hand, cooperate with means allowing a simple fixing or dismounting of these supports to, respectively from said concave.

3,512,536
SMOKING MATERIAL OF OXIDIZED CELLULOSIC MATERIAL AND METHOD OF MAKING SAME
Theodore S. Briskin and Geoffrey R. Ward, Beverly Hills, Calif., assignors to Sutton Research Corporation, Los Angeles, Calif., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 595,622, Nov. 21, 1966, and Ser. No. 674,994, Oct. 12, 1967. This application July 17, 1968, Ser. No. 745,418
Int. Cl. A24b 15/00; C08b 15/02
U.S. Cl. 131—2 14 Claims

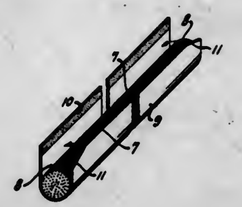
The preparation of a smoking product from cellulosic material by oxidation of cellulosic material with nitrogen dioxide and pre-treatment or post-treatment with a liquid solvent medium to extract residual lignins, waxes, oils, grease, gums and natural resins from the cellulosic material, and which may include the step of setting the oxidized cellulose to minimize dissolution in aqueous medium by treatment with alcoholic solution or acidulated aqueous medium. The effective solvents include ketones, esters, ethers, acetone, benzene, toluene, xylene and dimethyl sulfoxide.

3,512,537
ADJUSTABLE AERATED CIGARETTE
Louis Gerard Pelletier, New York, N.Y., assignor to U.S. Remedy Corporation, New York, N.Y., a corporation of New York
Filed Nov. 27, 1968, Ser. No. 779,364
Int. Cl. A24d 01/04; A24f 05/04
U.S. Cl. 131—9 6 Claims



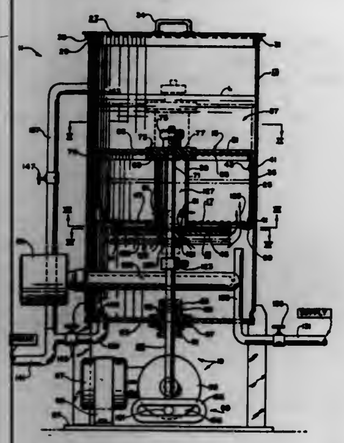
An adjustable, aerated cigarette structure in which the cigarette wrapper is provided with a tobacco-free extension surrounding a sleeve, the extension having a circumferential region of pores which register with a ring of slots formed in the sleeve adjacent the end of the tobacco column. A tube is telescopically received in the sleeve, the tube having an opening therein which is so shaped that when the tube is pushed inwardly, it more or less registers with the slots to provide a lateral air passage of varying dimensions.

3,512,538
CIGARETTE STRUCTURE, WRAPPER AND METHOD
Jesse Herbert Sledge, Richmond, Va., assignor to Sutliff Tobacco Company, Richmond, Va., a corporation of California
Filed Sept. 6, 1968, Ser. No. 758,028
Int. Cl. A24d 01/02, 01/04
U.S. Cl. 131—10 5 Claims



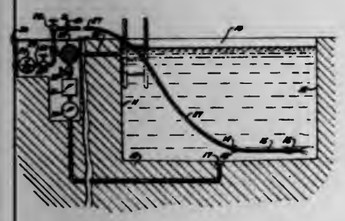
A cigarette including a filter at one end and a wrapper that encloses the tobacco and the filter at the time the tobacco is wrapped. The wrapper has longitudinally extending overlapping edges, the inner edge having a portion removed at the filter end of the cigarette. The outer edge has adhesive therealong and is glued to the filter by one end of the strip of glue that secures the outer edge to the inner edge of the wrapper. The outer edge of the wrapper securingly holds the filter in position within the wrapper and at an end of the cylindrical body of tobacco.

3,512,539
WASHER HAVING RECIPROCATING WORK BASKET
Arthur R. Hamilton, Pensacola, Fla., assignor of fifty percent to Kenneth E. Avis, Memphis, Tenn.
Filed July 8, 1968, Ser. No. 743,072
Int. Cl. B08b 3/06
U.S. Cl. 134—136 10 Claims



A washer for ultra-clean washing small medicinal articles including a cylindrical tank adapted to contain a cleansing liquid, a basket for holding the medicinal articles and with said basket being adapted for vertical reciprocation while submerged in said tank, and including flapper disk means arranged below the screened bottom of the basket and movable to cover and uncover a major portion of the screened bottom in response to vertical up and down movement of said basket. The action of the flapper disk being adapted to cause wave-like submerged currents of water in the tank for a somewhat gentle cleaning action of the articles contained in the basket.

3,512,540
APPARATUS FOR CLEANING SWIMMING POOLS
Wayne L. Hughes, 468 Rockville Road, R.D. 1, Langhorne, Pa. 19047
Filed May 27, 1968, Ser. No. 732,466
Int. Cl. B08b 3/02, 9/08
U.S. Cl. 134—167 1 Claim



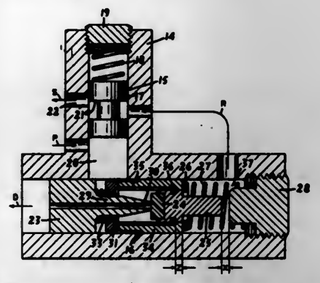
A flexible hose, at least about three feet long, and preferably not exceeding about 50 feet, having a reaction nozzle at one end has been adapted for automatically cleaning a pool by stirring up dirt and sediment in a swimming pool, then passing the water through a filter and back into the pool. An antifriction type swivelled connection between said hose and said source greatly reduces the danger of kinking when the hose is free to rotate about the axis of such connection, said connection including either a ball or roller bearing.

3,512,541
TRACTION DEVICE FOR CRUTCHES
Joseph Goggins, 9367 Country Club Drive, Evergreen Park, Ill. 60642
Filed Oct. 22, 1968, Ser. No. 769,507
Int. Cl. A45b 9/04; A61n 3/06
U.S. Cl. 135—58 3 Claims



The combination with the leg of a crutch, cane or the like walking aid of a gripper element reciprocably mounted thereon adjacent the tip of the crutch, lanyard means on said crutch including a finger gripping element reciprocably carried adjacent the cross bar of said crutch, and cam means carried by said crutch engaged to and between said gripper element and said lanyard whereby upward movement of said lanyard by means of its finger gripping element causes said interposed cam means to urge said gripping element downwardly beyond the crutch tip and in operative position.

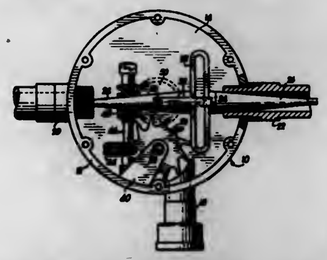
3,512,542
PROPORTIONAL CONTROL DEVICE FUNCTIONING AS CUT-OFF VALVE FOR CONSTANT PRESSURE SYSTEM
Gunmar Lyshoj Hansen, Nordborg, Denmark, assignor to Danfoss ved ing. M. Clausen, Nordborg, Denmark, a company of Denmark
Filed Feb. 11, 1964, Ser. No. 343,999
Claims priority, application Germany, Feb. 20, 1963, D 40,943
Int. Cl. G05d 16/08
U.S. Cl. 137—115 4 Claims



1. A control apparatus for automatically controlling a control point at which flow of an incompressible fluid is to be cut off in a controlled incompressible fluid pressure system comprising a proportional control device comprising, two control elements relatively movable axially defining internally of said device jointly in relative positions an orifice having a variable flow area in dependence upon relative operative positions of said control elements, one of said two control elements being disposed

in operation to sense and respond by movement to variations of flow of an incompressible fluid in said controlled system and to vary the flow area of said orifice in dependence upon variations of said flow and to develop jointly with the other of said control elements a pressure differential across said orifice varying in dependence upon said variations of flow of said incompressible fluid, means defining a seat in said device having an opening therein through which flow of said incompressible fluid is to be controlled, a valve element operable to a seated position on said seat closing said opening and an unseated position for allowing flow of said fluid from said orifice through said opening, an actuator element actuated in response to movement of said one of said two relatively movable control elements proportionately to flow variations of said fluid being sensed, said actuator element having coupling means to unseat said valve element during travel of said actuator element representative of a change of said fluid flow above a given level and for seating said valve element in dependence upon a variation of said flow of fluid being sensed proportionate to a decrease in said flow being sensed to a given reduced flow level thereby closing said opening when said reduced flow level obtains, and means to limit the movement of said valve element to travel less than the possible travel of said actuator element and to establish within said reduced flow level a selected value at which said valve element seats independent of a flow value established at said orifice.

3,512,543
FLOW CONTROL FOR SPRINKLERS
Richard S. Kubik, 1030 Villa Vista Drive, Colby, Kans. 67701
Filed Feb. 13, 1968, Ser. No. 705,094
Int. Cl. A01g 25/00; F16r 31/36
U.S. Cl. 137—119 7 Claims



A flow control for water sprinklers has a pair of opposed water outlets that are aligned to receive corresponding valves which are interconnected and tapered so that alternate opening and closing of the outlets is, in each instance, equally progressive. A crankshaft is coupled with the composite valve arrangement through a loop on the valves receiving a crankpin.

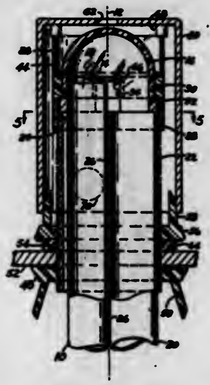
3,512,544
THERMODYNAMIC STEAM TRAP
Milton Hilmer, Quakertown, Pa., assignor to Sarco Company, Inc., Allentown, Pa., a corporation of New York
Filed Nov. 1, 1967, Ser. No. 679,847
Int. Cl. F16t 1/00
U.S. Cl. 137—183 3 Claims

In a thermodynamic steam trap comprising a housing defining a cavity, a sealing member within said cavity dividing the same into a flow chamber and a pressure chamber, said sealing member being slideably positioned within said cavity for movement toward and away from said pressure chamber, said sealing member being received within said cavity and being dimensioned so as to minimize clearance between the sealing member and the cavity, an inlet leading to said flow chamber and terminating in an inlet valve seat against which said sealing member is adapted to seat, at least one outlet leading from said flow chamber, and a pressure-retaining valve seat interposed between said chamber, said sealing member being adapted to seat simultaneously against both said valve



seats, the improvement wherein the sealing member has aperture means adapted to provide communication between said chambers when said sealing member is raised off said valve seats but located so as to close said communication by said pressure-retaining valve seat when the sealing member is seated on said valve seats.

3,512,545
AIRGAP
Paul J. Weaver, Pasadena, Calif., assignor to Graming Enameling Company, El Monte, Calif., a corporation of California
Filed Oct. 27, 1967, Ser. No. 678,750
Int. Cl. F16k 45/00
U.S. Cl. 137—216 9 Claims

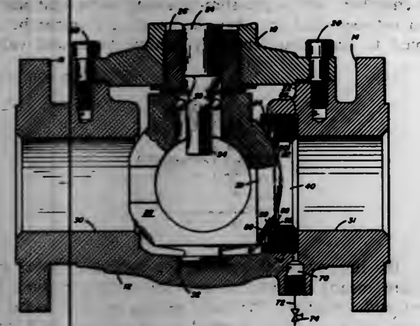


An airgap device according to the present disclosure comprises a supply tube which receives waste water and any entrained waste material from an appliance and discharges it into a vented return dome which in turn discharges it to a return tube. The return tube includes a kidney-shaped portion to receive waste from the return dome.

3,512,546
BLOCK AND BLEED VALVE SEAT
Rudy W. King, Little Rock, Ark., assignor, by mesne assignments, to Orbit Valve Company, a corporation of Arkansas
Continuation-in-part of application Ser. No. 545,146, Apr. 25, 1966. This application Oct. 30, 1968, Ser. No. 771,929
The portion of the term of the patent subsequent to Oct. 21, 1986, has been disclaimed
Int. Cl. F16k 3/26
U.S. Cl. 137—312 2 Claims

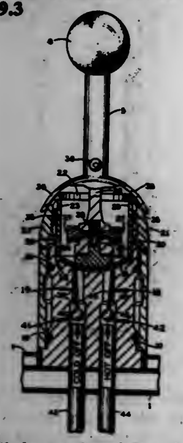
A block and bleed type valve of the "Orbit" type includes a valve seat composed of material known under

the trademark "Bakelite." The valve core, when seated, is in seating and sealing contact with two face portions formed in the material between which a communicating



annular groove separates the two faces. A plurality of bleed openings extend from this groove to and in communication with the exterior of the valve.

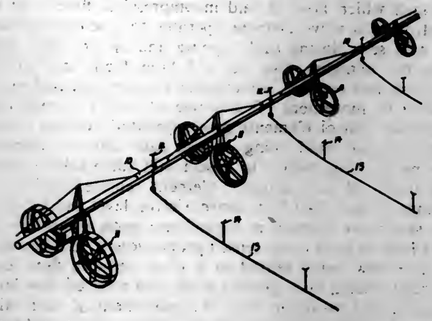
3,512,547
SINGLE CONTROL FAUCET FOR SELECTIVELY MIXING HOT AND COLD WATER
James W. Gibbs, 8027 W. 14 Ave., Hialeah, Fla. 33012, and John L. Gibbs, 14820 Miami Lake Way E., Miami, Fla. 33522
Filed Sept. 4, 1968, Ser. No. 757,304
Int. Cl. F16k *11/02*
U.S. Cl. 137—329.3 6 Claims



A single control faucet for connection to pressurized sources of hot and cold water including a lever operated diaphragm for starting and stopping the flow of water through a movable spout for selectively mixing the hot and cold water or selecting the degree of flow of hot or cold water by corresponding predetermined positions of the lever.

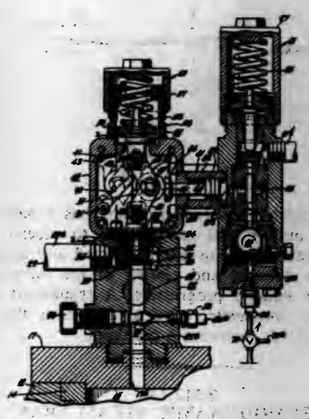
3,512,548
MOVABLE IRRIGATION PIPELINE SYSTEM
John D. Miller, Greenacres, Wash., assignor to Anderson-Miller Mfg. Co., Spokane, Wash., a corporation of Washington
Filed June 16, 1967, Ser. No. 651,934
Int. Cl. B05b *9/02*; E01h *3/02*
U.S. Cl. 137—344 14 Claims

The disclosure describes a movable irrigation pipeline apparatus having a plurality of transverse vehicles along the main pipeline for supporting and transversely moving a nonrotatable pipeline 10. The wheels are pivotally mounted at the ends of the vehicle frames for enabling longitudinal as well as transverse movement. Drive pinions are positioned on the frames spaced from the pivot axes of the wheels for meshing with internal spur gears, affixed to the wheels, only when the wheels are transversely



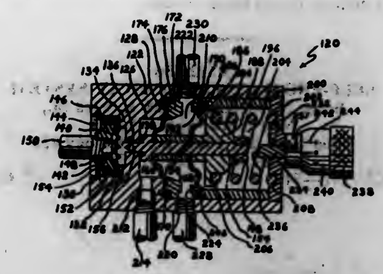
positioned. Fine adjustment features are incorporated to accurately position the vehicles with respect to the pipeline. Secondary lines are connected to the main pipeline through expandable couplings for permitting the secondary line to swing in a horizontal plane but preventing the rotation of the secondary lines about their longitudinal axes.

3,512,549
PILOT OPERATED RELIEF VALVE
Charles W. Wiegand, 18 Circuit Road, New Rochelle, N.Y. 10805
Filed Oct. 15, 1968, Ser. No. 767,607
Int. Cl. F16k *17/02*
U.S. Cl. 137—489 11 Claims



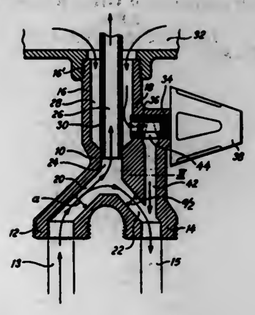
A slave valve operable in response to fluid pressure in a control chamber is provided with a master valve cooperable with a pilot valve to vary the pressure in the control chamber for operating the slave valve. The master valve is actuated by a spring-loaded toggle linkage which closes the master valve when the toggle linkage is activated and which permits the master valve to open when the toggle linkage is deactivated. Pressure-responsive means engages the knee of the toggle linkage to selectively activate and deactivate the linkage in response to fluid pressure supplied thereto by the pilot valve.

3,512,550
FLUID PRESSURE CONTROLLED VALVE
William L. Ammann, Argonia, Kans. 67004
Continuation-in-part of application Ser. No. 566,996, July 21, 1966. This application Mar. 11, 1968, Ser. No. 711,995
Int. Cl. F16k *37/00, 31/363, 31/365*
U.S. Cl. 137—553 7 Claims



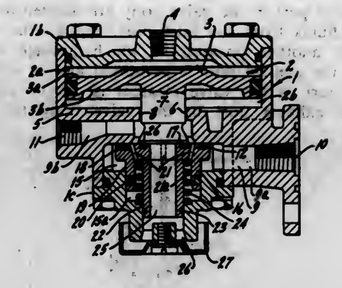
A normally closed fluid pressure controlled valve such as to be opened to a progressively greater extent upon the application of progressively greater fluid control pressure thereto. The opening of the valve by fluid pressure is opposed by spring means, and finely calibrated stop means is provided for adjustably limiting the extent to which control fluid pressure can open the valve. In one form of the valve the pressure control chamber is partially defined by a piston fixed to the valve stem. In another form of the invention the chamber is defined between a pair of diaphragms, with one of said diaphragms separating the chamber from the passageway for the valved fluid.

3,512,551
HEATING APPLIANCES
Thom Lage Henningsson, 9 Nyodlingsvagen, Sollentuna, Sweden
Filed Mar. 27, 1968, Ser. No. 716,585
Int. Cl. B01f *3/02*
U.S. Cl. 137—599.1 3 Claims



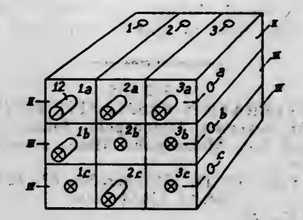
A device for joining a heating appliance to the main flow pipe of a single duct heating system includes an inflow pipe connected to the heating appliance and an outflow pipe of smaller cross-section connected to the inflow pipe. A branch pipe constituting the flow pipe is connected to the junction of the two pipes and a return flow pipe connected to the heating appliance is also connected to the outflow pipe through a regulating valve.

3,512,552
PISTON RELAY VALVE
Harold L. Dobrikin, Highland Park, and Boleslaw Klimek, Des Plaines, Ill., assignors to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois
Filed Sept. 18, 1967, Ser. No. 668,376
Int. Cl. F16k *45/02*
U.S. Cl. 137—627.5 1 Claim



A relay valve for vehcle air brake systems in which a service piston extension projects through a restricted bore to open a valve shuttle and the shuttle has equiarea seals exposed to pressure to balance the shuttle.

3,512,553
INTEGRATED CIRCUIT FLUID PROGRAMMER
André Legris, Saint Maur-des-Fosses, France, assignor to Society Legris & Fils
Filed Oct. 16, 1967, Ser. No. 675,610
Claims priority, application France, Apr. 3, 1967, 101,284; Aug. 1, 1967, 116,453
Int. Cl. F16k *31/44*
U.S. Cl. 137—635 19 Claims

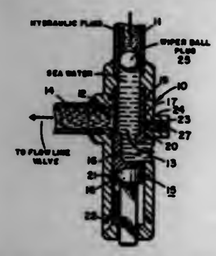


An integrated circuit fluid programmer for controlling the flow of pressurized fluid from sequence lines to power lines, comprising an assembly block containing distinct series of sequence and power conduits having sequence inputs and power output openings; orientation means for placing the sequence and power conduits in communication to enable fluid to flow from the sequence inputs towards the power outputs; and programming means for actuating certain of the orientation means.

3,512,554
AUTOMATIC PURGE VALVE FOR REMOTE HYDRAULIC CONTROL SYSTEM
Thomas W. Childers, Metairie, La., assignor to Esso Production Research Company
Filed Dec. 18, 1967, Ser. No. 691,362
Int. Cl. B08b *9/02*
U.S. Cl. 137—15 7 Claims

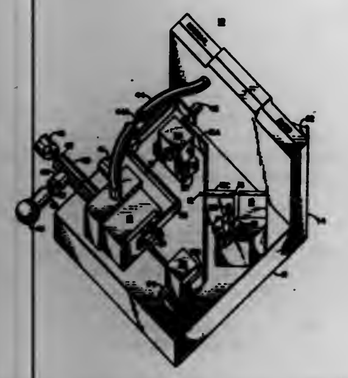
An automatically operated purge valve for use in remote hydraulic control systems having a valve body attachable at one end to a hydraulic control flowline

extending to a remote source of control fluid and provided with (a) an inlet port, (b) a control side port attachable to a hydraulic control system, and (c) an exhaust side port. A sleeve-type valve element having an exhaust side port is arranged within the valve body and is movable from one position, in which passage of fluid through the control port is prevented and in which the exhaust port in the valve element and the exhaust port in the valve body are aligned to permit flow of fluids from the inlet port through the exhaust ports, to another position in which passage of fluid through the control port is permitted and in which the exhaust port in the valve element is out of alignment with the exhaust port in the valve body to prevent



flow of fluid from the inlet port through the exhaust ports. The valve element is moved from the one to the other position thereof by means of a wiper plug pumped by hydraulic control fluid through the hydraulic flowline into the valve body and valve element to plug the port in the valve element and force the valve element to its other position under the force of control fluid pressure. Suitable seals are provided in the valve body to seal off the particular ports and prevent fluid flow around the valve element. In this operation, the hydraulic control line is purged of contaminating fluid and hydraulic control fluid is, upon actuation of the purge valve, immediately diverted through the control port to the control system used to operate underwater apparatus.

3,512,555
ACCELERATION RESPONSIVE DEVICES
Asbjorn M. Severson, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,203
Int. Cl. G05d *13/06*
U.S. Cl. 137—45 8 Claims



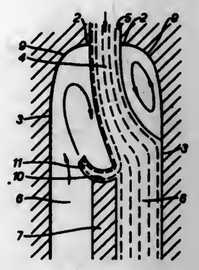
Acceleration sensing apparatus including a pivotally mounted Y shaped magnetic mass. A pair of magnets mounted in fixed positions adjacent to two extremities of the mass normally maintain the mass in a set position against one magnet, vibration in excess of a predetermined magnitude being effective to dislodge the mass, in which case it is held in a tripped position against the other magnet. The position of the mass controls a fluidic relay which produces a fluid signal effective, by means of a self reset mechanism, to automatically reset the mass after a predetermined lapse of time.

3,512,556
SELF-PROTECTIVE CONDUIT SYSTEM
Serge N. McKhann, 425 E. 63rd St., New York, N.Y. 10021
Filed Sept. 20, 1967, Ser. No. 669,038
Int. Cl. F16k *17/38*
U.S. Cl. 137—71 7 Claims



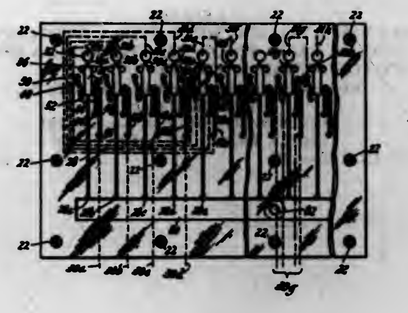
A self-protective, automatically closing conduit system is shown. A conduit for fluids or electrical transmission lines is surrounded by a mechanically rupturable jacket enclosing a fluid under pressure. The jacket acts as a shield to protect the conduit from mechanical damage. A pressure-responsive diaphragm in the jacket maintains a spring-biased conduit valve in an open position but upon rupture of the jacket the diaphragm collapses permitting the valve to close off the conduit from further flow. In a preferred embodiment the diaphragm contains a rupture disk.

3,512,557
FLUID SWITCHING DEVICES
John H. Brear, Newport, England, assignor to Serck R. & D. Limited, Warwickshire, England, a British company
Filed Jan. 20, 1967, Ser. No. 610,644
Claims priority, application Great Britain, Jan. 21, 1966, 2,856
Int. Cl. F15c *1/08, 4/00*
U.S. Cl. 137—81.5 4 Claims



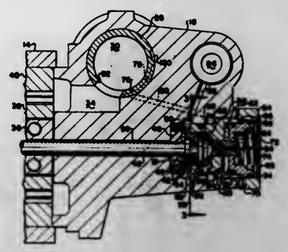
A bi-stable fluid switching device the geometry of which is modified to provide more efficient operation, by making the outside walls run parallel to the axis of the nozzle and rounding out the junctions between the outside walls and the end walls on either side of the nozzle.

3,512,558
FLUID CONTROL DEVICE
Robert F. O'Keefe, Trumbull, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Apr. 21, 1967, Ser. No. 632,619
Int. Cl. F15c *1/18, 5/00*
U.S. Cl. 137—81.5 5 Claims



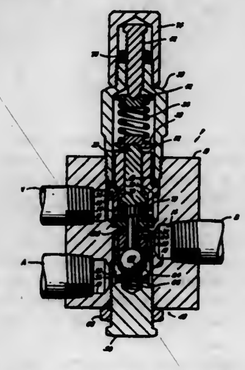
A substantially flat, laminar plate-like device having a plurality of identical fluid control elements formed therein and sealed from atmosphere except for main fluid inlet and outlet passageways and auxiliary control fluid inlet passageways, and having access means on one surface of the plate which communicate with all the passageways and which can be selectively interconnected to achieve a variety of fluid logic circuits between the air inlet and outlet passageways, the latter being utilized for control functions.

3,512,559
WATER PRESSURE REGULATING VALVE FOR ROCK DRILL
Arthur W. Wallace, Denver, Colo., assignor to Gardner-Denver Company, a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,325
Int. Cl. G05d *11/02*
U.S. Cl. 137—98 2 Claims



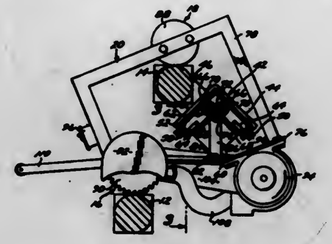
A valve for mounting on a rock drill to control the pressure of drill hole cleaning water, comprising a partitioned casing divided into a flow chamber and a pressure chamber. A valve element located in the flow chamber is operated to throttle the flow of water past a seat by a differential diameter actuating piston located in the pressure chamber and attached to the valve element by a stem extending through the casing partition. The actuating piston divide the pressure chamber into a first cavity in which motive air for operating the drill is admitted to act on one face of the piston to open the valve, and a second cavity in which water at the pressure downstream of the valve seat is admitted to act on the opposite piston face tending to close the valve. Due to the differential areas of the opposing piston faces, the valve element moves with respect to its seat whereby pressure of the water supplied to the drill hole is maintained at some value proportional to and preferably less than the drill motive air pressure.

3,512,560
RELIEF VALVE
Irvin B. Weise, Bellaire, Tex., assignor to Anderson, Greenwood & Co., Houston, Tex., a corporation of Texas
Continuation-in-part of application Ser. No. 482,465, Aug. 25, 1965. This application Feb. 19, 1968, Ser. No. 711,821
Int. Cl. F16k *17/10*
U.S. Cl. 137—102 9 Claims



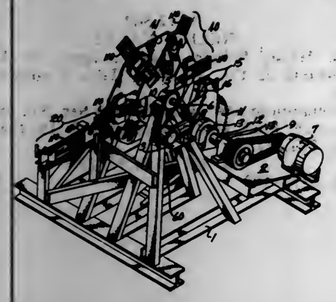
A pilot valve for controlling a pressure relief valve in which two inter-connected, resiliently loaded pressure responsive valve members control the flow between three ports and including external means for adjusting the amount of blowdown past one of said valve members by varying the positions of one of the valve seats with respect to the other.

3,512,561
COPYING LATHE
Jose Lopez Cortez, 9050 E. Jeff St., Bellflower, Calif. 90706
Filed Mar. 12, 1969, Ser. No. 813,398
Int. Cl. B23b *3/28*
U.S. Cl. 142—37 3 Claims



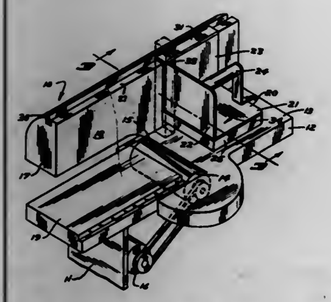
A copying lathe including means for mounting a template and a piece of stock on parallel axis, such means effecting rotation of the stock. A carriage mounted on a track for movement parallel to said axis and including a follower for tracing the template and a cutting tool for forming the rotating stock.

3,512,562
METHOD AND APPARATUS FOR MAKING SIMULATED HAND SPLIT SHAKES
Norman E. Norlander, Longview, and Robert A. Knowles, Tacoma, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Mar. 1, 1968, Ser. No. 709,657
Int. Cl. B27m 3/02
U.S. Cl. 144—13 9 Claims



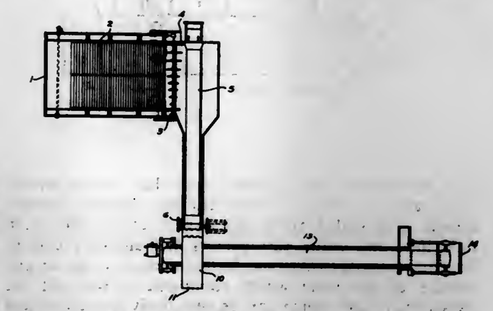
A method and apparatus for making natural split cedar shakes from pre-sawn wedge-shaped blanks by feeding the blanks one at a time to clamping positions located on the outer periphery of a rotatable, motor driven circular plate. The blanks are clamped so that the tapered end thereof extends outwardly from the clamps. The blanks, firmly held by the clamps, are then rotated through a power driven saw in line with the direction of the movement of the blanks where a kerf or slot is sawed partially therethrough. After leaving the saw, the blanks are rotated to a splitting position wherein a pneumatically driven splitter wedge also in line with the movement of the blank splits the wedge-shaped blank into two shakes, each having a smooth plane bottom face and an upper face having a smooth upper surface and a split grain lower surface. A cam assembly controls opening of the clamps to release the wedge-shaped blanks substantially simultaneously with the splitting operation and closing of the clamps at a predetermined feeding position.

3,512,563
ACCESSORY FOR JOINTERS
Ronald G. Sorensen, Rte. 2, Box 222, Long Lake, Minn. 48743
Filed Jan. 5, 1967, Ser. No. 607,469
Int. Cl. B27c 1/12, 5/06
U.S. Cl. 144—117 1 Claim



The disclosure herein deals with a work guide accessory for mounting on the upright guide fence conventional on present day rotary woodworking equipment such as jointers or jointer-planers and which will serve as a safety device, and will permit the jointing and tenoning of end grain of pieces of wood of small cross sections. The accessory is a member slidably mounted on and guided by the normal guide fence on a conventional jointer and which will move back and forth to permit passing a work piece across the rotary cutter in the jointer.

3,512,564
PROCESS AND MACHINE FOR CONDITIONING SUGAR CANE PRIOR TO THEIR PROCESSING IN THE SUGAR FACTORY
Roberto Henderson Kerhan, 309 10th St., Mariano, Cuba
Filed Nov. 16, 1967, Ser. No. 683,591
Int. Cl. B02c 18/00; A01d 55/00
U.S. Cl. 146—119 2 Claims



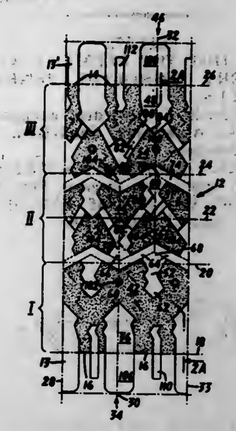
A system for processing of sugar cane in which the harvested cane is placed on a first conveyor and subjected to the action of a series of rigid arms on a cross shaft, deposited on a second conveyor moving at an accelerated rate relative to the first conveyor, cut, and thereafter cleaned by air separation.

3,512,565
SELF-RETAINING NUT STRUCTURE
Louis J. Zezza, Spring Valley, N.Y., assignor to United Nuclear Corporation, Elmsford, N.Y., a corporation of New York
Filed June 28, 1968, Ser. No. 741,094
Int. Cl. F16b 39/32
U.S. Cl. 151—28 2 Claims



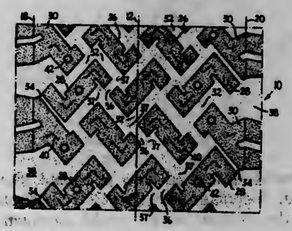
A nut having a closely coiled helical spring of the same internal diameter as the nut and axially secured thereto at one end so as to engage the threads of the bolt. The opposite end of the coil has a diametrical tang forming a locking element, and the bolt or other member on which the nut is threaded has a crosswise slot at its end for receiving the tang.

3,512,566
SNOW TIRE
Henri Verdier, Beauregard-l'Eveque, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed Dec. 18, 1967, Ser. No. 691,337
Claims priority, application France, Dec. 19, 1966, 88,045
Int. Cl. B60c 11/04
U.S. Cl. 152—209 10 Claims



A snow tire is provided with a tread characterized by (a) deep crosswise grooves, all substantially of the same length arranged in alternating rows so as to involve the entire width of the tread; (b) at least two deep lengthwise grooves each forming a broken line and joining the ends of the crosswise grooves and dividing the tread into three zones of substantially equal area; and (c) oblique grooves connecting adjacent ends of the crosswise grooves, the depths of the oblique grooves ranging from zero to the depth of the crosswise grooves and varying from zone to zone. The depth of the oblique grooves is at a maximum in the center zone, equal to or less than the center-zone depths in the inside zone, and at a minimum value or zero in the outside zone.

3,512,567
TREADS FOR SNOW TIRES
Henri Verdier, L'Eveque, France, assignor to Compagnie Generale des Etablissements Michelin raison socialle Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed Dec. 22, 1967, Ser. No. 692,790
Claims priority, application France, Jan. 2, 1967, 89,732
Int. Cl. B60c 11/08
U.S. Cl. 152—209 5 Claims



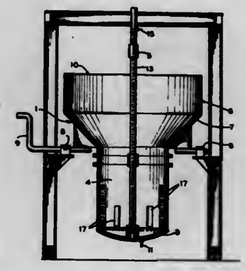
A radial-carcass snow tire has a tread formed at each edge with a plurality of upstanding edge vlocks. The edge blocks are arranged in pairs, the edge blocks of each pair being separated from each other by narrow grooves and from the edge blocks of adjacent pairs by wide grooves. The tread is formed between the edges with a plurality of upstanding center blocks, the center blocks being separated from one another by grooves of medium width. The grooves of medium width form portions of transverse zigzag grooves in one embodiment and longitudinal zigzag grooves in another embodiment. In both embodiments, the zigzag grooves are connected by grooves extending between opposed peaks of adjacent zigzags.

3,512,568
BREAKER STRIP FOR PNEUMATIC TIRES
Emile Jean Delobelle, Colombes, France, assignor to Pneumatiques Caoutchouc Manufacture et Plastiques Kleber-Colombes, Colombes, France, a French body corporate
Filed Oct. 26, 1967, Ser. No. 678,381
Int. Cl. B60c 9/18
U.S. Cl. 152—361 2 Claims



This invention relates to pneumatic tires of the kind that comprises a carcass with supple side walls and a breaker layer reinforcement that is constituted by superimposed layers of cables or wires having a substantially longitudinal direction and a highly rigid layer which is formed of at least two superimposed layers of cables or wires having substantially the same general transverse direction with respect to the equatorial plane of the tire. According to the invention a cushion of rubbery mixture is interposed between the breaker layer and the reinforcement to separate them and render them more independent in their respective functions. This cushion may be made of a mixture of average hardness or it may be in cellular form: alternatively, the mixture may be loaded with fibres.

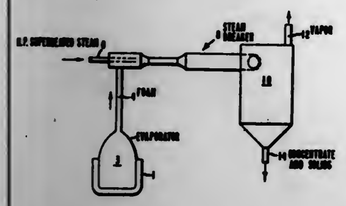
3,512,569
DETERGENT REACTOR
Chung Yu Shen, St. Louis, Mo., and Norman Earl Stahlheber, Columbia, Ill., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 26, 1968, Ser. No. 716,151
Int. Cl. B01d 1/14
U.S. Cl. 159—16 4 Claims



Apparatus useful in the production of solid detergent compositions comprising a reaction vessel having an expansion section and a mixing section and a means for in-

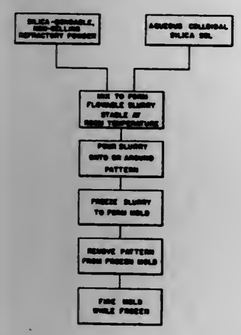
jecting a gaseous drying medium at the internal lower portion of said reaction vessel. Preferred embodiments include additionally (a) a means for pivotally mounting said vessel, (b) a means for pivoting said vessel at least about 90° from an upright position and (c) an agitator that permits said pivoting located inside said mixing chamber.

3,512,570
METHOD FOR THERMO-MECHANICALLY BREAKING POLYMER DISPERSION FOAM AND SEPARATING THE RESULTING LIQUID-VAPOR DISPERSION PHASES
Kay Dewain Ess, Bridge City, and Donald James Ryan, Orange, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Delaware, a corporation of Delaware
Filed June 15, 1967, Ser. No. 646,309
Int. Cl. B01d 1/14
U.S. Cl. 159—48 6 Claims



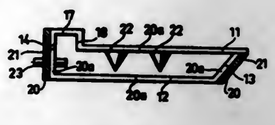
A solids-bearing liquid phase can be concentrated and recovered from a solids-containing liquid gas foam and a jet of super-heated steam through the constricted portion of a Venturi-type tube and allowing the velocity of the steam and foam mixture to be slowed from above 100 ft./sec. in the constricted portion of the tube to less than 75 ft./sec. in the larger portion of the tube. The velocity let-down breaks the foam and the super-heated steam vaporizes liquid from the liquid dispersion phase which results in concentration of the liquid phase.

3,512,571
CRYOGENIC FORMATION OF REFRACTORY MOLDS AND OTHER FOUNDRY ARTICLES
Edwin H. Phelps, Birmingham, Ala., assignor to American Cast Iron Pipe Company, Birmingham, Ala., a corporation of Georgia
Filed Apr. 12, 1968, Ser. No. 720,946
Int. Cl. B22c 1/00
U.S. Cl. 164—37 11 Claims



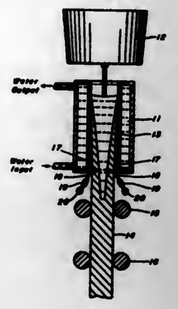
A simple, rapid method of forming investment molds and other refractory foundry articles comprises the step of freezing a slurry of freeze-sensitive aqueous colloidal silica sol and powdered refractory while in contact with a pattern. To form a ceramic shell, the slurry is frozen on the pattern to the desired thickness, after which the unfrozen portion may be poured off and reused. The frozen mold or other shape may be fired immediately, without thawing or drying. Refractory articles formed by this method are highly resistant to thermal shock, and provide excellent reproducible detail and dimensional accuracy, with thicknesses ranging from ⅛ inch to several inches.

3,512,572
FORMING A HOT TOP ELEMENT BY FORCING SLURRY THROUGH PENETRABLE MOLD WALLS
Daniel Fredrik Ednell, Ed, Sweden, assignor to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden
Filed Feb. 17, 1966, Ser. No. 528,256
Claims priority, application Sweden, Feb. 19, 1965, 2,147/65; May 24, 1965, 6,731/65
Int. Cl. B22c 1/00
U.S. Cl. 164—41 5 Claims



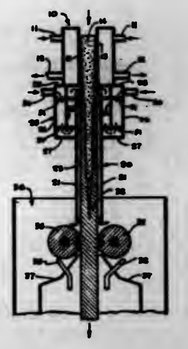
A hot top for a casting mold is prepared by filling the interior space of a special mold form, having spaced apart walls penetrable by liquid, with a flowable slurry of fine-grained refractory material including a minor amount of an organic binder material in a liquid. Two opposed mold form walls are permeable to the liquid and such liquid is drawn through the permeable walls either by suction or pressure in order to manufacture a hollow hot top wall.

3,512,573
METHOD OF CONTINUOUSLY CASTING METAL USING CARBON DIOXIDE FOR COOLING
Louis M. Herff, Ross Township, Allegheny, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Dec. 21, 1967, Ser. No. 692,558
Int. Cl. B22d 11/12
U.S. Cl. 164—82 1 Claim



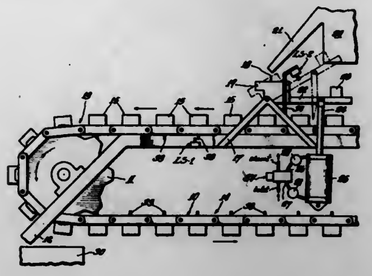
Molten metal is teemed into a cooled, flow-through, tubular mold. A coolant gas (e.g., CO_2) is discharged into the gap at the bottom of the mold, between the walls thereof and the casting, caused by shrinkage of the casting away from the walls, thus increasing the absorption of heat from the casting.

3,512,574
CONTINUOUS CASTING PROCESS AND APPARATUS
Harold L. Taylor, Hammond, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 2, 1966, Ser. No. 598,759
Int. Cl. B22d 11/12
U.S. Cl. 164—89 5 Claims



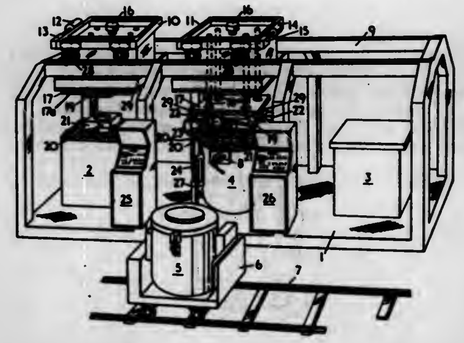
A method and apparatus for secondary cooling of a continuous casting as the casting is withdrawn from a continuous casting mold in which the entire surface of the casting is contacted within an enclosure with a narrow stream of cooling medium flowing in turbulent flow which withdraws heat from the casting at a flux density of at least 75 calories per square centimeter per second. The cooling medium for the secondary cooling can be provided by directly connecting the casting mold cooling chamber and the secondary cooling enclosure.

3,512,575
APPARATUS FOR MAKING METAL BODIES
Michael Bowden, Shaker Heights, James F. McMahon, Jr., Gates Mills, and Gerald H. Krenke, Warren, Ohio, assignors to The Bradley Metal Company, Cleveland, Ohio
Filed Dec. 27, 1965, Ser. No. 516,311
Int. Cl. B22c 19/04
U.S. Cl. 164—157 2 Claims



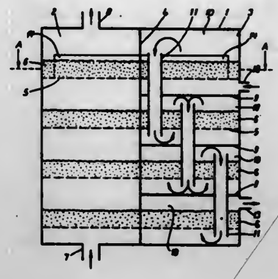
Apparatus for continuous molding of uniform metal bodies of truncated pyramidal shape by pouring molten metal into the recess of a plurality of molds which successively pass in a predetermined path beneath a tiltable pouring ladle, and precisely controlling the pouring operation; to insure that a mold recess is beneath the ladle; to regulate the size of the bodies; and to prevent undesirable flashing from forming on the bodies.

3,512,576
DIECASTING MACHINES
Alan Walter Pinnes and Kenneth Francis Faulkner, Ruislip, England, assignors to Hestlock Limited, Ruislip, England, a British company
Filed Nov. 13, 1967, Ser. No. 682,180
Int. Cl. B22d 17/12
U.S. Cl. 164—323 5 Claims



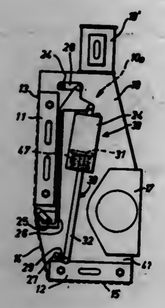
A die-casting machine in which overhead carriages are used to transport upper platens with lower platens clamped thereto between a furnace and a support table, with the platens having therebetween a mold into which molten metal may be introduced when the plates are positioned at the furnace, and the plates are separable when the lower platen rests on its support table to permit setting up of a further mold while another mold associated with another carriage is being used for casting at the furnace.

3,512,577
METHOD AND APPARATUS FOR INTERGAS HEAT EXCHANGE
Bronislav Stefan Javorsky, Huddinge, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Filed Dec. 11, 1968, Ser. No. 782,828
Claims priority, application Sweden, Dec. 13, 1967, 17,103/67
Int. Cl. F28d 13/00
U.S. Cl. 165—1 6 Claims



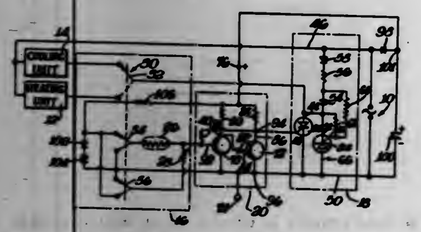
The heat transfer is effected in at least two steps in each of which the two gases are led through respective fluidized beds of solid particles while maintaining the beds in heat-transferring contact with a thermally conductive wall separating the two beds from each other. One of the gases is led through the first step and then through the second step while the other gas is led through the second step and then through the first step.

3,512,578
AIR CONDITIONER
Winfried Hommann, Stuttgart-Feuerbach, Germany, assignor to LTG Luftfechnisch Gesellschaft mit beschraenkter Haftung, Stuttgart, Germany
Filed July 19, 1968, Ser. No. 746,122
Claims priority, application Germany, Aug. 24, 1967, L 57,290
Int. Cl. F25b 29/00
U.S. Cl. 165—26 19 Claims



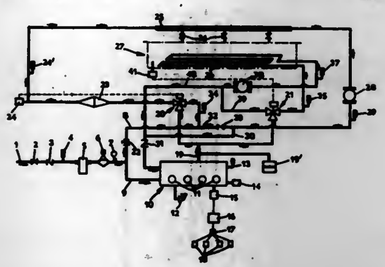
An air conditioner comprises a housing which defines an internal chamber having at least two inlets and an outlet for air. One cooling device is located in the path of air entering through one of the inlets and one heating device is located in the path of air entering through the other of the inlets. First and second throttling means are respectively associated with the inlets and operative for permitting and preventing airflow through the respective inlets. Operating means includes a first and a second component which are shiftable relative to each other and associated with the throttling means in such a way that shifting of each component controls movement of one of the throttling means between the open and closed positions thereof while maintaining the upper throttling means in a position corresponding to that towards which the one throttling means is being moved.

3,512,579
DUAL CONTROL THERMOSTAT
Nicholas G. Muskovac, Rockville, Md., assignor to Vectrol, Inc., Rockville, Md., a corporation of Maryland
Filed Oct. 8, 1968, Ser. No. 765,843
Int. Cl. F25b 29/00
U.S. Cl. 165—26 10 Claims



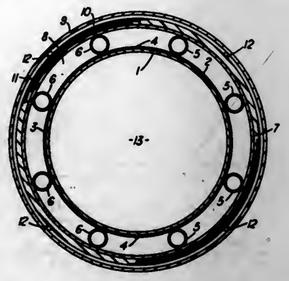
A branch selecting means couples either a heating or cooling unit to a control rectifier circuit, and the units are fired in accordance with temperature by rectifier conduction which is controlled by a thermally-responsive impedance.

3,512,580
DEVICE FOR PROVIDING HEAT-CONVEYING FLUID
Rene Alexandre Vincent Kyroudis, 3 Allee de la Rochefoucauld-Clichy-sous-Bois, Seine St. Denis France
Filed Sept. 21, 1967, Ser. No. 669,525
Claims priority, application France, Sept. 30, 1966, 78,319
Int. Cl. G03d 3/06; G05d 23/13
U.S. Cl. 165—36 10 Claims



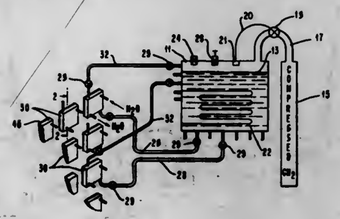
This invention relates to a device for supplying heat-carrying fluid to an installation, such as a film washing apparatus, comprising heating means and fluid-drawing means to be respectively supplied with a fluid at a constant and adjustable temperature. Warm fluid is fed to said means by a common heat generator through respective fluid circuits, each of which includes a mixing valve operative to admix the warm fluid supplied by said generator with relatively cooler fluid derived from the return-to-generator conduit and/or supplied by an external source. Said generator and said valves are controlled by respective temperature regulating means.

3,512,581
CRYOGENIC DEVICES
John E. Lawton, Ealing, London, England, assignor to British Insulated Callender's Cables Limited, London, England, and Central Electricity Generating Board, London, England
Filed July 2, 1968, Ser. No. 741,932
Claims priority, application Great Britain, July 3, 1967, 30,606/67
Int. Cl. F28d 21/00; H01b 7/34
U.S. Cl. 165—81 31 Claims



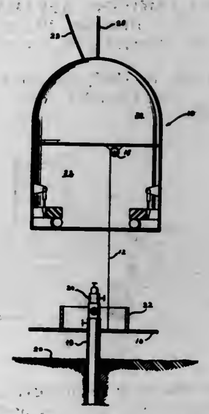
A heat shield for cryogenic apparatus comprises inner and outer walls defining an annular space adapted to be evacuated and spaced apart by a number of longitudinal ducts for a cryogenic fluid distributed in spaced relationship around the annular space. At least one of the walls of the heat shield comprises a metal tube longitudinally divided into at least two parts which are thermally insulated from each other and are each supported partly by at least one of the ducts, to which it is attached, and partly by a body of heat insulating material, which preferably takes the form of a supporting tube lying in contact with that surface of the divided tube opposite to that which is attached to the ducts. Preferably the parts of the longitudinally divided metal tube are thermally insulated from each other by narrow longitudinal gaps maintained between their adjacent edges, for example by protuberances on the supporting tube of heat insulating material.

3,512,582
IMMERSION COOLING SYSTEM FOR MODULARLY PACKAGED COMPONENTS
Richard C. Chu, Un-Pah Hwang, and John H. Seely, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 15, 1968, Ser. No. 744,862
Int. Cl. F28d 15/00; H01l 1/12
U.S. Cl. 165—105 7 Claims



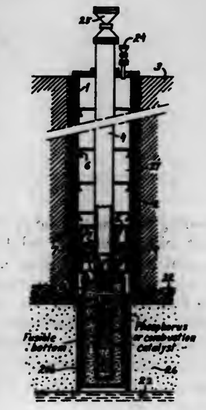
A vessel containing a low-boiling-point liquid has a plurality of modular units connected thereto so that the auxiliary cooling chamber included in each modular unit is filled with the low-boiling-point liquid. Each auxiliary chamber contains heat generating components which are cooled by the low-boiling-point liquid in which nucleate boiling takes place. A separate heat exchanger located in each auxiliary chamber removes the heat from the low-boiling-point liquid. The vessel provides the common venting, degassing and pressure for the individual cooling chambers.

3,512,583
SERVICE CHAMBER FOR UNDERWATER WELL
Theodore K. James, Norman, Okla., assignor, by mesne assignments, to Transworld Drilling Company, a corporation of Delaware
Filed Feb. 28, 1968, Ser. No. 708,982
Int. Cl. E21b 33/035; B63c 11/00
U.S. Cl. 166—.5 9 Claims



A chamber which provides working access to an underwater well so that workmen can perform well servicing operations on wells which are completed underwater while working in atmospheric conditions. The apparatus comprises a base plate and a working chamber which can be lowered to the base and joined thereto to form a watertight working area about a wellhead. A seal comprising an elastomeric member adapted to be forced into sealing engagement around an upper conduit section extending from the base is provided.

3,512,584
APPARATUS FOR OBTAINING BITUMENS FROM UNDERGROUND DEPOSITS
Hans Lange, Wietze, Germany, assignor to Deutsche Erdoel-Aktiengesellschaft, Hamburg, Germany
Original application Aug. 4, 1967, Ser. No. 658,522. Divided and this application Jan. 6, 1969, Ser. No. 810,057
Claims priority, application Germany, Aug. 12, 1966, D 50,833
Int. Cl. E21b 43/24
U.S. Cl. 166—57 1 Claim



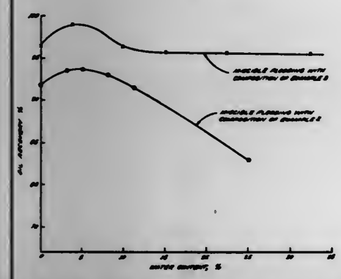
An apparatus for recovering bitumens from underground deposits having a casing for insertion in a borehole, a packer positioned in the casing intermediate the ends, a tubing having a footing extending through the packer, a ball check valve in the footing maintained in closed position by a compression spring, a cage filled with coarse particulate material positioned in the lower end of the casing below the footing, a vessel positioned in the cage having means for igniting, and a second tubing extending through the packer into the cage which permits the introduction of a pressure gauge.

3,512,585
METHOD OF RECOVERING HYDROCARBONS BY IN SITU VAPORIZATION OF CONNATE WATER
Joseph C. Allen, Bellaire, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 8, 1968, Ser. No. 753,840
Int. Cl. E21b 43/24
U.S. Cl. 166—245 7 Claims

A method of recovering hydrocarbon materials from a subterranean hydrocarbon-bearing formation wherein the in situ vaporization of the connate water contained in the formation provides a mechanism for displacing the hydrocarbons contained therein. A heated non-aqueous fluid is introduced via an injection well into the formation at a temperature sufficient to cause vaporization of

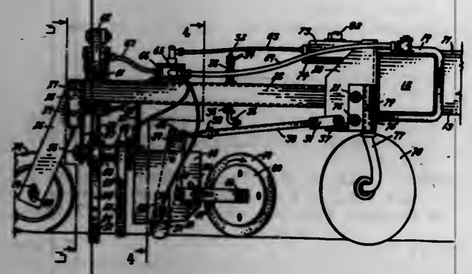
the water in the formation thereby causing a volumetric expansion which permits recovery of the hydrocarbons via an adjacent production well. A heated non-aqueous fluid may then be injected into the production well to vaporize the water in the formation and permit recovery of hydrocarbons via the original injection well.

3,512,586
MISCIBLE FLOODING PROCESS USING A SOLUBLE OIL CONTAINING AN OPTIMUM AMOUNT OF WATER
Le Roy W. Holm, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Mar. 15, 1968, Ser. No. 713,498
Int. Cl. E21b *43/16*
U.S. Cl. 166—273 7 Claims



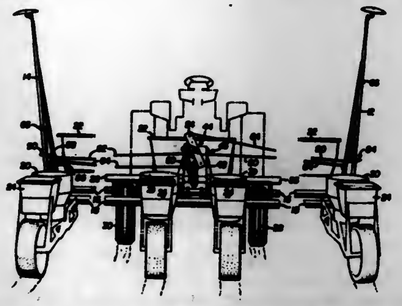
A miscible flooding process for the recovery of oil from subterranean reservoirs in which a soluble oil containing an optimum amount of water is injected into the reservoir through an injection well, and thereafter an aqueous flooding agent is injected to drive the miscible displacement fluid towards a spaced production well. Preferred miscible displacement fluids are microemulsions of the water-in-oil type containing an amount of water, between about 1 to 9 percent, that results in the recovery of a maximum amount of oil.

3,512,587
PHOTOELECTRICALLY CONTROLLED PLANT THINNERS
Benjamin A. Shader, Denver, Colo., assignor to The Evermann Mfg. Company, Denver, Colo.
Filed Oct. 9, 1967, Ser. No. 673,598
Int. Cl. A10b *41/06*
U.S. Cl. 172—57 4 Claims



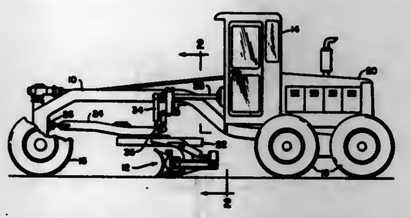
A plurality of similar photoelectrically-controlled, pneumatically-actuated, plant-row-thinning assemblies adjustably mounted in side-by-side relation on a transverse tool bar, each assembly having two integrally-connected, pendulously-suspended, relatively narrow, arcuate, root-cutting knives positioned upon opposite sides of a plant row in axially spaced relation so as to be photoelectrically actuated, as they move along said row, to simultaneously swing both knives laterally of the row so that when one knife exits from the row the other knife will simultaneously enter the row forwardly of the point of exit of the first knife to leave standing plants between the successive axial root-cutting paths of said knives.

3,512,588
ROW MARKER ASSEMBLY
Wesley J. Cagle, Huntsville, Ala., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Jan. 31, 1968, Ser. No. 705,881
Int. Cl. A01b *35/32*
U.S. Cl. 172—130 12 Claims



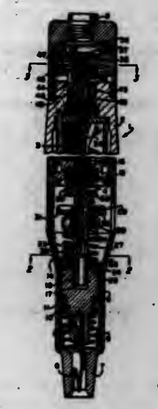
A marker mechanism for an implement capable of being raised and lowered by hydraulic means, the mechanism including marker arms pivotally connected to the implement, reel means connected to the frame and to the hydraulic means, and cable means connected to the marker arms and to the reel means for raising the arms as the implement is raised. The mechanism also includes latch means on the marker arms for holding the arms in a raised position, and trip means for lowering the arms as the implement is lowered. The marker assembly includes an alternating arrangement to lower one or the other of the arms in one aspect of the invention whereby provision is made for automatic marker operation.

3,512,589
EARTH MOVING APPARATUS
Raymond M. Ulrich, Roanoke, Ill., assignor to Ulrich Foundation, Inc., Roanoke, Ill., a corporation of Delaware
Filed Feb. 16, 1967, Ser. No. 616,560
Int. Cl. E02f *3/76*
U.S. Cl. 172—786 12 Claims



This invention relates to earth moving and/or grading apparatus and particularly to a new and novel construction of moldboard which includes a sectionalized blade and structure by which the same may be set to assume any one of a number of possible working positions.

3,512,590
AUTOMATIC THROTTLE TORQUE-RESPONSIVE POWER TOOL
David W. Tibbott, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed June 12, 1968, Ser. No. 736,343
Int. Cl. B25b *23/14*
U.S. Cl. 173—12 14 Claims



A fluid-operated rotary power tool having a motor supply valve seat which is moved into engagement with the valve in response to a clutch reaching a predetermined torque load, thereby closing the valve and stopping the motor. The movable valve seat is normally latched against movement and the torque responsive clutch releases the latch upon reaching the predetermined torque.

3,512,591
CONTROL FOR TORQUE PRODUCING TOOL
Melvin L. Kalman, deceased, late of Sayre, Pa., by Dorothy E. Kalman, administratrix, Sayre, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 5, 1968, Ser. No. 772,058
Int. Cl. B23d *5/06*; E21c *5/16*; E01c *21/12*
U.S. Cl. 173—12 4 Claims



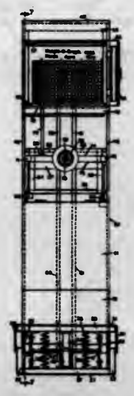
Control device for a fluid-operated rotary torque producing tool including two valves movable when the tool is applied to the work to permit pressure fluid to operate the motor of the tool. When a predetermined torque is reached, the torque sensing means of the tool causes one valve to stop the motor although the tool is still applied to the work.

3,512,592
OFFSHORE DRILLING METHOD AND APPARATUS
Jackson M. Kellner, Houston, Tex., assignor to Esso Production Research Company, a corporation of Delaware
Filed Mar. 14, 1968, Ser. No. 712,973
Int. Cl. E21b *7/12*; E21c *9/00*
U.S. Cl. 175—5 6 Claims



A method for coring unconsolidated subsurface formations from a floating drilling vessel wherein the upper portion of the drill string moves in response to vertical motion of the vessel and the lower portion is held in a fixed vertical position as the string is rotated. The apparatus employed generally includes a drill string containing an anchor member which permits rotation of the drill string but prevents vertical movement of the string below it, a slip joint in the drill pipe above the anchor member, and a rubber sleeve core barrel or similar device attached to the lower end of the drill string.

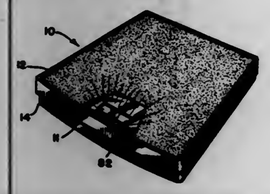
3,512,593
PERSONAL WEIGHT RECORDERS
John H. Edmondson, 6333 S. Kimbark Ave., Chicago, Ill. 60637
Filed May 20, 1968, Ser. No. 730,332
Int. Cl. G01g *19/40, 23/18*
U.S. Cl. 177—5 8 Claims



A personal weight recorder for producing a record of day to day weights of a person using such recorder; including provision for producing such day to day record

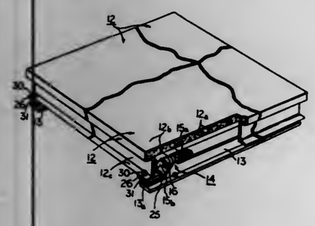
over a substantial interval of time such as three months, with provision for simple and ready removal of the record sheet at completion of such time interval, and substitution of a fresh record sheet, and re-setting of the recording stylus to its starting position. The record is produced and is located at position for convenient direct reading by the person standing on the weigh platform. Provision is made for advancing the recording stylus one day spacing along the record sheet at a time, whether or not a record is made for one or more days, thus ensuring that each record produced on the sheet, will be located at the correct daily recording position, as identified by marking on the sheet.

3,512,594
BATHROOM SCALE
Gerald M. Grusin, 400 W. Deming Place 60614, and James E. Logas, 6812 N. Ashland Ave. 60626, both of Chicago, Ill.
Filed Mar. 15, 1968, Ser. No. 713,361
Int. Cl. G01g 23/32
U.S. Cl. 177—178 17 Claims



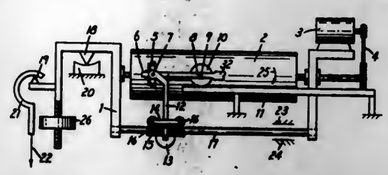
A bathroom scale which includes a projected dial indicator system that is constructed using, in most cases, standard components that are readily available on the open market. The dial read-out is in the form of numerals, and each pound weight is numerically indicated. The dial indicia is magnified and projected as large, legible numerals onto a projection screen which, in a preferred embodiment of the invention, is mounted flush with the top surface of the scale's platform. The projected dial system of the bathroom scale, furthermore, is adapted to be activated by means of a push-button switch so that the dial can be readjusted to zero setting, without influencing the operation of the weight mechanism.

3,512,595
SUSPENSION-TYPE STRAIN GAGE TRANSDUCER STRUCTURE
Eric Laimins, Belmont, Mass., assignor to BLH Electronics, Inc., Waltham, Mass., a corporation of Delaware
Filed Sept. 27, 1967, Ser. No. 670,945
Int. Cl. G01g 21/10
U.S. Cl. 177—187 13 Claims



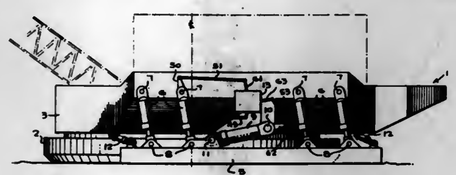
A substantially rigid broad-area platform to which loading is applied for precision weighing purposes is stably suspended in relation to its supports wholly by way of a plurality of cooperating beam-type electrical strain gage transducer elements having flexural end connections which uniquely isolate the transducer elements from forces other than those of the intended measurements and promote exceptionally linear transducer characteristics which lead to improved weighing accuracy despite variations in operating conditions.

3,512,596
SELF-REBALANCING WEIGHING APPARATUS
Werner Haack, Chur, Switzerland, assignor to Howe Richardson Scale Company, Clifton, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 525,510, Feb. 7, 1966. This application May 22, 1969, Ser. No. 826,996
Claims priority, application Germany, Feb. 13, 1965, H 55,154
Int. Cl. G01g 7/00, 11/14, 23/10
U.S. Cl. 177—213 19 Claims



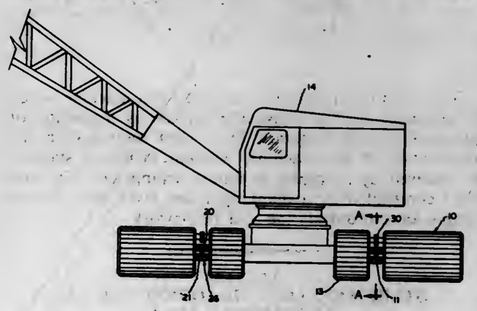
A weighing apparatus comprising a load-supporting, pivotally mounted weigh beam structure rotatably carrying a continuously driven member which frictionally engages a friction wheel to impart rotation thereto. The friction wheel is supported for longitudinal movement on a fixed guide rail so that when the beam structure is pivoted away from its balanced position, the rotational axis of the driven member inclines relative to that of the friction wheel with the result that a force component, which is derived from the inclined frictional rotative interengagement between the driven member and the friction wheel, displaces the friction wheel longitudinally along its axis and the roller periphery. A counter-weight operatively connected to the friction wheel is moved in a beam-balanced direction along the beam structure as the wheel is longitudinally displaced by the inclination of the driven member.

3,512,597
WALKING MECHANISM AND CONTROL THEREFOR
George B. Baron, Marion, Ohio, assignor to Marion Power Shovel Company, Inc., Marion, Ohio, a corporation of Delaware
Filed Jan. 17, 1968, Ser. No. 698,590
Int. Cl. B62d 57/02
U.S. Cl. 180—8 13 Claims



A walking mechanism for heavy equipment having fluid cylinder operated platforms at each side of the equipment base to support the major portion of the equipment weight and slide the base forward in a series of steps, between which the platforms are raised and moved forward. The fluid cylinder systems on opposite sides of the equipment comprise lift cylinders and pull cylinders operated by independent fluid systems having means for interconnection until a predetermined amount of the equipment weight is equally supported on the platforms, whereupon the interconnection is blocked and the systems operate separately. The resultant force vector of the lift and pull cylinders on each side is determined and maintained by an adjustable control which has members to simulate the forces and movements of the lift and pull cylinders joined by a floating pivot to a vector control lever which opposes movement of the floating pivot along the longitudinal axis of the lever. Movement of the pivot in other directions operates a valve control for the fluid system to maintain the desired force vector.

3,512,598
TRACK EXTENSION MEANS
Lynn Shatoska, Troy Shatoska, and Ronald W. Shatoska, all of 5 Sun St., Morgan City, La. 70380
Filed Mar. 14, 1968, Ser. No. 713,175
Int. Cl. B62d 55/00
U.S. Cl. 180—9.48 1 Claim



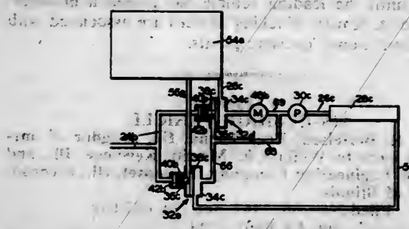
The present invention pertains to novel track extension means for use with machines supported directly on wheels which in turn rest upon continuous linked tracks or Caterpillar drive chains. More particularly, the present invention relates to track extension means for use with vehicles having a continuous linked track system to which the present track means are operably connected whereby the vehicle is supported over a larger base area.

3,512,599
ENGINE DRIVEN SCOOTER
Ion V. K. Hott and Robert J. Haddix, Dayton, Ohio, assignors to The Joyce-Cridland Company, Dayton, Ohio
Filed Dec. 21, 1967, Ser. No. 692,411
Int. Cl. B62d 3/00
U.S. Cl. 180—27 18 Claims



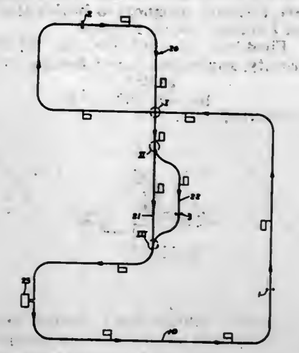
Scooter with drive engine having a differential between the engine and the rear wheels and a brake for braking the differential or its input member and a centrifugal clutch between the engine and the input member of the differential.

3,512,600
FUEL MEASURING SYSTEM FOR VEHICLES
Earl C. Adams, Beaverton, Oreg., assignor to Systems Corporation, Portland, Oreg., a corporation of Oregon
Continuation of application Ser. No. 536,048, Mar. 21, 1966. This application May 8, 1968, Ser. No. 733,210
Int. Cl. B60k 15/02
U.S. Cl. 180—77 6 Claims



A bypass fuel line is connected to the main fuel line of a vehicle for measuring fuel which is used by the engine in off-highway positions or other conditions where the fuel used is non-taxable. A valve is employed and is operated by means which regulate operation of the vehicle in off-highway positions, such as by the emergency brake or a power take-off. Embodiments of the invention employ fuel return lines between the fuel mixing device of the engine and a fuel tank. In further embodiments means are provided for measuring the flow of fuel consumed by the fuel mixing device when the vehicle is in an off-highway position.

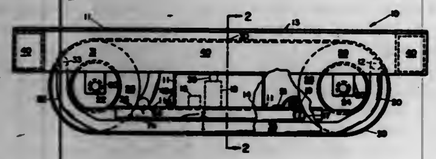
3,512,601
AUTOMATIC GUIDANCE SYSTEM FOR VEHICLES
Kenneth A. Wilson, Locust Valley, N.Y., assignor, by mesne assignments, to American Chain & Cable Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 2, 1967, Ser. No. 680,182
Int. Cl. B62d 5/04
U.S. Cl. 180—98 33 Claims



The guidance system disclosed herein comprises a guide path to be followed by the vehicle which is defined by a conductor or wire embedded in the floor. The conductor is connected to produce a single closed circuit energized by a constant current oscillator. The vehicle includes sensor means which senses the energized conductor and guides the vehicle along the path. The path may contain various decision points such as points at which portions of the conductor are brought into close proximity so that the vehicle must decide which path to follow, such as points where the paths intersect, diverge or converge. The guide path includes separately energizable portions at such

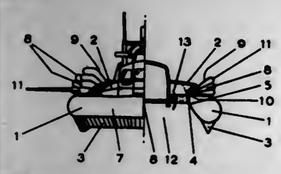
decision points which are selectively energized upon signal from the vehicle so that only that portion is energized which lies along the direction in which it is desired that the vehicle travel. Where a plurality of vehicles are provided, provision is made for causing a leading vehicle to energize a holding loop at a point behind the leading vehicle which produces a signal that is received by a succeeding vehicle and causes the succeeding vehicle to be stopped until the leading vehicle has passed a predetermined point. Similar blocking devices are associated with the aforementioned decision points.

3,512,602
AIR-CUSHION VEHICLE
William R. Bertelsen, Rock Island, Ill., assignor of one-fourth each to William E. Martin, Kewanee, Ill., and Martin Engineering Company, Neponset, Ill., a corporation of Illinois
Filed Nov. 30, 1967, Ser. No. 687,010
Int. Cl. B60v 1/00, 1/06
U.S. Cl. 180—115 17 Claims



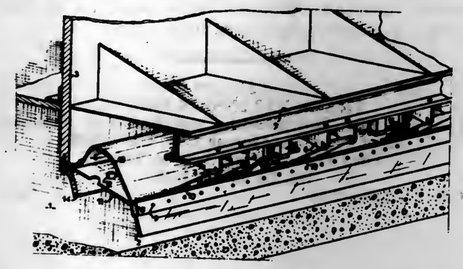
Improved crawler track, end and side seal apparatus for improving the pressurization characteristics of the base of an air-cushion vehicle. Said apparatus including full width rolling elements, ground engaging crawler track and inflatable side sealing means disposed between the rollers and tracks. Further disclosed is a vehicle wherein its weight is distributed over a maximum area for maximum flotation or traction.

3,512,603
FLEXIBLE HULLS
Peter Rowland Crewe and Michael Ivan Manning, Yeovil, Somerset, England, assignors to British Hovercraft Corporation Limited, Yeovil, England
Filed May 21, 1968, Ser. No. 730,857
Claims priority, application Great Britain, June 22, 1967, 28,955/67
Int. Cl. B60v 1/16
U.S. Cl. 180—127 17 Claims



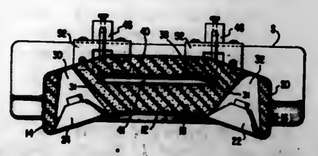
An air cushion vehicle has a flexible skirt assembly forming at least part of the cushion barrier. The skirt assembly includes an upper, inflatable flexible chamber and depending therefrom a plurality of juxtaposed discrete flexible segments. The skirt assembly has characteristics such that it has sufficient strength to withstand the outward forces generated by the cushion pressure, and vibration is reduced. These characteristics are achieved by maintaining a predetermined relationship between the height of the skirt assembly and the distance between its inner and outer attachment lines, by maintaining a predetermined relationship between the pressure in the flexible chamber and the pressure in the cushion, and through the provision of selectively variable volume accumulators in communication with the flexible chamber.

3,512,604
FLUID CUSHION SKIRT ARRANGEMENTS FOR GROUND-EFFECT MACHINES
François L. Giraud, Plaisir, France, assignor to Societe de l'Aerotrain, Paris, France, a French company
Filed June 27, 1968, Ser. No. 740,656
Claims priority, application France, Sept. 15, 1967, 121,215; June 19, 1968, 155,690
Int. Cl. B60v 1/16
U.S. Cl. 180—127 9 Claims



This invention relates to a ground-effect machine which is supported over a supporting surface by a cushion of pressurised fluid contained by a skirt mounted on the framework of the machine, wherein increased stability is achieved by a special mounting arrangement for said skirt constituted by a diaphragm and lever arms having hinges located outside the said framework.

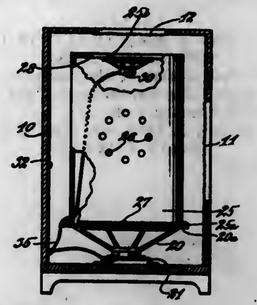
3,512,605
STEREO SPEAKER HEADREST FOR AN AUTOMOBILE SEAT
David D. McCorkle, 26440 Westphal Drive, Dearborn Heights, Mich. 48127
Filed Aug. 31, 1967, Ser. No. 664,699
Int. Cl. H04r 5/02; H04m 1/11; A47c 7/72
U.S. Cl. 181—31 2 Claims



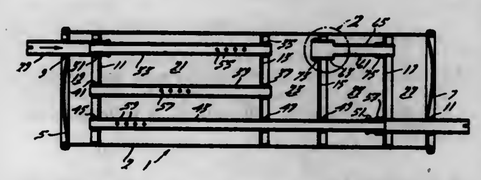
A padded headrest which has forwardly extending side wing portions, each of which carries a speaker of an audio reproduction system. The headrest may be integral with a seat or separate therefrom, or mounted on brackets. Additional speakers in the headrest may face rearwardly. This unique conception is a combination sound system and safety device designed to be attached to a stationary, reclining or moving instrument, e.g., theater seat, reclining chair, automobile seat, airplane, bus, etc.

3,512,606
AUDIO SPEAKER INSTALLATIONS
Samuel C. Anastin, 6723 N. Dover St., Chicago, Ill. 60640
Filed Feb. 5, 1969, Ser. No. 796,711
Int. Cl. G01k 13/00; H04r 7/00
U.S. Cl. 181—31 9 Claims

A speaker console having a grilled opening in the top and one in front. The walls of the console have a lining of paper substance treated with an oil for softening console vibrations. A low-frequency cone-type speaker is mounted on and directed upwardly from the bottom of the console; and a tone-chamber of inverted-cup shape is mounted on the speaker. The tone chamber rises into the top of the console and has rim attached to that of the speaker. The top of the tone chamber has a large opening containing a screen; and a high-frequency speaker is attached with its mouth to the underside of the screen. The speakers receive suitable wiring from an instrument (not shown).

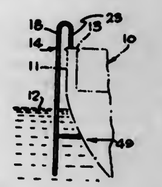


3,512,607
CO-AXIAL TUNING TUBES FOR MUFFLER
Franklin R. Hubbell III, Brooklyn, Mich., assignor, by mesne assignments, to Tenneco Inc., Houston, Tex., a corporation of Delaware
Filed July 18, 1969, Ser. No. 842,862
Int. Cl. F01n 1/02, 7/00
U.S. Cl. 181—48 2 Claims



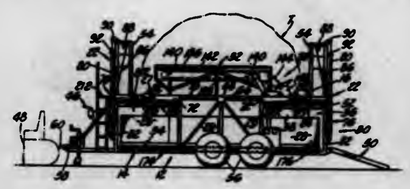
A tuning tube for an internal combustion engine exhaust muffler or the like is formed of a one-piece tubular member that is reduced in diameter and has an opening at the plane of diameter reduction so that this opening along with the openings at each end of the tube enable it to be used in conjunction with two different volumes or chambers to attenuate two different predetermined frequencies.

3,512,608
LADDER STRUCTURE
Loren Clifford Huntley, 8238 Colabar Ave., Playa Del Rey, Calif. 90291
Filed May 6, 1968, Ser. No. 726,754
Int. Cl. E06c 1/36
U.S. Cl. 182—93 11 Claims



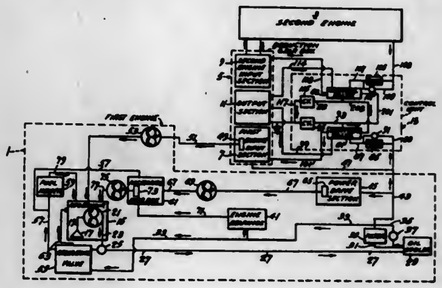
A ladder for climbing upwardly at the side of a boat or the like, and having an upper portion adapted to be hooked over the edge of the boat and forming two spaced grab rails, with a vertical post extending downwardly from and suspended by the upper portion of the ladder and having steps projecting in opposite directions from the post. The two grab rails are desirably of inverted U-shaped configuration, having first ends detachably connectible to the boat, and having second ends interconnected by a cross piece forming an additional step, from the center of which the mentioned post is suspended. The ladder is connected to the boat by brackets to which the ladder is connectible by movement horizontally relative to the brackets.

3,512,609
TREE FRUIT HARVESTING PLATFORM
John M. Ross, Upland, Calif., assignor to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Filed June 9, 1967, Ser. No. 644,914
Int. Cl. B60p 1/36
U.S. Cl. 182—129 16 Claims



A mobile tree fruit harvesting platform moveable to a harvesting position adjacent each tree containing fruit to be harvested, the platform including an elevated harvesting station having a main deck and a number of horizontally hinged laterally extendable and retractible wing decks for supporting workers in harvesting position relative to an adjacent fruit tree, an upper longitudinally extending conveyor on the main deck for receiving picked fruit from the workers and transporting the fruit toward one end of the main deck, a lower fruit loading level having a loading station located below the latter end of the main deck and conveyor means for transporting fruit receiving bins in succession through the station, and a transfer conveyor extending between the upper and lower levels for transferring fruit without crushing or bruising from the outfeed end of the upper conveyor into a bin situated at the loading station.

3,512,610
LUBRICATION SYSTEM FOR COUPLED ENGINES
Derek Hollingworth, Ville Brossard, Quebec, Canada, assignor to United Aircraft of Canada Limited, Longueuil, Quebec, Canada
Filed Dec. 2, 1968, Ser. No. 780,490
Int. Cl. F01m 1/12; F16n 7/14; F01b 21/00
U.S. Cl. 184—6 11 Claims



Two lubrication systems for an engine system having two engines coupled together by a reduction gearbox to a single output shaft. Each lubrication system

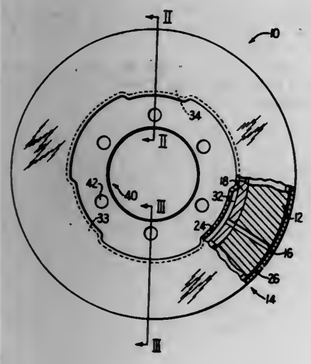
lubricates one engine and the input portion of the gearbox and is selectively connected to lubricate the output portion of the gearbox. A control unit in each system selectively connects it to the output portion of the gearbox.

3,512,611
DEVICE FOR LUBRICATING THE STRANDING CORE IN A FAST STRANDING MACHINE
Werner Heinz Hulak, Rheinberg, Germany, assignor to Fried. Krupp Gesellschaft mit beschrankter Haftung, Essen, Germany
Filed Apr. 10, 1968, Ser. No. 720,109
Claims priority, application Germany, Apr. 11, 1967, 1,685,827
Int. Cl. F16n 27/00
U.S. Cl. 184—15 3 Claims



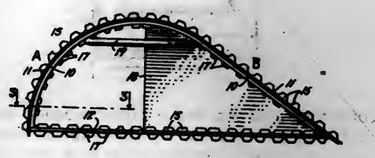
A device for lubricating the stranding core in a fast stranding machine having a stranding rotor with a wire incoming end and a wire outgoing end, in which said rotor near its wire outgoing end is equipped with a transverse spray head to spray lubricant onto a stranding core passing through said spray head means, lubricant being conveyed to said spray head means in a continuous manner by a pump outside said rotor.

3,512,612
TORSIONAL VIBRATION DAMPER
Gary O. Bragg, Peoria, and Robert I. Wilson, Peoria Heights, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Continuation of application Ser. No. 658,743, Aug. 7, 1967. This application July 25, 1969, Ser. No. 847,809
Int. Cl. F16d 63/00
U.S. Cl. 188—1 10 Claims



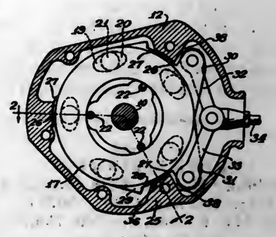
A torsional vibration damper having an annular housing constructed of a hydroformed channel member and a cover secured by electron beam welding to the channel member, the channel member providing an axially-extending wall formed with a plurality of circumferentially-spaced-apart recesses providing reservoir space for viscous fluid.

3,512,613
WHEEL CHOCK AND TRACTION DEVICE FOR VEHICLES
Howard Peterson, Denver, Colo., assignor of one-third each to Patricia J. Kewley, Denver, Colo., and Marilyn Anne Perreten, Denver, Colo.
Filed July 3, 1968, Ser. No. 742,315
Int. Cl. B60t 3/00
U.S. Cl. 188—32 5 Claims



An upwardly arched steel support covered upon its upper arched surface by a similarly arched, perforated, indented, traction plate, of the type commercially known as "Grip Struts," welded thereto, the lower extremities of the upwardly-arched support being connected together by a flat, horizontal, perforated, indented "Grip Struts" base plate welded thereto and extending therebetween.

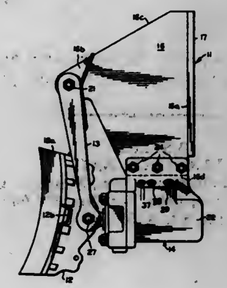
3,512,614
SELF-ENERGIZING DISC BRAKE FOR AUTOMOTIVE VEHICLES
Hansberger Powilleit, Erkrath-Unterbach, and Edmund Dohr, Vorst, Germany, assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed June 3, 1968, Ser. No. 733,875
Int. Cl. F16d 55/16
U.S. Cl. 188—71.5 7 Claims



A self-energizing disc brake having a pair of thrust plates positioned within a stationary housing and between brake discs connected to a shaft to be decelerated. An actuating means to rotate the plates relative to each other to cause spherical balls trapped in complementary indentations in the facing surfaces of the plates to push the plates away from each other against the bias of a spring means into frictional engagement with the brake discs. The plates are provided with lugs engageable with projections on the housing to arrest rotation of one of the plates, and with centering cams engageable with guide surfaces formed on the projections. The centering cams and the guide surfaces are arranged so that upon arresting one thrust plate, the cams on the other thrust plate will be substantially beyond the guide surface to

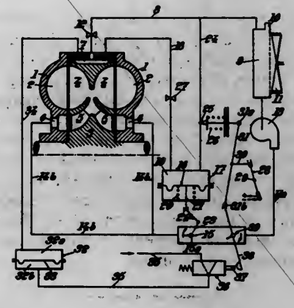
avoid contact with that surface in the event there is radial movement of the plates to thereby preclude frictional forces which would detract from the self-energizing effect of the brake.

3,512,615
HYDRAULIC TREAD BRAKE UNIT AND SUPPORT MEANS THEREFOR
Thomas H. Eagle, Cape Vincent, N.Y., assignor to General Signal Corporation, a corporation of New York
Filed Jan. 3, 1969, Ser. No. 788,775
Int. Cl. F16d 49/00
U.S. Cl. 188—74 3 Claims



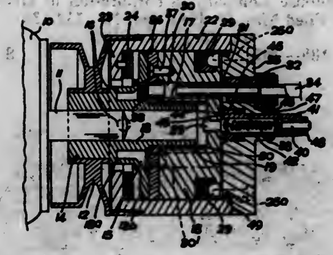
Hydraulically operated tread brake units for railway cars which are free of force-multiplying linkages and slack adjusters and can be serviced without detrucking the cars or removing the wheels.

3,512,616
HYDRODYNAMIC RETARDER
Pierre Etienne Bessiere, Golf de St.-Nom-la-Breteche, France, assignor to Labavia-S.G.E., Paris, France, a society of France
Filed July 24, 1968, Ser. No. 747,381
Claims priority, application France, July 28, 1967, 116,233
Int. Cl. F16d 57/02
U.S. Cl. 188—90 9 Claims



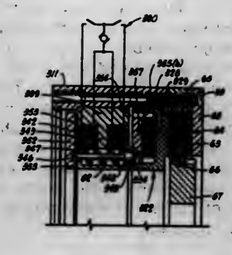
The outlet pressure of the retarder acts, via the intermediary of a diaphragm, on a valve in the feed conduit of this retarder in a manner to maintain this outlet pressure approximately constant over a wide range of speeds of the vehicle on which the retarder is mounted. The driver, by varying the free cross-section of a throttling, can intervene to make the level of the outlet pressure of the retarder, and hence the magnitude of the braking torque, vary.

3,512,617
STOPPING MEANS FOR ROTARY MEMBERS
Stanley George Draper, 15 Forest Rise, Thurnby, Leicester, England
Filed Aug. 21, 1968, Ser. No. 754,189
Claims priority, application Great Britain, Aug. 23, 1967, 38,721/67
Int. Cl. B60t 7/12
U.S. Cl. 188—110 4 Claims



The present means is for stopping a rotary member such as a machine shaft, at a predetermined point in the rotary path of the member and includes a rotary part for being coupled to the member, braking means for co-operating with the rotary part, a power operated device for actuating the braking means, and means on the rotary part at a predetermined position circumferentially thereof for initiating operation of the power operated device to actuate the braking means.

3,512,618
ELECTRIC BRAKE WITH PERMANENT MAGNET
Wolfgang Schäfer, 5 Goethestrasse, 7481 Laiz, Sigmaringen, Germany
Continuation-in-part of application Ser. No. 636,134, May 4, 1967. This application Aug. 22, 1968, Ser. No. 764,002
Int. Cl. B60t 13/02; F16d 27/08
U.S. Cl. 188—161 8 Claims



Apparatus utilizing a drive or fixed assembly having at least two stable working positions in combination with one or more pulsed electromagnets for alternatively positioning the drive assembly in said stable positions to control the relative motion between a first and a second power assembly. In general, apparatus embodying this invention comprises oppositely acting electromagnetic means utilized to move a power assembly which includes a permanent magnet, alternately into engagement with a first force transmitting assembly, such as a clutch, associated with a power source and a second force transmitting assembly,

such as a braking assembly. In one embodiment, the drive assembly is shaped so as to afford a portion of a closed magnetic path for the permanent magnet when the drive assembly is in abutment with the first force transmitting assembly and a portion of an alternate closed magnetic path when the drive assembly abuts the second force transmitting assembly.

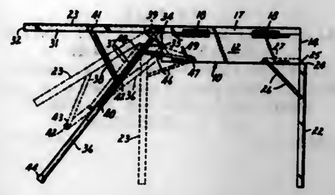
3,512,619
TWO WAY AUTOMATIC BRAKE ADJUSTER
Gerard Ranglos, Aroma Park, Ill., assignor to Cardwell Westinghouse Company, a corporation of Delaware
Filed May 31, 1968, Ser. No. 733,633
Int. Cl. F16d 65/66
U.S. Cl. 188—202 8 Claims



The disclosure relates to a railroad car brake rigging brake adjuster that is automatic for both slack take up and let out, with the adjuster being shown in center rod application and comprising a screw member having one end portion thereof received in one end portion of a tubular member, with the other ends of the said members being incorporated in the brake rigging in a conventional manner. Associated with the tubular member and the screw member is a coupling assembly comprising a coupling nut, an adjusting nut, and a holding nut with the coupling and holding nuts being received in a chamber formed within the tubular member, and a housing surrounds the nuts at the telescoping portions of said members. The adjuster is held against distortion in draw up and in the riding condition by a first compression spring acting between the housing and the tubular member to bias a stop seat of the housing against the adjusting nut, while a second compression spring within the tubular member chamber acts between the tubular member and the holding nut to clutch same against rotational movement; a ball type wedge lock operating between the housing and the tubular member to provide a third point of movement control is disclosed which can optionally be used with or without the second spring. The arrangement of parts is such that full two way automatic operation is achieved while keeping the power loss at the brake cylinder at no more than about 4.5, and yet keeping the nuts of the coupling assembly locked against rotation during rigging draw up and in the riding position against the jars of end of car impacts and vibrations caused by rough or uneven trackage.

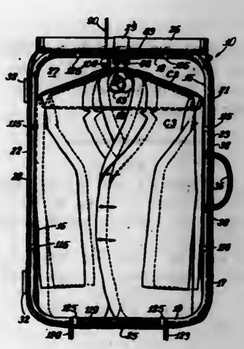
3,512,620
COMBINATION LUGGAGE CASE, IRONING BOARD AND TABLE
Harry A. Bell, Harry W. Bell, and Howard A. Bell, all of Rte. 1, Box 106, Hamilton, Mont. 59840
Filed May 21, 1968, Ser. No. 730,722
Int. Cl. A47b 85/00
U.S. Cl. 190—11 5 Claims

A combination luggage case, table and ironing board having wall structure defining an open-topped compartment and a hinged cover for the compartment. Foldable supporting structure includes leg members and a nose panel portion movable to one position parallel to the leg members and a second position level with the cover to provide an ironing board. Auxiliary leg structure mounted



on the nose panel supports the nose panel and the case in the second operative position of the nose panel.

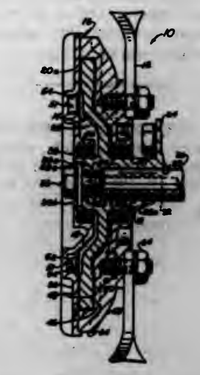
3,512,621
LUGGAGE BAG
Macy O. Teetor, 24 Orpheum Ave., Metairie, La. 70005
Filed Dec. 6, 1966, Ser. No. 599,607
Int. Cl. A45c 3/00
U.S. Cl. 190—49 2 Claims



A luggage bag having a generally rectangular, rigid frame which serves as the primary structural element of the bag and which is enclosed by a flexible material cover. The frame also serves as a mounting for a rope carrying handle, a pair of spaced floor engageable pads, and a hanger support assembly. A plurality of hangers are releasably retained by the hanger support assembly, and an extensible and retractable hook is carried by the hanger support assembly to permit the bag to be hung from an elevated support. Elastic cords extend between opposite pairs of the side portions of the frame, for engaging and confining garments within the periphery of the frame when the bag is in use.

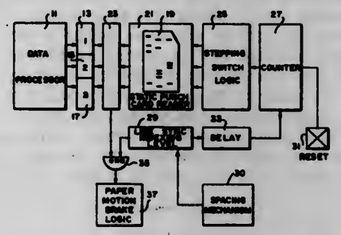
3,512,622
FLUID COUPLING
Alex Sutaruk, Hazel Park, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 11, 1967, Ser. No. 659,943
Int. Cl. F16d 19/00, 31/06
U.S. Cl. 192—58 15 Claims

An improved fluid coupling includes relatively rotatable input and output coupling members. The input coupling member drives the output coupling member through a fluid shear medium located in a working chamber of the coupling. The fluid shear medium provides



the only bearing between the relatively rotatable coupling members.

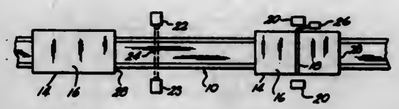
3,512,623
VERTICAL FORMAT CONTROL FOR HIGH-SPEED PRINTERS
Kenneth Stangaard, Rochester, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 20, 1965, Ser. No. 498,807
Int. Cl. B41j 5/36
U.S. Cl. 197—20 3 Claims



The invention relates to a format control system having a static card reader for receiving a prepunched format card with means for sequentially interrogating, column by column, the information stored on the card. This information is compared in a coincidence detector with inputs from a data processor. Upon coincidence being detected, an output signal is generated which is gatably applied to paper motion brake logic to stop a print receiving medium for printing. Means are also provided for stepping the interrogation means to the next column of the format card.

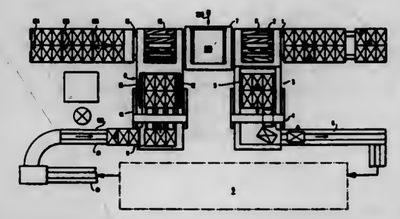
3,512,624
CONVEYED ARTICLE POSITIONING APPARATUS
Robert H. Crane, Union Lake, Mich., assignor to Sparton Corporation, Jackson, Mich., a corporation of Ohio
Filed July 3, 1968, Ser. No. 742,440
Int. Cl. B23q 7/00
U.S. Cl. 198—19 8 Claims

Apparatus for controlling a conveyor whereby a conveyed article may be positioned relative to a fixed location adjacent the conveyor at a predetermined location relative to the length of the article. The apparatus includes means for sensing the length of the conveyed article in the direction of conveyance, and means for sensing the arrival of the article at the position adjacent the conveyor at which the article is to be stopped, therein comparison timer means are actuated which compares the length of the article with the desired location upon the



article at which the article is to be stopped. The apparatus finds use with automated banding, nailing, printing and other secondary article operations which are to occur at a predetermined position on the conveyed article.

3,512,625
MATERIAL HANDLING SYSTEM
Warren S. Raynes, Port Hope, Ontario, and Keith A. Burgess, Cobourg, Ontario, Canada, assignors to Rex Chainbelt Inc., a corporation of Wisconsin
Original application Dec. 11, 1964, Ser. No. 417,714, now Patent No. 3,443,867. Divided and this application Jan. 2, 1969, Ser. No. 804,726
Int. Cl. B65g 47/26
U.S. Cl. 198—31 8 Claims

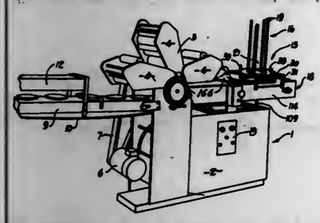


An article accumulation and transfer apparatus especially useful in connection with a pallet loading system wherein articles are arranged in layers consisting of a number of rows of articles. Individual articles are received seriatim onto the infeed end of a driven conveyer and accumulated thereon in a row, then the row in conveyed, as a unit, to a transfer station where the row is transferred, again as a unit, from the driven conveyer by a transfer conveyer. Articles are prevented from entering the infeed end of the conveyer while a row is being conveyed to the transfer station.

3,512,626
FEEDER MEANS
John C. Hovekamp, Elyria, Ohio, assignor, by mesne assignments, to James Talcott, Inc., New York, N.Y., a corporation of New York
Original application Feb. 19, 1968, Ser. No. 706,429. Divided and this application Oct. 15, 1968, Ser. No. 767,687
Int. Cl. B65g 19/02
U.S. Cl. 198—170 2 Claims

Adjustable high speed feeders for printing presses and other purposes wherein the articles to be printed, or otherwise treated or acted upon, are delivered singly from a feed or supply stack to a pick-off point or station; method and means for causing a dwell in the movement of a single article on a continuously moving feeder, and/or of advancing or retracting adjacent individual articles on a

continuously moving feeder, relative to each other, in the direction of their travel; and means to precondition the surface of moving articles by heating to ready the same



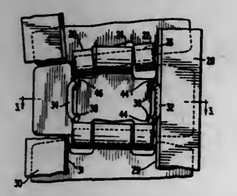
for further treatment while protecting the articles from deleterious effect due to engagement with excessively heated portions of the apparatus.

3,512,627

LATERALLY FLEXIBLE FLAT TOP CONVEYOR WITH METAL U-SHAPED GUIDE CONTACTING MEMBER WELDED TO THE BOTTOM OF THE LINKS

Wasyl G. Hodlewsky, Greendale, and Philip J. Imse, Wauwatosa, Wis., assignors to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Dec. 18, 1967, Ser. No. 691,282
Int. Cl. B65g 17/00
U.S. Cl. 198—189 3 Claims



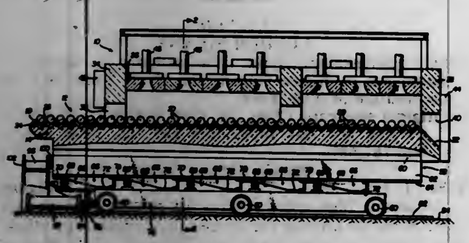
A laterally flexible flat top conveyor usable with curved stationary guides has metal C-shaped guide contacting members welded to the bottom surface of each link at an angle so that the bottom of the C-shaped guide contacing members cooperates smoothly with the stationary guides.

3,512,628

WALKING BEAM CONVEYOR AND METHOD

William R. Keough, Birmingham, Mich., assignor of forty-five percent to Multifastener Company, Detroit, Mich., a partnership

Filed July 9, 1968, Ser. No. 743,482
Int. Cl. B65g 25/04
U.S. Cl. 198—219 7 Claims



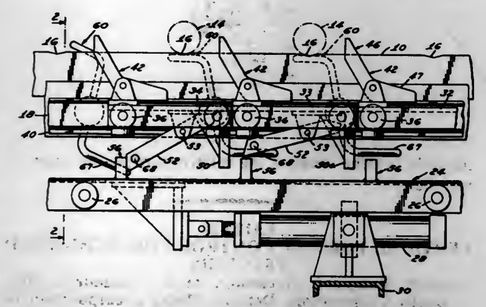
A walking beam conveyor and method of conveying is disclosed wherein a movable beam is reciprocated both vertically and horizontally so that it follows a square path to shift workpieces step-by-step along fixed rail means. The rail means may be in a furnace, and if so, the movable beam indexes the workpieces through the furnace. The movable beam is directly reciprocated horizontally by power means, and it is reciprocated vertically by a separate horizontally reciprocated member through a cam and follower coupling.

3,512,629

ACCUMULATING TRANSFER CONVEYOR

Gordon A. Torrance, Taylor, Mich., assignor to Jervis B. Webb Company, a corporation of Michigan

Filed May 10, 1967, Ser. No. 637,524
Int. Cl. B65g 25/10
U.S. Cl. 198—221 14 Claims



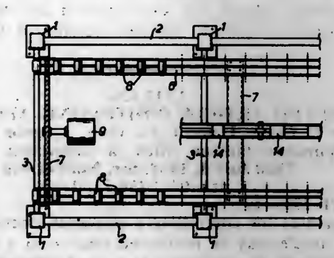
A pusher type conveyor having a plurality of stations along a support to which objects are successively advanced by the action of one-way pushers capable of engaging and advancing the objects from one station to the next successive station on the forwarding movement of reciprocating driving mechanism. Each pusher is mounted on a separate carriage, and drive means is provided between each carriage and the driving mechanism. Control elements including sensing devices for detecting the presence of an object at the stations are operative to regulate the article advancing action of the carriages so that only pushers at stations preceding an empty station are active on each forwarding movement and the conveyor thus tends to build up and accumulate a bank of objects.

3,512,630

LIVE STORAGE

Gordon S. Greenfield, Sutton Coldfield, England, assignor to Steel Equipment Company Limited, a British company

Filed Feb. 19, 1968, Ser. No. 706,450
Claims priority, application Great Britain, Feb. 17, 1967, 7,665/67
Int. Cl. B65g 25/04
U.S. Cl. 198—225 8 Claims



In a live storage system, in which a track carrying freely rotatable load-supporting rollers is reciprocated horizontally to move the load, clamping means are arranged to be moved positively into and out of engagement with the load under power, for example by pneumatic rams, in synchronism with the reciprocation in such a manner that the clamping means restrain the load as the track is moving one way and free it to move with the track as the track is moving the other way. Preferably the clamping means engage frictionally against a surface of the load that extends parallel to the direction of travel, for example the bottom surface of the load.

3,512,631

BLADE INSERTER SHEATH FOR ELECTRIC KNIFE

Charles B. Price, Stamford, Conn., and Samuel Braun, Rye, N.Y., assignors to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Dec. 31, 1968, Ser. No. 788,288
Int. Cl. B65d 85/54; B26b 29/02
U.S. Cl. 206—16 2 Claims



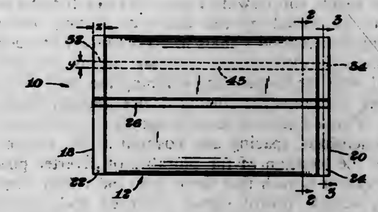
A blade inserter sheath comprises three integrally molded hinged panels adapted to wrap around the blade and snap shut. An end extension on two of the panels hooks over a drip guard on the blade to prevent its lengthwise movement out of the sheath.

3,512,632

PRESSURE RELEASE VALVE FOR FLEXIBLE POUCHES

Glenn C. Wiggins, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Dec. 3, 1968, Ser. No. 780,767
Int. Cl. B65d 31/14
U.S. Cl. 206—46 13 Claims



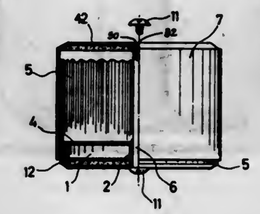
In a package including a flexible pouch, the pouch normally comprising a tubular body and strip seals closing the opposite ends of the tubular body, a one-way pressure release valve comprising an interiorly disposed ribbon anchored at each end, respectively, by flatwise securement with the layers of the pouch at the strip seals. A valving or venting action occurs when a face of one of the ribbon ends releases from the adjacent layer in the seal.

3,512,633

PERFECTED PACKING FOR TRANSPORT AND STORAGE OF INDUSTRIAL CINEMATOGRAPHIC FILM AND ANY OTHER COILABLE MATERIAL

Plácido Toro Galán, San Jeronimo 36, Granada, Spain

Filed July 18, 1968, Ser. No. 745,825
Claims priority, application Spain, Nov. 25, 1967, 134,220
Int. Cl. B65d 85/67
U.S. Cl. 206—52 7 Claims



A cylindrical canister for retaining a plurality of loaded cinematographic film encasements in orderly fashion for storage and protection. The canister is provided with a protective corrugated encasement for retaining the film reels and protecting the same during handling of the canister. The film reels are constructed to permit orderly stacking of the same about a central post positioned on the interior of the canister.

3,512,634

CORD DISPENSING AND DISPLAY PACKAGE

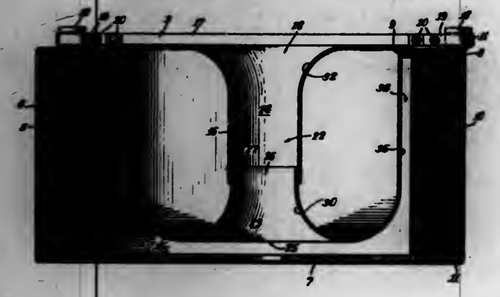
Daniel W. Burch, Jr., Louisville, Ky., assignor to Wellington Puritan Mills, Inc., Louisville, Ky., a corporation of Delaware

Filed Sept. 26, 1968, Ser. No. 762,826
Int. Cl. B65d 85/04
U.S. Cl. 206—52 1 Claim



A package comprising a coreless coil of cord supported upon a mounting plate by means of a cover member, the plate including a weakened portion adjacent the axis of the coil and which upon being broken from the plate defines an aperture through which the strand can be dispensed to the rear of the package without disturbing the cover member.

3,512,635
WIRE LET-OFF ASSEMBLY WIRE COIL PACKAGE AND COMBINED WIRE COIL PACKAGE AND LET-OFF ASSEMBLY
Ernest U. Lang, Niles, Mich., assignor to National-Standard Company, Niles, Mich., a corporation of Delaware
Filed Oct. 31, 1968, Ser. No. 772,276
Int. Cl. B65d 85/04
U.S. Cl. 206—52 12 Claims



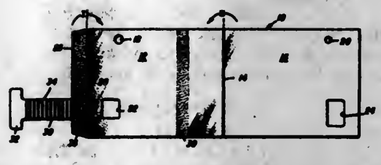
A wire let-off assembly having a wire passageway for passing of wire from a coil of wire therethrough defined by an entry passageway of bell-shape configuration having a wire entry inlet at the end of large diameter and a wire entry outlet at the end of small diameter, an annular convex inner wall extending between the entry inlet and entry outlet of the entry passageway, and an exit passageway having a wire exit inlet and a wire exit outlet in axial alignment with the entry passageway. An assembly as last noted in which the exit passageway is of bell-shape configuration with the wire exit inlet at the end of small diameter and the wire exit outlet at the end of large diameter, arranged with the wire exist inlet in position to receive the wire from the wire entry outlet of the entry passageway, and in which an annular convex inner wall extends between the wire exit inlet and the wire outlet of the exit passageway.

A wire package in which a wire coil is formed by winding wire under tension less than the yield point of the wire on a mandrel with one twist per convolution and with a cast of greater diameter than the outside diameter of the coil.

The wire let-off assembly and wire coil as aforesaid in which the wire passageway of the let-off assembly is disposed in axial alignment with the axis of the wire coil with the wire entry inlet of the entry passageway at one end of the coil, and in which the inner convex wall of the entry passageway is of a radius permitting withdrawal of the wire from the coil through the entry passageway without affecting the cast of the wire. The wire let-off assembly and wire coil as last noted in which the annular convex inner wall of the exit passageway is of a radius permitting withdrawal of the wire from the exit passageway without affecting the cast of the wire.

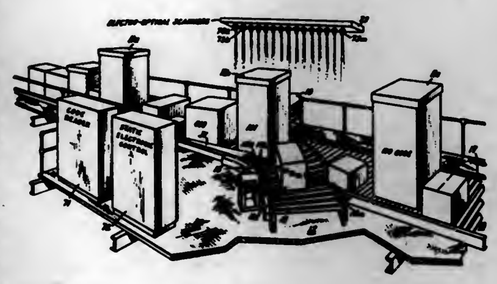
3,512,636
DISPLAY CARD
Thomas L. Davidson, San Rafael, Calif., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 31, 1969, Ser. No. 795,441
Int. Cl. B65d 73/00
U.S. Cl. 206—79 7 Claims

A display or merchandising card on which small articles such as lipstick, chapstick, tubes, bottles, etc. can be readily secured to a sheet element by means of an integral, embracing strap formed as an integral loop portion and extending from an intermediate portion of the



sheet after the strap has been pushed through an aperture in the sheet, the merchandising card lending itself to the application of advertising material and ready display.

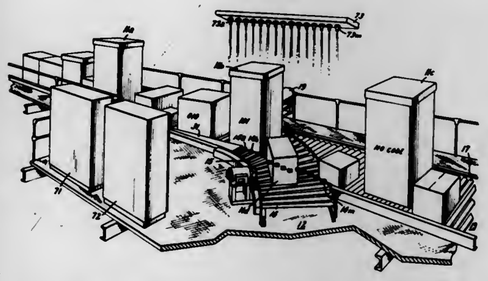
3,512,637
STATIC SOLID STATE MODULARIZED ELECTRONIC CONTROL FOR HIGH SPEED CONVEYOR SORTING DEVICE
Derwood F. Littlefield, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 5, 1968, Ser. No. 742,721
Int. Cl. B07c 5/10
U.S. Cl. 209—74 16 Claims



A static electronic control for high speed conveyor sorting devices is described which utilizes conventional, commercially available solid state transistorized logic circuit modules. The static electronic control is intended primarily for use with a high speed conveyor sorting device of the type having a plurality of serially arranged diverter pins which are selectively raised and lowered between the rollers of at least two conveyor paths to selectively control which conveyor path a particular carton passing through the sorting device, is caused to follow. The control is employed in conjunction with code reader means for viewing code markings formed on cartons to be sorted by the conveyor sorting device and deriving first control signals in accordance with such code markings. Electro-optical scanning means are also employed with the control for scanning the cartons prior to entering the conveyor sorting device and deriving a plurality of timed second control signals in accordance with the dimensions, spacing and position of the cartons relative to the location of the plurality of diverter pins. The arrangement is such that there is an individual, respective timed second control signal produced and individually associated with each diverter pin so as to readily locate the position of a carton being transported through the conveyor sorting device with respect to the position of each diverter pin. The static electronic control has the input thereof coupled to the outputs from the code reader means and the electro-optical scanning means and serves

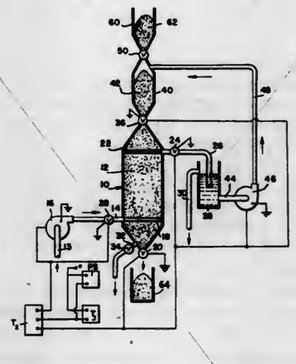
to process the first and second control signals to derive output control signals for controlling the selective raising and lowering of the diverter pins individually at high speed. The static electronic control comprises a plurality of electrically operable diverter pin actuating devices, there being one actuating device for each diverter pin to be controlled. Individual diverter pin logic circuit means are coupled to and control each of the respective diverter pin actuating devices. Means are provided for coupling the first control signals from the code reader means to the input of the first diverter pin logic circuit means for controlling the operation of the first diverter pin actuating device. Means are also provided for coupling the respective, timed second control signals from each electro-optical scanning means to its respective associated individual diverter pin logic circuit means. The code reader information bearing enabling signals supplied to the first diverter pin logic circuit means is supplied sequentially to the diverter pin logic circuit means for all of the diverter pins by coupling successive diverter pin logic circuit means together starting with the first logic circuit means. In this manner, all of the diverter pin logic circuit means are conditioned in succession with the control information contained in the first control signals derived by the code reader means. Thus, if the code reader calls for the diverter pin to be raised, all of the logic circuit means will be conditioned to raise their associated diverter pin and to leave the diverter pin in the raised position for succeeding cartons until a carton comes along calling for the diverter pins to be lowered. In this manner, cycling up and down of the diverter pins is minimized and the operating life of the equipment is extended and maximized. Means are also provided for coupling carton location enabling signals between the logic circuit means of adjacent diverter pins for conditioning each successive diverter pin in accordance with the position of each carton as it is transported through the high speed conveyor device, and reset logic circuit means are coupled to all of the diverter pin logic circuit means for resetting all of the diverter pins to a known condition at the time of start-up.

3,512,638
HIGH SPEED CONVEYOR SORTING DEVICE
James L. Chengges, Broomall, Pa., and Frank D. Denzler, Jeffersonville, Ind., assignors to General Electric Company, a corporation of New York
Filed July 5, 1968, Ser. No. 742,806
Int. Cl. B07c 3/06; B65g 47/54
U.S. Cl. 209—74 23 Claims



A high speed conveyor sorting device comprised by a first conveyor path formed by a first set of closely-spaced aligned first rollers and at least a second conveyor path comprised by a second set of closely-spaced aligned second rollers interposed with the first rollers and coacting with at least a portion of the first rollers to form a second conveyor path different from the first path. A plurality of diverter pins are disposed between the rollers for selectively diverting objects from the first conveyor path to the second conveyor path and individual diverter pin actuating means are provided for selectively raising and lowering the diverter pins individually to thereby selectively divert objects from the first conveyor path to the second conveyor path. Both the first and second sets of rollers are individually power driven at high speeds with the rollers comprising a part of at least one of the conveyor paths being tapered from one end to the other to cause objects traveling therealong to follow normally a curved path with the diverter pins in the lowered position. Certain of the rollers in the vicinity of the diverter pins are provided with a raised enlarged portion adjacent the diverter pins to prevent stoppage of cartons processed through the conveyor sorting device while the diverter pins are in the raised position. Additionally, at least part of the rollers of at least one of the conveyor paths leaving the diverter pin area of the conveyor sorting device are provided with high friction surfaces. Further, at least one of the conveyor paths forms an essentially straight line between the input and the output of the area containing the diverter pins, and the diverter pins are arrayed in a generally curved line relative to the straight line formed by the said one conveyor path. The diverter pins may be individually rotated at speeds corresponding to that of the rollers and the tops of the diverter pins engaged by objects transported along the conveyor sorting device while the diverter pins are raised may be knurled to facilitate transport of the objects past the raised diverter pins. Carton viewing and control means are provided which are comprised by a code reader and an electro-optical scanning arrangement for classifying cartons passing into the high speed conveyor sorting device into different categories determined by code markings and dimensions, and thereafter controlling the sorting operation of the high speed conveyor sorter in accordance with the information thus derived at a very high speed.

3,512,639
LIQUID FILTRATION-MASS TRANSFER SYSTEM
Irwin Jay Kugelman, Union, N.J., and Joseph B. Hellmann, Queens Village, Jamaica, N.Y., assignors to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,167
Int. Cl. B01d 33/20
U.S. Cl. 210—80 23 Claims

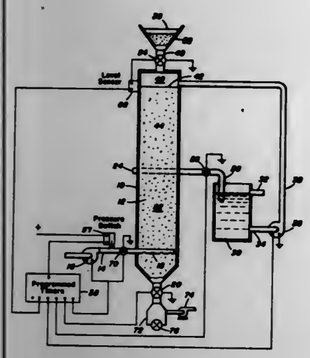


This invention relates to a method and apparatus for countercurrent contact between a liquid stream and a

bed of solid particles for the purposes of removing components either from the liquid stream or from the solid particles. The invention is applicable to such processes as the treatment of sanitary or industrial wastes with powdered or granular coal, the treatment of water supplies by filtration through beds of granular sand, the softening of hard waters by means of particles of ion exchange resins, the decoloration of sugar solutions by means of activated carbon, the extraction of soybean oil with solvents, as well as other like processes which will be obvious to those skilled in the art.

The invention provides a method and apparatus wherein a bed of solid particles is maintained in a compact condition by essentially completely filling the vessel in which it is contained, in which method and apparatus the spent portion of the bed is periodically or intermittently removed by placing the bed of solid particles and the entrapped liquid under an absolute pressure such that the solid particles and any entrapped solids and liquid will issue forth when said particles are communicated with an external vessel at less than said pressure. The spent bed material is discharged from the lower surface of the bed. New bed material is then supplied to the upper surface of the bed.

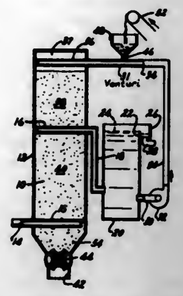
3,512,640
COUNTERCURRENT SOLID-LIQUID CONTACTING SYSTEM
Joseph E. Hellmann, Queens Village, N.Y., assignor to American Standard Inc., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,180
Int. Cl. B01d *33/20*
U.S. Cl. 210—80 17 Claims



This invention relates to method and apparatus for countercurrent contact between a liquid stream and a bed of solid particles. It is specifically applicable to the use of a bed of powdered or granular coal for the filtration of sewage and industrial liquid wastes. However, the invention is and should be generally applicable for other countercurrent liquid-solid processes, such as the filtration of water for municipal or industrial water supply through a bed of sand, or the continuous softening of water with ion exchange resins.

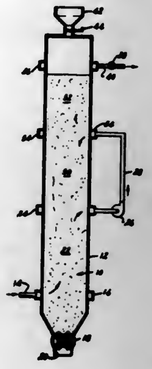
The principal object of the invention is to provide a method and apparatus wherein a liquid-contacting bed can be maintained in a solidly packed condition, and wherein the bed can be periodically replenished by exhausting spent bed material from the lower surface of the bed and adding new bed material to the upper surface of the bed.

3,512,641
COUNTERCURRENT SOLID-LIQUID CONTACTING SYSTEM
Irwin J. Kugelman, Plainfield, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,192
Int. Cl. B01d *33/20*
U.S. Cl. 210—80 20 Claims



This invention relates to a method and apparatus for the treatment of a liquid by passing it upwardly through the lower portion of a confined bed of closely packed particles. The principal feature of the invention resides in the means and method of preventing fluidization of the bed particles and moving the bed countercurrent to the influent flow. This invention is specifically applicable to the treatment of various sewages in beds of granular material such as powdered coal; however, it is also applicable to other liquid solid contact processes.

3,512,642
COUNTERCURRENT SOLID-LIQUID CONTACTING SYSTEM
Rowland S. Bevans, Morristown, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,266
Int. Cl. B01d *33/20*
U.S. Cl. 210—80 9 Claims



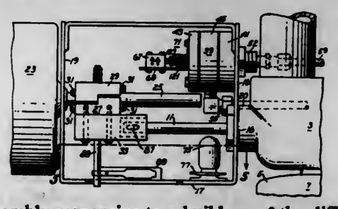
This invention relates to method and apparatus for passing a liquid to be treated, such as sewage, upwardly through the lower portion of a confined bed of solid, closely packed particles, such as coal, to effect a filtering, and/or adsorption and/or other mass transfer process. The specific improvement is in the means and method for maintaining the bed in a compacted condition, while effectively utilizing all of the bed for mass transfer purposes.

3,512,643
CONTROL DEVICE FOR WATER TREATMENT APPARATUS
John A. Forss, Minnetonka, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 23, 1968, Ser. No. 786,039
Int. Cl. B01d *15/06*
U.S. Cl. 210—96 10 Claims



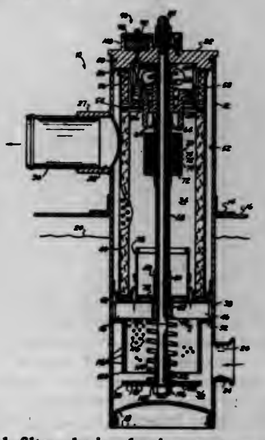
A water softener control device including a body of ion exchange material which contracts upon exposure to hard water changing the position of a magnet to operate a reed switch.

3,512,644
AUTOMATIC FILTER BACKWASH ASSEMBLY
Floyd M. Nash, Little Rock, Ark., assignor to Jacuzzi Bros., Incorporated, a corporation of California
Filed June 28, 1967, Ser. No. 649,582
Int. Cl. B01d *29/38*
U.S. Cl. 210—108 1 Claim



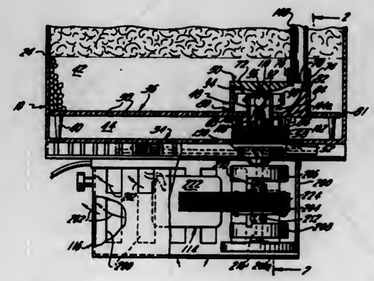
An assembly responsive to a build-up of the differential pressure across the filter with increasing accumulation of dirt in the filter, for automatically shifting a reversing valve to effect a backwash operation of the filter for a predetermined period of time.

3,512,645
FILTER DEVICE WITH SHOCK ABSORBING MEANS
Nils O. Rosaen, Bloomfield Hills, Mich., assignor, by mesne assignments, to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 5, 1968, Ser. No. 703,003
Int. Cl. B01d *27/10, 35/00*
U.S. Cl. 210—130 9 Claims



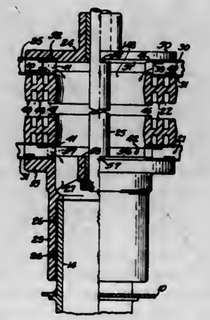
A fluid filter device having a pressure chamber upstream of the filter chamber for receiving unfiltered fluid from the system prior to its introduction into the filter chamber. A normally open load-sensitive valve in the pressure chamber automatically closes to reduce the energy of a shock wave traveling through the fluid system before it enters the filter chamber.

3,512,646
AQUARIUM WATER CONDITIONING APPARATUS
Allan H. Willinger, New Rochelle, N.Y., assignor to Aquariums Incorporated, Maywood, N.J., a corporation of Delaware
Original application July 15, 1966, Ser. No. 565,444, now Patent No. 3,392,836, dated July 16, 1968. Divided and this application June 19, 1968, Ser. No. 738,155
The portion of the term of the patent subsequent to May 23, 1984, has been disclaimed
Int. Cl. E04h *3/20*
U.S. Cl. 210—169 2 Claims



The disclosure and invention relate to a magnetic coupled motor driven water conditioning device for use in the aquarium hobby including a housing for an aquarium filter apparatus containing a centrifugal pump including an improved motor provided with a magnet on a rotor assembly operable to be in elevated floating condition when in operation and bearing means in the pump for maintaining the pump shaft or magnet in tilted position.

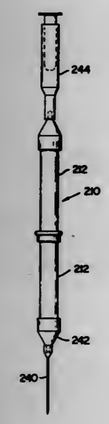
3,512,647
SWIMMING POOL FILTER COMPRISING ASSEMBLY OF SEPARABLE SPACERS AND HAVING MOLDED PLASTIC GRIDS
Henry R. Young, Arleta, Calif., assignor to Marine Swimming Pool Equipment Company, Van Nuys, Calif., a corporation of California
Filed Aug. 24, 1967, Ser. No. 663,047
Int. Cl. E04h *3/20*
U.S. Cl. 210—169 9 Claims



Disclosed herein is a filter of the type wherein filter elements consisting of hollow grids covered with filter fabric are supported in a filtering assembly in axially

spaced relation, wherein water is forced through the filter elements and into a tubular axial stem and thence through the filter outlet; wherein the filtering assembly is enclosed in a cylindrical casing or tank, and wherein the assembly can be rotated by suitable means outside the casing so as to dislodge layers of deposited sediment from the filter elements into the body of water within the tank.

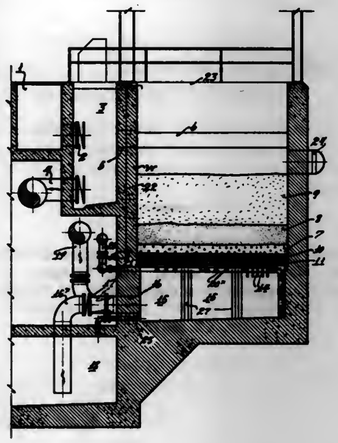
3,512,648
FILTRATION COLUMN
Donald L. Bittner, San Francisco, and Monroe Mendelsohn, Daly City, Calif.; said Mendelsohn assignor to Bio-Rad Laboratories, Richmond, Calif.
Filed June 19, 1967, Ser. No. 646,854
Int. Cl. B01d 25/02
U.S. Cl. 210—238 9 Claims



A filtration column comprised of a number of filter tubes arranged in end-to-end relationship and each containing a filter medium therein. The tubes are releasably interconnected and have complementary end portions so that the tubes can be interchanged with respect to each other to vary the manner of filtering a fluid passing through the tubes.

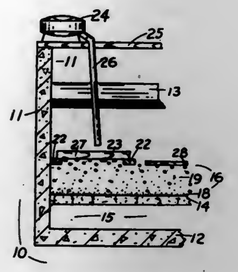
3,512,649
ULTRA-RATE WATER FILTRATION APPARATUS
Rostislav Nebolsine, 64 E. 86th St. 10028; Albert S. Toth, 205 W. End Ave. 10013; and Rudolph J. Sanday, 239 W. 12th St. 10014, all of New York, N.Y.
Filed Mar. 15, 1966, Ser. No. 534,399
Int. Cl. B01d 23/16, 23/18
U.S. Cl. 210—274 1 Claim

An ultra-rate water filtration apparatus comprising a casing formed with a first upstanding wall and coordinate walls bounding a deep filter chamber for industrial use, and carrying at its upper area a second wall-coordinate bounding a fluid receiving chamber, said first upstanding wall having at its lower area below the base of said filter chamber a wall coordinate bounding a chamber for receiving clarified fluid, distributor troughs in the filter chamber at its upper area and in register with and receiving fluid through openings in a wall of the fluid-receiving chamber, a floor wall in the filter chamber, means for supporting said floor wall substantially above the base of said fluid-receiving chamber, a plurality of distributor blocks on the floor wall and adapted to support a filter bed and being formed with through-slots therein for passage of fluid, a plurality of open-ended tubular nozzles passing through said floor wall and having flow connection with said distributor blocks, a valved back-wash discharge pipe extending from said fluid receiving chamber, a valved back-wash inflow pipe and also a valved



outflow pipe extending into the filter chamber below its floor wall, and means for admitting jets of air under pressure to the area of the filter chamber below said floor wall thereof for agitating the filter bed during back-wash thereof.

3,512,650
METHOD FOR INSTALLATION OF BLENDED GRANULAR FILTER BED LAYERS
Abraham Adler Hirsch, 141 Norwood St., Shreveport, La. 71105
Original application Dec. 21, 1967, Ser. No. 692,431. Divided and this application July 15, 1969, Ser. No. 841,892
Int. Cl. B01d 23/16
U.S. Cl. 210—290 3 Claims



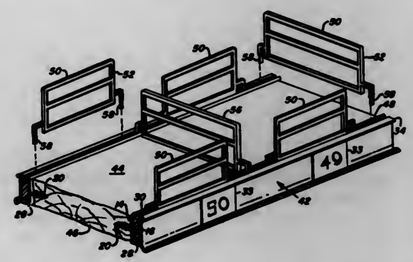
Blends of varying proportions of fine and coarse grained components having different specific gravities are mixed mechanically preparatory to placement in a filter box, then chuted into position. Each lamina of specific composition is spread to fill a shallow frame which is then screened flat. In large filters the frame is next moved laterally until the whole filter is so covered. This operation is repeated at the next higher level, increasing the proportion of the larger grains in downflow filters, until the whole depth of composite bed is built.

3,512,651
DEVICE FOR REMOVING SOLID PARTICLES FROM LIQUID
Claude C. Laval, Jr., 2444 N. Farris Ave., Fresno, Calif. 93705
Filed Sept. 6, 1968, Ser. No. 757,949
Int. Cl. B04c 5/103
U.S. Cl. 210—512 15 Claims



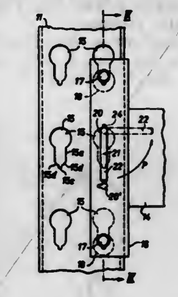
A device for removing solid particles from a fluid including a casing with a cylindrical vortex chamber having inlet openings at one end adapted to impart a swirling motion to fluids passing therethrough. Intermediate the ends of the vortex chamber are a circular reaction plate and an annular baffle longitudinally spaced and concentrically disposed therewithin. The reaction plate is mounted for longitudinal adjustment relative to the conduit and has transverse dimensions which are considerably less than those of the baffle. A small portion of the fluid which passes the baffle is drawn off by a suction means in the inlet to augment the solid removing effect of the device.

3,512,652
BANDING AND BINNING MEANS FOR DISPLAY SHELVES
Blair D. Armstrong, Ross Township, Allegheny County, Pa., assignor to Armstrong Store Fixture Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 20, 1968, Ser. No. 730,432
Int. Cl. A47f 5/00
U.S. Cl. 211—134 8 Claims



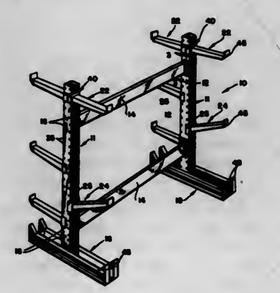
A molding strip is disclosed which receives and supports either partition members or binning or banding strips on the peripheral edges of horizontal display panels. There is also disclosed a combination molding and indicia strip which provides for easy installation of partition members or binning or banding strips on the peripheral edges of horizontal display shelves while at the same time providing a ticketing or price strip channel so as to display an insert upon the face of which is typed or printed identifying indicia or information.

3,512,653
SUPPORT FOR LOADING PALLETS AND THE LIKE
Paul Erismann, 4 Alpenquai, Lucerne, Switzerland
Filed Feb. 9, 1968, Ser. No. 704,329
Int. Cl. A47f 5/10
U.S. Cl. 211—176 4 Claims



A support for loading pallets and the like wherein a plurality of vertical columns are provided each having spaced catch-recesses therein. Shelf supports having a plurality of horizontally arranged suspension pins are mounted vertically adjustable in the catch recesses. The pins have a head and the catch recesses for accommodating the suspension pins each have the form of a vertically extending slot with a widened upper end portion for the insertion of said head and at the bottom thereof an extension narrower than the diameter of a suspension pin so that at the points of transition from said slot accommodating said suspension pin to said narrower extension two shoulders are formed spaced horizontally apart for supporting laterally free from play the suspension pin. Means are provided for locking the supports against accidental displacement.

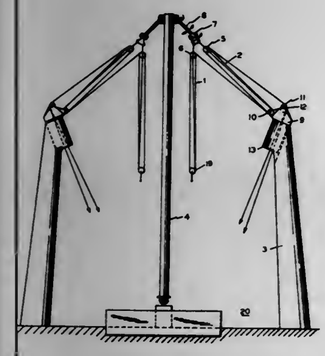
3,512,654
MODULAR CANTILEVER ADJUSTABLE ARM RACK AND JOINT ASSEMBLY
Robert A. Olsen, Palatine, and Richard S. Jay, Evanston, Ill., assignors to Jarke Corporation, Chicago, Ill., a corporation of Illinois
Filed May 9, 1968, Ser. No. 727,779
Int. Cl. A47f 5/10
U.S. Cl. 211—176 7 Claims



A modular cantilever adjustable arm rack and joint assembly is disclosed in which a compression joint is employed in the diaphragm area defined on the vertical

column where the horizontal brace members are secured to the vertical column. Additionally, a safety pin of one piece construction is disclosed which can be employed to secure the cantilever arms to the vertical columns in registering holes in the brace for the arms and along the vertical columns.

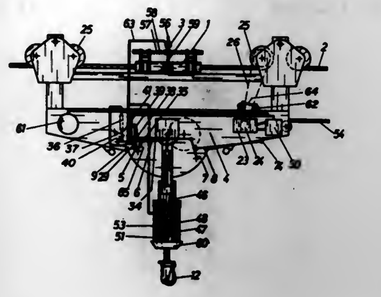
3,512,655
SHIPS DERRICKS
Jochen Kuhtz, Hamburg-Osdorf, Germany, assignor to Howaldtswerke-Deutsche Werft Aktiengesellschaft, Hamburg and Kiel, Germany
Continuation of application Ser. No. 531,904, Mar. 4, 1966. This application Mar. 5, 1968, Ser. No. 710,545
Int. Cl. B66c 23/52
U.S. Cl. 212—3 5 Claims



A derrick for ships to serve a pair of hatches arranged one in front of the other and having a pair of upright posts arranged on each side of the ship with the hatches between them and an upright boom with the lower end pivoted to the deck between the holds. There are two pulley tackle means connected to the top of the boom and bracket means, together with lifting pulley tackle means journaled to the bracket means.

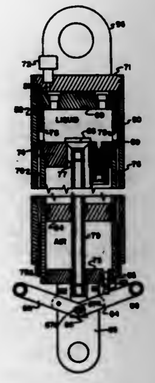
3,512,656
OVERHEAD ROPEWAY FOR CONVEYING LOADS
Josef Keller, 1 Endach, 6330 Kufstein, Tyrol, Austria
Filed Mar. 12, 1968, Ser. No. 712,503
Claims priority, application Austria, Mar. 15, 1967, A 2,487/67
Int. Cl. B66c 21/00
U.S. Cl. 212—87 16 Claims

An overhead ropeway for conveying loads comprises a cable with a traveling crab hanging on rollers and including clamping means with jaws for engaging the cable to lock the crab therewith. A load lifter also has clamping means for interlocking the load lifter with the crab, each of the clamping means having engaging and releasing devices controlled by power cylinders through a changeover mechanism. The rollers of the crab drive a compressor which is connected with the power cylinders for storing power for the cylinders. The clamping means for engaging the jaws on the cable forms a common displaceable integral unit with the power cylinders, the changeover mechanism being actuated when the direction of travel of the crab is reversed to operate a control cylinder through a connecting bolt on a lever of a linkage, the lever releasing the oil supply in the pressure line to the power cylinders when the required operating pressure has been attained and maintaining the control cylinder in working position until a control means connected with



the load lifting means releases the linkage for the control cylinder upon complete elevation of the load lifter means to its interlocked position with the crab.

3,512,657
MOTION TAKEUP DEVICE
Henry B. Chambers, Santa Barbara, Calif., assignor to Hydranautics, Santa Barbara, Calif., a corporation of California
Filed Sept. 21, 1967, Ser. No. 673,246
Int. Cl. B65g 67/58
U.S. Cl. 214—1 5 Claims



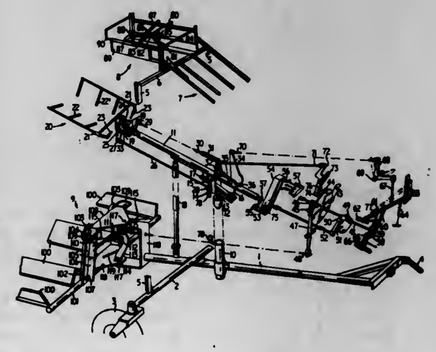
The mechanism is normally contracted or telescoped and extends when manually pulled. The amount of extension is at least equal to the height of a wave from crest to valley. In this fashion the mechanism can be extended to accommodate the motion, due to waves, of a boat or barge being unloaded. Once the manual pull is released, the mechanism contracts when the upward motion of the load connected to it permits, and has a check device that then functions to prevent extension when under load. The mechanism permits hook-up of the load when the load is moving downwardly on a wave and permits hoisting of the load without jerking when the load is moving upwardly on a wave, or when the load reaches the crest of a wave.

3,512,658
POWER-OPERATED, LOAD-CARRYING STAIR-CLIMBING DEVICE
Verle M. Harlan, 10462 Farlan, Bellflower, Calif. 90706
Filed Aug. 15, 1968, Ser. No. 752,973
Int. Cl. B60p 9/00; B62d 55/02
U.S. Cl. 214—1 10 Claims



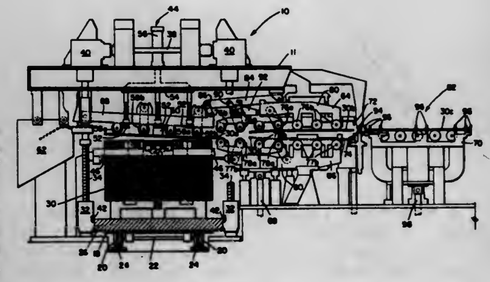
A load-carrying, power-operated device that may move upwardly or downwardly on a flight of stairs by means of at least one endless belt from which a plurality of transverse, longitudinally spaced lugs project outwardly, to removably engage the stairs as the device moves upwardly or downwardly thereon. The device of the present invention in combination with a dolly provided with an angularly disposed platform and an elongate rigid member, is adapted to be placed in a climbing position at the bottom of a flight of stairs. After the device and the load supported thereby have traversed the stairs and reached the top thereof, the device may be caused to again climb upon the dolly whereby the loaded device may be moved on the dolly to a desired location. Thereafter, the load is manually removed from the device and dolly. Also, in combination with the dolly, the device may be positioned at the head of a flight of stairs, descend the same and move a load to the bottom thereof.

3,512,659
TRAVELLING BALE STACKER
Peter J. Vanderkrogt, Calgary, Alberta, Canada, assignor to Canada Iron Foundries Limited, a corporation of Canada
Continuation of application Ser. No. 533,463, Mar. 11, 1966. This application Apr. 8, 1968, Ser. No. 719,380
Int. Cl. B65g 57/20
U.S. Cl. 214—6 7 Claims



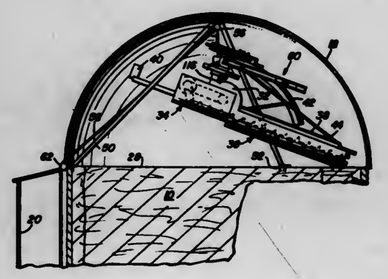
This invention relates to an automatic travelling bale stacker adapted to be hitched to a baler to receive ejected bales on a bale ramp and guide them to a bale turner adapted to orient the bales in a predetermined position in a placing rack.

3,512,660
FERROMAGNETIC METAL SHEET DESTACKER AND FEEDER
Albert Bende, Cinnaminson, N.J., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 15, 1968, Ser. No. 767,775
Int. Cl. B65g 59/04
U.S. Cl. 214—8.5 8 Claims



An apparatus for receiving stacked sheets of ferromagnetic metal, destacking the sheets and feeding them one at a time at timed sequences to a production line.

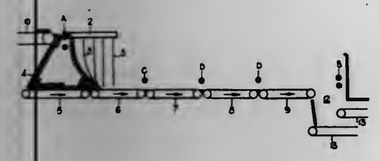
3,512,661
SILO UNLOADER SUSPENSION
Allan R. Silotor, Hardwick, Minn., assignor to A. R. Wood Manufacturing Company, a corporation of Minnesota
Filed June 6, 1968, Ser. No. 735,000
Int. Cl. B65g 65/36
U.S. Cl. 214—17 8 Claims



A silage unloader is suspended by cable within a silo for rotation about a vertical axis while removing silage. The silage removal rate of the unloader is regulated by varying the contact pressure between the unloader and the silage to compensate for non-uniform density, compaction and removal flow resistance. The amount of maximum contact pressure and the angular position of the unloader at which it occurs is selected by controlled displacement of the suspension cable from the rotational

axis of the unloader utilizing a cable guide mounted on a foldable suspension frame interconnecting the unloader with the suspension cable.

3,512,662
STORAGE BINS
Mauritz L. Strydom, Stellenbosch, Republic of South Africa, assignor to Tobacco Research and Development Institute Limited, Zug, Switzerland
Filed Nov. 25, 1968, Ser. No. 778,701
Claims priority, application Republic of South Africa, Nov. 30, 1967, 67/7,234
Int. Cl. B65g 65/76
U.S. Cl. 214—17 5 Claims



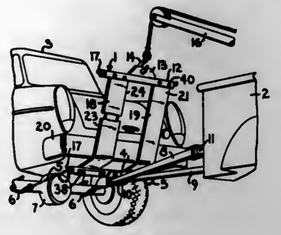
A storage bin is provided which serves as a link between two machines in a cigarette making factory and which moreover acts as a buffer between the two machines. The bin has at least three end to end conveyors forming its base. Control means are provided to actuate and deactuate the various conveyors to cause articles fed into one end of the bin to form heaps which are then transported to the other end of the bin. The control means are individually responsive to the level of articles at the feed and discharge ends of the bin and the start of the third and subsequent conveyors from the feed end of the bin.

3,512,663
LOAD SUPPORTING AND TRANSPORTING DEVICE
Martin Guerrico, Paraguay 1142, Buenos Aires, Argentina
Continuation-in-part of application Ser. No. 594,976, Nov. 15, 1966. This application Feb. 15, 1968, Ser. No. 705,840
Int. Cl. B62g 67/04
U.S. Cl. 214—38 12 Claims



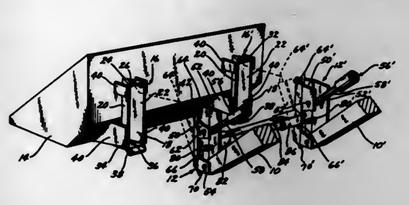
This disclosure relates to load lifting and transporting devices. The invention provides a self-supporting wheeled carriage for use in combination with a warehouse truck an automotive lift truck or the like, which is arranged to be releasably retained underneath the truck frame or platform. The truck is provided with means for releasing the carriage from its retained position, and means for ejecting the wheeled carriage under a lifted load in response to the release of the carriage retaining means. This permits an operator to push or pull the load to the desired location while same is resting on the transporting wheeled carriage, without requiring the aid of the truck which can thus have a separate carriage coupled thereto and used for lifting another load and placing the latter carriage thereunder, in load transporting position, or assigned to other duties.

3,512,664
TOWING HITCH CONSTRUCTION
Russell W. Tolle, Rural Rte. 21, Kansas City, Mo. 64119
Continuation-in-part of application Ser. No. 724,751, Apr. 29, 1968. This application July 1, 1969, Ser. No. 842,795
Int. Cl. B62d 53/04
U.S. Cl. 214—86 8 Claims



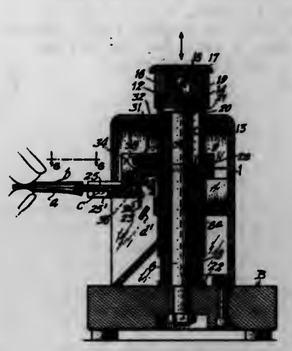
Towing apparatus includes a pair of elongated, flexible, spaced apart suspension straps adapted to bend upwardly around a bumper on the towed vehicle, the straps each comprising a molded length of high toughness elastomer with high strength, flexible wire rope cables embedded therein and extending longitudinally thereof with embedded wire screen thereover, connections to upper and lower rigid, transverse bars on the apparatus being made through eyelets at both ends of the cables adjacent the ends of the straps; the eyelets being buried within the strap at least at one end thereof.

3,512,665
QUICK ATTACH MEANS FOR END LOADERS
Walter J. Westendorf, Smithland, Iowa 51056
Filed Feb. 14, 1968, Ser. No. 705,498
Int. Cl. E02f 3/70
U.S. Cl. 214—145 11 Claims



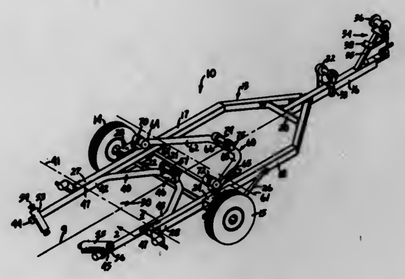
A quick attach means for end loaders such as tractor loaders or the like. A tractor loader includes a pair of booms operatively pivotally secured at one end to the tractor. A hydraulic cylinder is operatively pivotally secured to each of the booms and is positioned over the other end thereof. A hook-up bracket is pivotally secured to the said other end of each boom and the hydraulic cylinder and includes a V-shaped portion extending therefrom. Each of the various attachments for the loader such as buckets, forks, blades, etc. have a pair of V-shaped pockets secured to the rearward side thereof which are adapted to receive a hook-up bracket therein. A locking means is also provided to detachably maintain the connection between the hook-up brackets and their respective pockets.

3,512,666
OPENER AND PAD HOLDER FOR PAD-CONTAINING PACKAGE
George A. Swartz, Martinsville, N.J., assignor to Becton, Dickinson and Company, IL-Matco Division, Newark, N.J., a corporation of New Jersey
Filed Aug. 16, 1968, Ser. No. 753,116
Int. Cl. B65b 69/00
U.S. Cl. 214—305 4 Claims



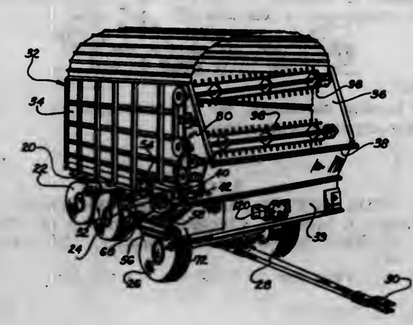
A device has shelf to support a sealed penetrable pad-containing envelope type package, and there is means including a fixed blade, an actuating plunger, a movable blade and a pad-holder which are movable on and relatively to said plunger to sever a sealed zone from the envelope and penetrate the envelope and the pad upon movement of the plunger in one direction. Movement of the plunger in the opposite direction is retarded to cause the pad holder to hold the pad on said shelf a predetermined time while the envelope is pulled off the pad.

3,512,667
BOAT TRAILER
Oscar C. Calkins, Spokane, Wash., assignor to Calkins Manufacturing Company, Spokane, Wash., a corporation of Washington
Filed Apr. 21, 1969, Ser. No. 817,781
Int. Cl. B60p 3/10
U.S. Cl. 214—505 7 Claims



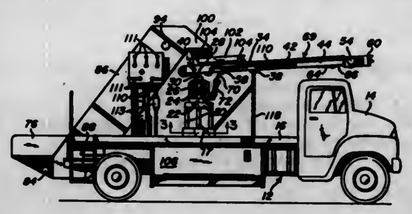
A boat trailer is described having independent self-adjusting U-shaped cradles pivotally mounted on the main frame for supporting a boat on the trailer. Side rollers are mounted on the ends of the U-shaped cradles for engaging the sides of the boat hull. A keel roll is mounted at the apex of the cradle for engaging the keel of the boat to provide a counter movement so that both the keel roll and the side rollers are proportionally supporting the boat.

3,512,668
CONVEYOR CONSTRUCTION FOR CROP AND FORAGE VEHICLE
Alexander J. Raitch, Mansfield, Ohio, assignor to Harnco Corporation, Harrisburg, Pa., a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,249
Int. Cl. B60p 1/38
U.S. Cl. 214—519 9 Claims



A wagon for transporting and unloading crop, forage and the like of the type that includes a floor conveyor adapted to move the load longitudinally of the vehicle to a cross conveyor, the latter serving to progressively discharge the load from the wagon.

3,512,669
MOBILE TRANSFER APPARATUS
Charles Robert Benedict and William N. Emmons, Dayton, Ohio, assignors to Clark Benedict Corporation, Dayton, Ohio, a corporation of Ohio
Filed Sept. 10, 1968, Ser. No. 758,786
Int. Cl. B60p 1/38
U.S. Cl. 214—521 4 Claims

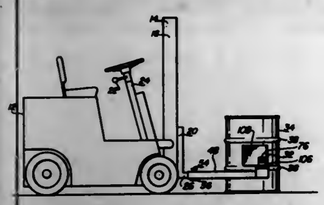


Mobile transfer apparatus for transferring materials such as sand, gravel, aggregate or the like from a carrier member, such as a truck or the like, to another machine or vehicle, such as a spreader machine or the like. The transfer apparatus includes a hopper for receiving material from a carrier member, an elevator, and a conveyor, the conveyor being rotatable, extendible, and tiltable.

3,512,670
NINETY DEGREE TURNING ATTACHMENT FOR FORKLIFT TRUCK
William E. Howard, West Hartford, Conn., assignor to Materials Handling Systems, Inc., West Hartford, Conn., a corporation of Connecticut
Filed Dec. 27, 1968, Ser. No. 787,468
Int. Cl. B65g 7/00
U.S. Cl. 214—620 7 Claims

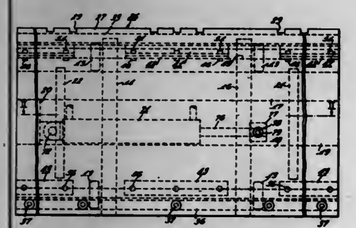
An attachment for a forklift truck is disclosed for turning drums ninety degrees from an on-end to an on-side condition and vice versa. The attachment is purely

mechanical in nature and utilizes the weight of the drum and the normal lifting movement of the fork to obtain



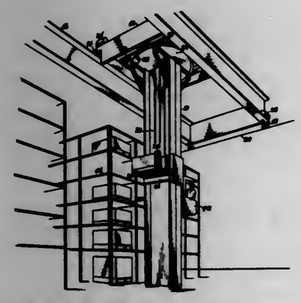
the turning movement, no hydraulic cylinder or other power actuators being required.

3,512,671
SIDE SHIFTED LIFT TRUCK CARRIAGE
Joseph F. Morocco, Chicago, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Jan. 12, 1968, Ser. No. 697,523
Int. Cl. B66f *9/14*
U.S. Cl. 214—730 1 Claim



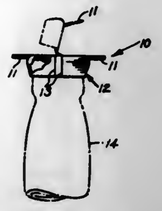
A side shift carriage having upper and lower sets of plastic bearing angles and strips with retaining lugs integrally formed therewith.

3,512,672
STACKER CRANE WITH PIVOTAL FORK AND EXTENSION MEANS THEREON
Peter William Carpenter, West Falls, N.Y., assignor to The Air Preheater Company, Inc., Wellsville, N.Y., a corporation of Delaware
Filed July 30, 1968, Ser. No. 748,815
Int. Cl. B65g *47/00*
U.S. Cl. 214—730 1 Claim



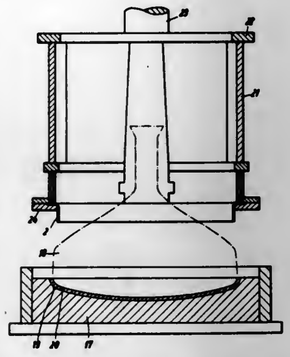
A crane that lifts loads vertically and moves them horizontally in accordance with the function of a standard stacker crane, and in addition provides a telescopic horizontal movement of the load lifting device on the crane that moves loads laterally an additionally distance into spaces not accessible with standard apparatus. Such additional horizontal movement is effective to move a load in the confined spaces of warehouses, and it is instrumental in loading, unloading, moving and stacking a quantity of articles in less time and space than is otherwise required.

3,512,673
FRANGIBLE BOTTLE CAP
Tommy A. Allison, Kansas City, Mo.
(5858 4th Ave., Los Angeles, Calif. 90043)
Filed Nov. 4, 1968, Ser. No. 773,249
Int. Cl. B65d *43/02*
U.S. Cl. 215—46 1 Claim



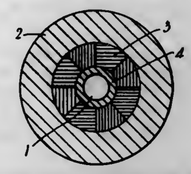
A bottle cap for beverages which does not require an opener. This cap can be removed from the neck of the bottle by pulling up a tongue which will cause the body of the cap to shear and rupture sufficiently so that the cap may be easily removed with the fingers.

3,512,674
FRAME FOR JACKETING THE GLASS BULB OF PICTURE TUBES FOR IMPLOSION-PROTECTION
Rudolf Wittenbecher, Berlin, Germany, assignor to Standard Elektrik Lorenz Aktiengesellschaft, Stuttgart Zuffenhausen, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 589,638, Oct. 26, 1966. This application June 28, 1967, Ser. No. 649,611
Claims priority, application Germany, June 30, 1966, W 41,899
Int. Cl. H01j *61/30*
U.S. Cl. 220—2.1 6 Claims



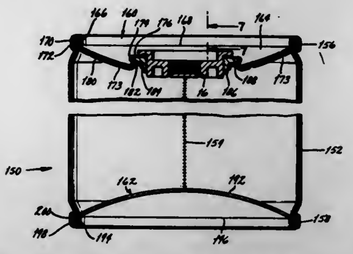
A method and apparatus for encasing video picture tubes with a protective metal band on the conical portion of the tube by pressing the band onto the tube along its longitudinal axis in the direction of the picture screen. The band is of a unitary structure having a flat portion and an integral flange disposed along the end to engage fastening elements. The flat portion is adapted to press fit over the conical portion adjacent the screen and the flange is positioned at the end away from the screen.

3,512,675
MULTILAYER HIGH PRESSURE VESSELS
John Antony Pennell, Cumberland, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Nov. 24, 1967, Ser. No. 685,387
Int. Cl. F25j *5/100*; B65d *7/44*; B23p *11/02*
U.S. Cl. 220—3 9 Claims



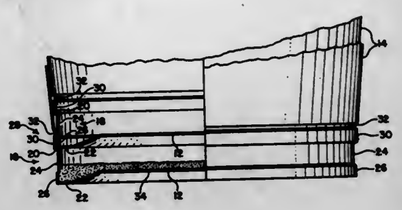
High pressure vessel having a wall part of concentric layer construction in which at least one inner layer defining an internal vessel-chamber is surrounded by at least one backing layer made of material of appreciably higher elastic modulus than the material of said inner layer to distribute operative stress changes in said wall part through the wall layers to prevent excess stress change concentration in the wall part adjoining the chamber.

3,512,676
CONTAINER END STRUCTURE
Joseph Carl Dawson, Jay B. Brown, and Euel C. Pryor, St. Louis County, Mo., assignors to WSR, Inc., a corporation of North Carolina
Filed Aug. 7, 1967, Ser. No. 658,827
Int. Cl. B65d *7/42*
U.S. Cl. 220—67 7 Claims



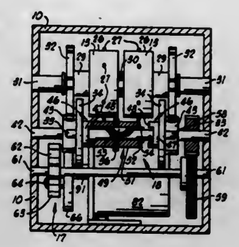
A dispensing device for use with canisters and including a plastic bung threaded into a bunghole in the canister. The bung is provided with a threaded bore having a fracturable diaphragm extending across the lower margins thereof. A plug is fitted into the bore to rigidify the bung and protect the diaphragm. When the contents are to be withdrawn from the canister, the plug is removed and replaced by an adapter having a canted internal bore. A quick-connect coupling is carried by the adapter for retentively engaging a standpipe assembly having a collector tube provided with knife edges at its end for fracturing the diaphragm when the collector tube is inserted through the adapter. The standpipe assemby also includes a feed tube which opens in to the upper portion of the canister so that a pressurized gas can be introduced into the canister to force liquid out through the collector tube. A canister having end walls each including an inwardly curved portion which integrally merges into an annular inner wall section along a circular crease. The crease and inner wall section are presented against the side wall of the canister. The inner wall section merges into an outer wall section which, in turn, merges into a locking lip which engages and interlocks with an end lip on the side wall of the canister. The top wall of the canister is buttressed with a reinforcing plate which along with the concave portion embraces a collar forming a bunghole.

3,512,677
STACKABLE CONTAINER
Michael Kovac, Northbrook, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed July 3, 1968, Ser. No. 742,338
Int. Cl. B65d *21/02*, *85/72*
U.S. Cl. 220—97 8 Claims



A disposable thin wall plastic container having stacking means to provide stacking of similarly configured containers and means for releasably and axially locking stacked containers together thereby preventing inadvertent separation thereof for ease of transporting the containers and enabling a sealed relationship to be established between adjacent containers where it is desired to provide a food concentrate therebetween.

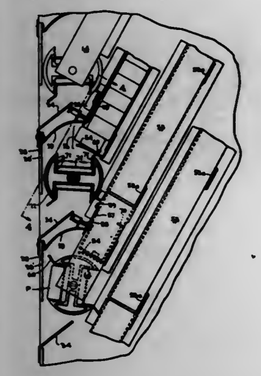
3,512,678
STAMP DISPENSER
Earl A. Beck, P.O. Box 3024, Inglewood, Calif. 90304
Filed Mar. 21, 1968, Ser. No. 714,988
Int. Cl. B65h *17/40*
U.S. Cl. 226—110 12 Claims



The present invention has primary utility for continuously dispensing a ribbon of material, such as trading stamps and the like. In one form, apparatus embodying certain principles of the present invention may include a housing in which is positioned a plurality of stamp storage means from which stamps are dispensed automatically to the exterior of the housing. Drive wheels may be provided in engagement with the ribbon of stamps from each of the stamp storage means to aid in moving the stamps from the storage means to a dispensing outlet. Power transmitting means may be provided in operative engagment with the drive wheels and with cyclic power means for activating the drive wheels alternatively. Sensing means may be provided within the housing for sensing the exhaustion of a supply of stamps in one of

the stamp storage means, whereupon shifting means responsive to the sensing means are activated to shift the power transmitting means away from the drive wheel associating with the stamp storage means from which the supply of stamps is exhausted and into engagement with the other drive wheel.

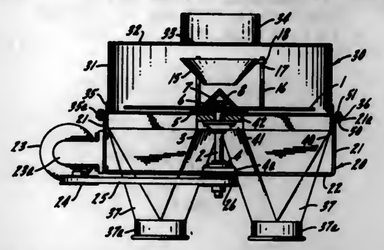
3,512,679
MULTI-SELECTION DISPENSING MACHINE
James P. Stoltz, Box 807, Conway, Ark. 72032
Filed June 5, 1968, Ser. No. 734,802
Int. Cl. B65g 59/00
U.S. Cl. 221—129 18 Claims



A multi-selection dispensing machine having a plurality of removable and replaceable magazines, each comprising a plurality of dispensing units with individual drive motors and article supply chutes, wherein each such chute supplies articles to a dispensing element which is normally at rest in a position with an article receiving recess therein positioned to display an article in readiness for delivery to the purchaser. Each unit is controlled by its own selector switch and, when actuated, makes a single complete revolution or portion of a revolution, during the initial portion of which the displayed article is discharged from the dispensing element for reception in a receptacle accessible to the purchaser. Following the discharge of the dispended article and during the latter portion of each revolution, the article recess moves beneath the article chute to receive a fresh article therefrom. The arrangement is such as to substantially eliminate the possibility of jamming of the unit prior to delivery of the purchased article. Delivery of the article is effected at the inception of the dispensing element rotation, at which time the dispensing element is free to rotate without restraint from the stack of articles, but encounters opposition to its rotation only during the latter stages of each revolution when it is called upon to eject the next article from the chute, at which time it has built up inertia to assist it in this function.

3,512,680
SOLID MATERIAL FLOW DIVIDER
Otto C. Kreiopp, Villa Park, Ill., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 29, 1968, Ser. No. 725,062
Int. Cl. G01f 11/00
U.S. Cl. 222—1 7 Claims

A solid material flow divider and method for dividing a flow of solid particles into a plurality of separate streams. The flow divider effects its separation by centrifugal delivery, by a rotated free-edged disc or the like, toward predetermined arcs of the circumference of the disc. The disc or flow receiving member is rotated about a generally upright axis and may have associated



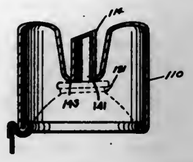
with it, if desired, for unitary movement with it, a hopper or other means for directing a flow of particles to the axial area of the upper side of the disc.

3,512,681
MEASURING DISPENSER
Merwin H. Frankel, Scarsdale, N.Y., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
Filed May 10, 1967, Ser. No. 637,408
Int. Cl. B67d 5/38
U.S. Cl. 222—158 1 Claim



A measuring dispenser for particulate material which is comprised of a closable cannister, a transparent measuring container with measuring indices, which fits on top of the cannister. The outer end of the container is perforated and is covered with a flexible overcap in the non-dispensing condition.

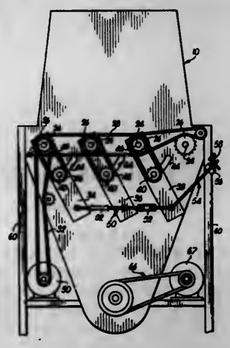
3,512,682
PROTECTIVE CLOSURE FOR AN AEROSOL CONTAINER
Richard F. Hendrickson, Erie, and Roderick V. King, Girard, Pa., assignors to Sterling Seal Company, Erie, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1968, Ser. No. 713,075
Int. Cl. B65d 47/10
U.S. Cl. 222—182 1 Claim



The invention disclosed herein is a cap for an aerosol can that has a groove down through the center. The groove has a bottom and generally parallel side walls and

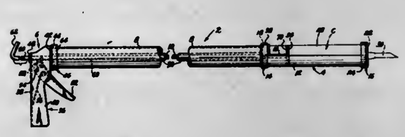
to this bottom is attached a small tube. The tube will receive the valve of an aerosol can. The tube may be attached to the bottom of the groove by means of threads, or it could be integrally attached with a scored line around it so that it could be removed, or it could be otherwise removably attached.

3,512,683
MATERIAL HANDLING CONTROL
George L. Frisbie, Gypsum, Kans., assignor to Frisbie Construction Company, Inc., Gypsum, Kans., a corporation of Kansas
Filed Mar. 14, 1968, Ser. No. 713,151
Int. Cl. G01f 11/00
U.S. Cl. 222—267 7 Claims



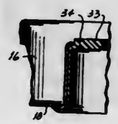
A bin having a plurality of spaced-apart, cylindrical rollers extending thereacross to retard gravitation of particulate material. Control rollers are mounted for swinging toward nad away from the space between the rollers to selectively vary the rate of gravitation of material from the bin. Both sets of rollers are powered to facilitate dispensing of material from the bin.

3,512,684
EXTENDED CAULKING GUN
Hobert Glye Sutton, Pensacola, Fla., assignor to Speed Caulking, Inc., a corporation of Florida
Filed Nov. 7, 1968, Ser. No. 773,999
Int. Cl. B67d 5/42
U.S. Cl. 222—327 4 Claims



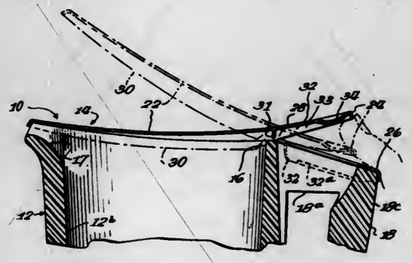
An extended in length gun for use with conventional cartridges of caulking compound and the like. The gun includes a handle and trigger assembly and a cartridge-holding chamber, joined by an elongated cylindrical casing within which a guide tube is mounted for receiving the pressure rod of the gun. The guide tube prevents bowing or deflection of the pressure rod, thereby assuring even dispensing of material when the trigger is operated.

3,512,685
AEROSOL CONTAINER
Ronald F. Ewald, Rolling Meadows, Ill., assignor to Seaquist Valve Company, Cary, Ill., a corporation of Pennsylvania
Filed Apr. 25, 1968, Ser. No. 724,010
Int. Cl. B65d 83/00
U.S. Cl. 222—396 4 Claims



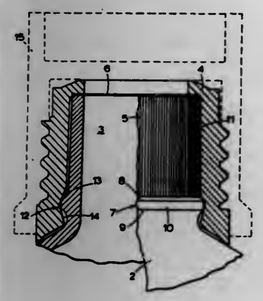
An aerosol container with an inner auxiliary plastic container internal to the customary metal can. A preformed plastic disc contoured to fit against the inside of the usual mounting cup of the valve is crimped into the valve opening of the can to isolate all metal surfaces from the product within the container. The disc may be used decoratively or may have an annular inner groove to provide a safety release for excess pressure or be provided with an inner annular protrusion to hold a container of product separate from the propellant within the can.

3,512,686
CARAFE LID ASSEMBLY
Allen Penniman, St. Louis, Mo., assignor, by mesne assignments, to Sherwood Medical Industries Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 23, 1968, Ser. No. 707,794
Int. Cl. A47g 19/14
U.S. Cl. 222—472 4 Claims



A lid assembly and a carafe having a base with a gripping handle, the lid including a cover portion hinged to a handle portion characterized in that the lid is freely pivotable in the area of the juncture of the cover portion and handle portion of the lid and the cover portion of the lid has an extension projecting over the handle area so that the cover portion may be raised by depressing the extension and returned to a closed position by gravity.

3,512,687
COLLAPSIBLE TUBES
John William Payne, West Mersea, Essex, England, assignor to Betts & Company Limited, London, England, a British company
Filed June 29, 1966, Ser. No. 561,424
Claims priority, application Great Britain, July 6, 1965, 28,512/65
Int. Cl. B67d 3/00
U.S. Cl. 222—542 2 Claims

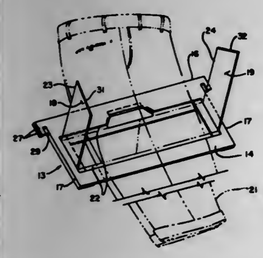


Collapsible metal tubes for dispensing creams, toothpastes, etc. are constructed, wherein the metal nozzle has a plastic snap-on sleeve around it, and interengaging surfaces are provided between the nozzle and the sleeve shaped to provide two parellel circumferential line contacts which act as effective liquid-tight seals.

ERRATUM

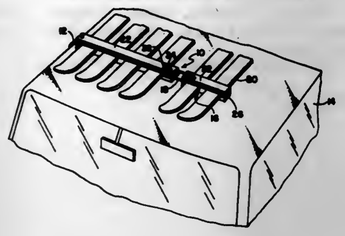
For Class 223—70 see:
Patent No. 3,512,703

3,512,688
GARMENT HANGER CONSTRUCTION
Melvin L. Bacharach, San Rafael, Calif., assignor to Levi Strauss & Co., San Francisco, Calif., a corporation of California
Filed Apr. 30, 1968, Ser. No. 725,415
Int. Cl. A41j 51/08
U.S. Cl. 223—95 5 Claims



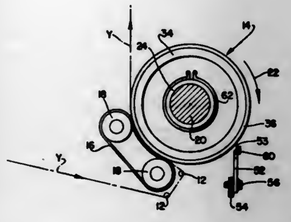
A garment hanger construction formed from a single unitary semi-rigid panel having marginal portions folded about lines of weakness to rigidify the ends and upper edge of the garment hanger. Hinged portions of the panel move into and out of the plane of the panel whereby when they are moved out of the plane, a garment may be laid upon the panel and thereafter the hinged portions folded across the garment to provide a pair of slots in the panel for locking the trousers or other garment to the panel.

3,512,689
FOLDABLE SKI RACK
James Metropoulos, Dudley, Mass., assignor to Albert Fins, Irving Fins, and Gerald Langarten, all of Worcester, Mass.
Filed Mar. 11, 1968, Ser. No. 711,950
Int. Cl. B60r 9/12
U.S. Cl. 224—42.1 9 Claims



A ski rack capable of being mounted on an automobile, wherein said rack is foldable when not in use.

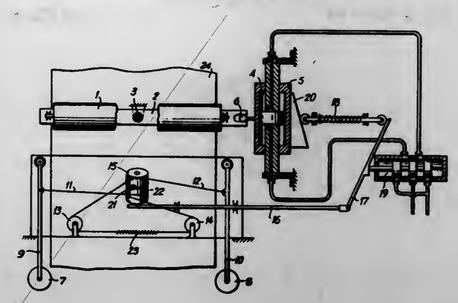
3,512,690
STRAND CONTROL APPARATUS
Daniel J. Fisher, Jr., North Kingstown, and Richard G. Hilbert, Smithfield, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Oct. 27, 1967, Ser. No. 678,748
Int. Cl. B65h 25/32
U.S. Cl. 226—11 9 Claims



Strand control apparatus including a rotatable feed roll frictionally engageable with a strand of yarn for advancing the strand. When a yarn break occurs at a location beyond the feed roll, the strand may begin to wind about the feed roll. After a predetermined quantity of yarn has wound on the feed roll, a braking unit imparts a drag on the feed roll and causes a coupling mechanism to move the feed roll from an operative to an inoperative position.

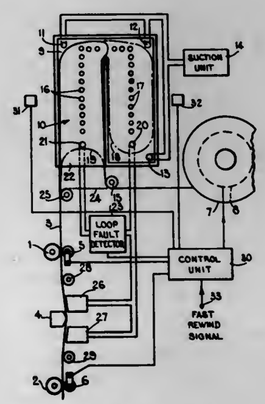
3,512,691
AUTOMATIC DEVICES FOR CENTERING THE MOVING PROCESSING CLOTH
Mark Solomonovich Neifeld, Pavel Samuilovich Moros, Leizer Zelikovich Nemesman, and Vladimir Sergeevich Ushakov, Moscow, U.S.S.R., assignors to Spetsialnoe Konstruktorskoe Bjuro Po Oborudovaniju dlya proizvodstva asbestotsementnykh Izdely I Rulonnokrovelnykh Materialov, Moscow, U.S.S.R.
Filed Dec. 7, 1967, Ser. No. 688,823
Int. Cl. B65h 25/06
U.S. Cl. 226—23 4 Claims

A moving processing cloth is centered by adjusting the angular position of an adjusting roll through the action of a movable barrel of a power cylinder. The barrel is moved by the operation of a slide valve distributor, the piston of which is actuated by a rocking shaft one end of which is connected to a spring-loaded follower bar engaging a cam on the barrel and the other end of which



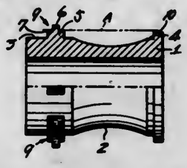
is connected to a displaceable rod which in turn is connected through a rope, lever, or hydraulic mechanism to a pair of spring loaded pivotal levers carrying rollers engaging the edges of the moving cloth.

3,512,692
TAPE HANDLING APPARATUS
Frederick Henry Patrick Horton, Camberley, Surrey, England, assignor to International Computers and Tabulators Limited, London, England, a British company
Filed May 10, 1968, Ser. No. 728,139
Claims priority, application Great Britain, May 16, 1967, 22,618/67
Int. Cl. B65h 59/36
U.S. Cl. 226—25 6 Claims



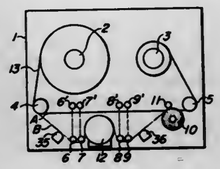
A tape handler is described having a vacuum tape reservoir and a brake block to which suction is applied so as to apply a braking force to the tape. The suction supply for the brake block is derived from the vacuum tape reservoir so that during normal operation with a loop of tape in the reservoir, maximum suction is applied to the brake block whereas during a first rewind operation the tape is withdrawn from the reservoir thereby reducing the suction in the reservoir and hence the suction applied to the brake block.

3,512,693
MOVIE FILM FEED SPROCKET FOR PROJECTOR
Jihachiro Utsumi, Yokohama, Japan, assignor to Kabushiki Kaisha Bell Ko-On, Tokyo, Japan, a joint-stock company of Japan
Filed Mar. 29, 1968, Ser. No. 717,298
Claims priority, application Japan, May 1, 1967, 42/36,289
Int. Cl. G03b 1/24
U.S. Cl. 226—54 7 Claims



A film feed sprocket for an 8 mm. projector employed for feeding two different types of 8 mm. movie films and which has spaced first film support means for one said two different types of movie films, and spaced second film support means for another type of movie film.

3,512,694
MAGNETIC RECORDING AND REPRODUCING APPARATUS
Hiroshi Sugaya, Suita-shi, Masaaki Notani, Osaka, and Hideki Sakumoto, Moriguchi-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd.
Filed June 26, 1968, Ser. No. 740,370
Claims priority, application Japan, June 27, 1967, 42/42,013
Int. Cl. G11b 15/62
U.S. Cl. 226—91 8 Claims



A magnetic recording and reproducing apparatus of the type in which a magnetic tape runs along a tape guide having therein a rotary head. In the apparatus, guide posts on opposite sides of the tape guide are movably arranged so that the traveling path of the tape during the tape loading and unloading, fast forwarding and rewinding differs from that during the recording and reproduction, thus simplifying the tape loading and unloading operation and obviating any damage to the tape and the head by moving the tape away from the head in the operation other than the recording and reproducing operation.

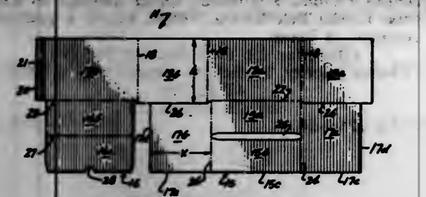
ERRATUM

For Class 226—110 see:
Patent No. 3,512,678

3,512,695
CONTAINER AND BLANK THEREFOR
Wilbur Glenn Anderson, Grand Rapids, Mich., assignor to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware
Filed Mar. 28, 1968, Ser. No. 716,863
Int. Cl. B65d 5/00, 5/10
U.S. Cl. 229—16 11 Claims

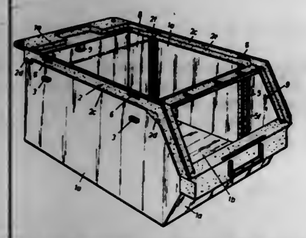
A foldable container and blank therefor are provided in which the container has a reenforced bottom delimited

by a plurality of upright side walls. The bottom is formed by panels foldably connected to the lower edges of a pair



of side walls and arranged in interlocking and interstratifying relation.

3,512,696
TRANSPORTING AND STORAGE CONTAINER ADAPTED TO BE STACKED
Claus Ebert, Schonberg, Taunus, Germany, assignor to Ilter AG, Bissingen, Switzerland
Filed Apr. 9, 1968, Ser. No. 719,901
Claims priority, application Switzerland, Apr. 10, 1967, 5,072/67
Int. Cl. B65d 5/20, 5/42, 9/34
U.S. Cl. 229—30 15 Claims



A transport and storage container, preferably made to a major portion of cardboard, which is formed by turning the cut flaps of a cut upwardly so that there is formed a bottom wall and folded-up side walls, which includes reinforcing rigid frame means arranged near the upper edge of the thus formed container, and connecting means detachably connecting said frame means to said turned-up side walls.

ERRATUM

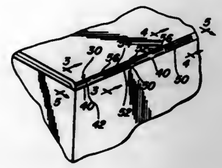
For Class 229—37 see:
Patent No. 3,512,823

3,512,697
CONTAINER
Roderick E. Robinson, Wisconsin Rapids, Wis., assignor to Consolidated Papers, Inc., Wisconsin Rapids, Wis., a corporation of Wisconsin
Filed Jan. 6, 1969, Ser. No. 789,237
Int. Cl. B65d 5/10
U.S. Cl. 229—39 2 Claims



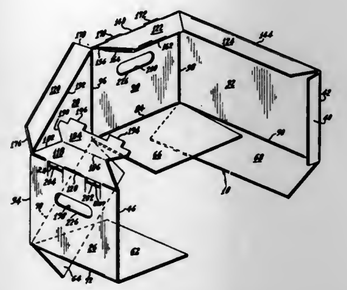
A substantially octangular carton comprised of a blank cut, scored and edgewise secured to form a collapsible tube erectible to provide top and bottom walls and relatively shallow side and end walls and inwardly foldable angular corner components to provide reinforcements for the top and bottom.

3,512,698
HINGE ARRANGEMENT FOR PAPERBOARD BOX
Stanley J. Kapustka, Chicago, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Nov. 5, 1968, Ser. No. 773,579
Int. Cl. B65d 5/66
U.S. Cl. 229—44 10 Claims



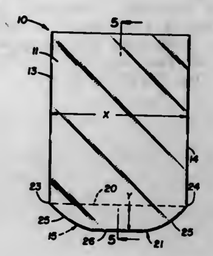
A hinge arrangement for joining the cover and side wall of a paperboard box which will insure that when said cover is moved in an opening direction to an angle greater than 90 degrees with the normal plane of the cover it will remain in an open position, and when it is moved in a closing direction to an angle of less than 90 degrees with the normal plane of the cover it will drop to a closed position.

3,512,699
CONTAINER WITH LOCKING COVER
Roy K. Wilson, Tampa, Fla., assignor, by mesne assignments, to Allied Container Corporation, Tampa, Fla., a corporation of Florida
Filed May 15, 1968, Ser. No. 729,220
Int. Cl. B65d 5/02, 45/00
U.S. Cl. 229—45 20 Claims



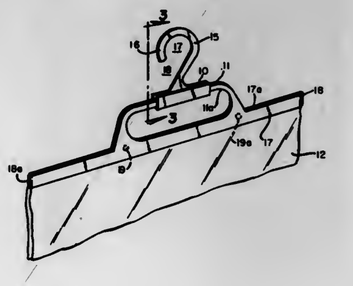
A box having a body portion, a bottom, and upstanding generally opposed side walls including a pair of body flaps having first portions respectively attached to a pair of opposed side walls by fold lines adjacent the upper edges thereof and lying in a generally horizontal plane extending inwardly of the box perimeter. Each of the body flaps includes a re-entrant portion folded on a score line spaced from and generally parallel to the wall upper edge and respectively underlying the first portions of the body flaps and extending outwardly from the score line to a position adjacent the inner surface of the pair of opposed side walls. The pair of opposed side walls are further provided with a slot positioned closely adjacent their upper edge and each re-entrant portion of the body flaps includes a locking tab. The locking tabs are positioned in respective slots in the pair of opposed side walls and extend therethrough outwardly beyond the side walls, these tabs are adapted and arranged to be engaged by portions of a cover closing the body portion thereby locking the cover thereto.

3,512,700
FLEXIBLE BAG CONSTRUCTION
Edward E. Evans, Shaker Heights, and Frank R. Million, Northfield, Ohio, assignors to The Jaite Display Bag Company, Peninsula, Ohio, a corporation of Ohio
Filed Oct. 30, 1968, Ser. No. 771,863
Int. Cl. B65d 33/16
U.S. Cl. 229—53 4 Claims



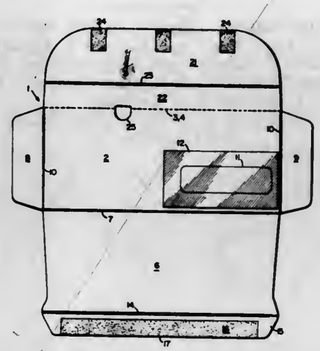
A flexible bag for packaging rounded items. The bag is formed from two panels superimposed one in front of the other and has a gusseted base portion of unique configuration that joins the bottom edges of the superimposed panels to pemit conformation of the bag to rounded items without puckering. The base portion has a pair of flap walls joined by a gusset fold, each flap wall being contiguously overlaid by one panel when the bag is in the empty, collapsed state. The gusset fold extends generally transversely between lateral, spaced side folds that join the superimposed panels along two additional edges. Oppositely of the gusset fold each flap wall is joined to its overlaid panel by a flap fold that extends between the junctures of the gusset fold with the lateral side folds along a locus of points that are curvilinear at least in proximity to the junctures and which are, except at the junctures, oriented in spaced relation to the gusset fold.

3,512,701
HOOK ADAPTER FOR CARRIER BAG HANDLE
Seymour Kamins, Oceanside, and Norman Rosenberg, Bayside, N.Y., assignors to CTP Industries, Inc., Brooklyn, N.Y., a corporation of New York
Filed Aug. 5, 1968, Ser. No. 750,352
Int. Cl. B65d 33/06
U.S. Cl. 229—54 4 Claims



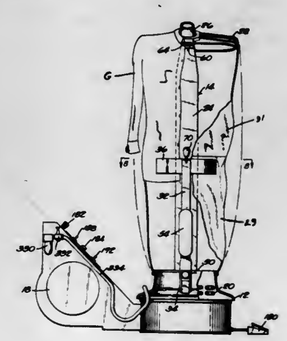
A hook-shaped adapter for snapping onto the outwardly extending bow portion of the handle for a reusable carrier bag, thereby permitting the handle to be hung from a supporting rod or the like for display.

3,512,702
SEND AND RETURN MAILING ENVELOPE AND PACKAGE
Sheldon S. Pritchard, Jr., Seattle, Wash., assignor to U.S. Plywood-Champion Papers Inc., a corporation of New York
Filed Oct. 31, 1968, Ser. No. 772,214
Int. Cl. B65d 27/06
U.S. Cl. 229—73 5 Claims



A send and return envelope and package including same is provided wherein the envelope has a pair of seal flaps one of which is used to seal the envelope when the package is sent out and the other of which is the seal flap for returning same. The package includes such an envelope and a computer punch card that is separable into two portions.

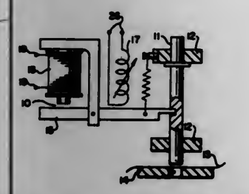
3,512,703
GARMENT FINISHER
Norman A. Buckley, Wauwatosa, and Peter D. Rasmussen, Milwaukee, Wis., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Dec. 23, 1968, Ser. No. 785,947
Int. Cl. A41h 5/00
U.S. Cl. 223—70 22 Claims



A garment finisher having a form upon which a garment is dressed and including means for admitting steam and air under pressure to the interior of the garment, and specifically having means to hold the garment relative to the form including a flexible sleeve or bag expandable by said pressure against the inside of the garment for frictionally confining the garment against outer restraining means or clamps, means including a control for the

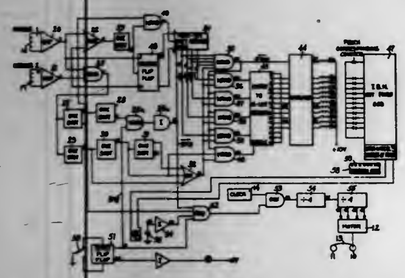
clamps wherein the clamps can be moved to and held at the operative positions and released simultaneously as desired, and further means for automatically controlling such steam and air admissions including a cycle having initial discharge of both steam and air followed by sustained discharge of steam only in turn followed by sustained discharge of steam and the simultaneous discharge of air further followed by sustained discharge of air only.

3,512,704
MOVEMENT VERIFICATION SYSTEM
John D. Hays, Troy, and Bernard J. Hausfeld and Zalmon V. Scarborough, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Aug. 29, 1968, Ser. No. 756,241
Int. Cl. G06k 5/02
U.S. Cl. 234—33 15 Claims



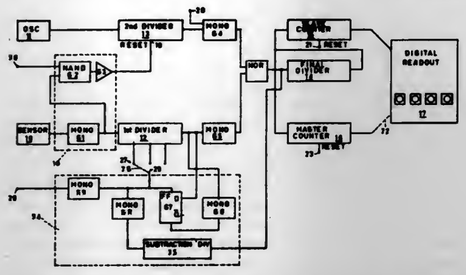
An improved system for verifying the occurrence of consummated movement in machine members which may be driven by impact or non-positive displacement is disclosed. Alternate detector embodiments each responsive to changes in two properties of a sensing coil are disclosed; the system develops output signals indicative of machine movement and instantaneous machine position. A high-efficiency excitation source for driving multiple sensing coils and a means of signal transmission with high noise immunity are disclosed for one detector embodiment.

3,512,705
PLAYBACK SYSTEM
Robert C. Rankin, West Hartford, Conn., assignor to Ripley Company, Inc., Middletown, Conn., a corporation of New York
Filed Nov. 3, 1967, Ser. No. 680,388
Int. Cl. G06k 1/18; G08c 13/00
U.S. Cl. 234—69 10 Claims



A playback system for writing information signals in in a parallel format on a storage media, said information signals obtained from a tape having a first channel in which the information signals are stored in a serial format and a second channel in which negation of the information signals is stored, comprising means for generating a command signal, stepper motor means responsive to said command signal for stepping the tape across readout means positioned to read out the signals detected by said readout means for converting the information to a parallel format, and means responsive to the signals stored in each of the channels for writing the information on the storage media.

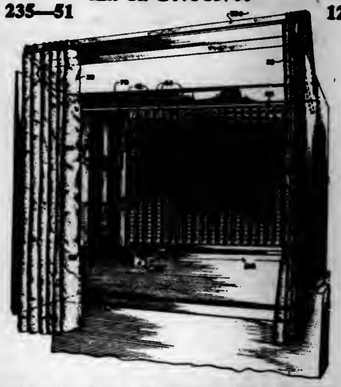
3,512,706
ELECTRONIC TAXIMETER
James Frederick Bruce-Sanders, Springfield St., Upper Mt. Gravatt, Brisbane, Queensland, Australia
Filed July 15, 1968, Ser. No. 745,021
Claims priority, application Australia, July 14, 1967, 24,615/67; Dec. 20, 1967, 31,494/67
Int. Cl. G07b 13/00
U.S. Cl. 235—30 16 Claims



An electronic taxi-meter reading a distance charge and a waiting charge includes speedometer sensor means giving pulses representing distance charge in a certain proportion, constant-frequency oscillator means giving pulses representing waiting charge in the same proportion, counting means summing to total of said pulses, and control means actuated by said sensor means to prevent application of waiting pulses to said counting means.

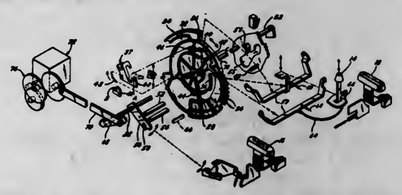
Flag-fall fare or radio-hire-charge fare may be added as pulses to said counting means. A master-counter summing charges over one shift or one day, and a speedometer-error-correction circuit may be provided.

3,512,707
VOTING MACHINE
Michael Terrance Moldovan, Jr., Jamestown, N.Y., assignor to AVM Corporation, Jamestown, N.Y.
Filed Jan. 10, 1968, Ser. No. 696,829
Int. Cl. G07c 13/00
U.S. Cl. 235—51 12 Claims



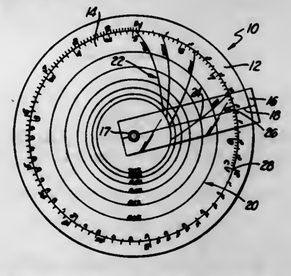
An improved voting machine embodying means facilitating the making of a single selection from a multitude of available choices on a ballot panel of a format which is familiar to persons having previously voted with paper ballots; the machine being readily adaptable to accommodate a large variety of voting procedure requirements. The machine presents to the voter a voting panel on which appear party and candidate listings in vertical and horizontal alignments, and an improved vote selection device and mechanism operably coupling it to the vote registering counters. The selector may be set and reset in voting position any number of times whereupon the machine will ultimately record only the final selection of the voter. The machine includes improved means insuring against tampering and/or fraudulent use of the machine, and complete secrecy and privacy for the voter throughout the voting operation.

3,512,708
DEVICE FOR STORING AND DISPLAYING DATA
Rolf Dumproff, Philadelphia, Pa., Eugene I. Gertler, Cinnaminson, N.J., and Donald E. Kaplan, Philadelphia, Pa., assignors to Ultronic Systems Corporation, a corporation of Delaware
Filed June 26, 1968, Ser. No. 740,297
Int. Cl. G06k 15/06
U.S. Cl. 235—58 8 Claims



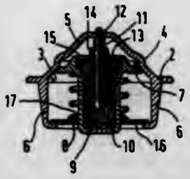
Our device for storing and displaying data typically is used in systems for checking or verifying the properiety of extending credit to customers, wherein each customer is assigned a separate multiple digit account number. In our device, the number is entered therein through use of a keyboard, and the number so entered can be displayed for comparison with a credit card bearing the number and is also stored for read out and subsequent electronic processing as well as for printing. The device contains a plurality of individually rotatable discs or wheels, each carrying along its periphery at least one set of digits, for example, digits zero through nine inclusive, and the discs are selectively indexed by mechanisms inside the device in accordance with the entered number, whereby the number can be displayed and stored.

3,512,709
AMORTIZATION PAYMENTS COMPUTER
Donnell F. Schneible, Sunnymead, Calif; Eleanor H. Schneible, administratrix of said Donnell F. Schneible, deceased
Filed Nov. 8, 1967, Ser. No. 681,320
Int. Cl. G06c 27/00, 3/00; G06g 1/02
U.S. Cl. 235—78 3 Claims



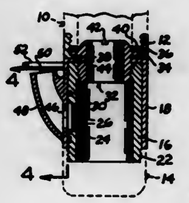
A device for determining the monthly payment required to amortize a loan. The device is similar to a slide rule in having a fixed member with a D scale, a movable member with a C scale and a cursor. The movable member has two sets of crossing lines representing interest rates and loan payoff periods. Setting a C scale index at a number on the D scale representing the amount of a loan and positioning the cursor hairline over an interest rate-loan payoff period line intersection on the movable member brings the hairline to the amount of the monthly amortization payment for the loan on the D scale.

3,512,710
THERMOSTATIC VALVE WITH EXCHANGEABLE HEAT SENSITIVE ELEMENT
Dario Resta, Turin, Italy, assignor to Triberti Francesco di Triberti Giovanni, Turin, Italy, an Italian company
Filed Oct. 18, 1967, Ser. No. 676,189
Int. Cl. F01p 7/16
U.S. Cl. 236—34 1 Claim



A thermostatic valve is provided for use in controlling the cooling fluid, preferably for internal combustion engines, comprising a housing and a thermostatic element which is temperature-responsive for controlling the movement of a valve relative to its seat, against spring forces.

3,512,711
FAUCET FOUNTAIN
Bobby R. Abbott, 3008 SW. 40th Place, Oklahoma City, Okla. 73119
Filed Aug. 8, 1968, Ser. No. 751,174
Int. Cl. E03b 9/20
U.S. Cl. 239—25 4 Claims

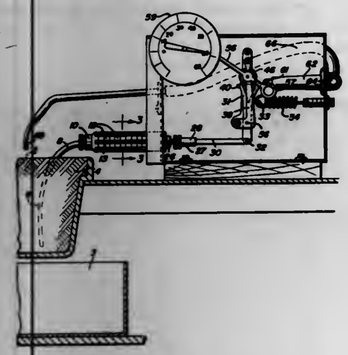


A tubular body having a wall opening is coaxially connected to the discharge end of a water faucet. A sleeve having a wall port, rotatively surrounds the body. A laterally and upwardly extending tube, connected with the sleeve around its port, ejects water when in register with the body opening.

3,512,712
AUTOMATIC WATERING DEVICE
Edward A. Benesch, Box 58, Rte. 2, Laurel Brook Road, Fallston, Md. 21047
Filed Oct. 13, 1967, Ser. No. 675,168
Int. Cl. A01g 27/00
U.S. Cl. 239—63 6 Claims

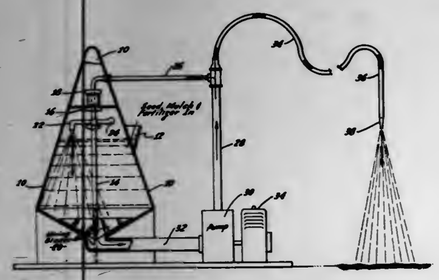
A moisture controlled water valve including a series of wooden blocks adjacently positioned and exposed to soil and atmospheric moisture whereupon the blocks ex-

pand and contract in accordance with the variation in moisture to which the blocks are exposed. The blocks are summarily linked to either a linkage member which executes displacement in accordance with the expansion and contraction of the blocks or an electric switch operative in the same manner. The linkage member operates



to control a water valve inserted in an irrigating water supply. A linkage displacement gauge mechanism is geared to the linkage member for providing a visual indication of the wooden blocks. The electric switch arrangement controls a water supply valve in a similar manner to the linkage member.

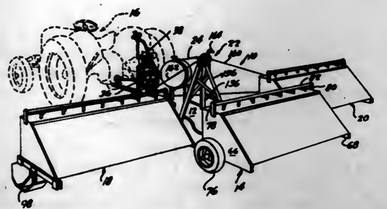
3,512,713
AGRICULTURAL APPARATUS
Richard A. Carlyon, Jr., 24848 Long Valley Road, Hidden Hills, Calif. 91302
Filed Mar. 11, 1968, Ser. No. 712,034
Int. Cl. B05b *9/04*
U.S. Cl. 239—127 5 Claims



Improved agricultural apparatus is provided which may be mounted, for example, on the back of a pick-up truck, and which may be used simultaneously to mulch, fertilize and seed an area in a convenient and efficient manner.

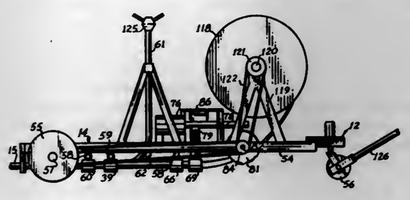
3,512,714
SPRAYER
Morton E. Phelps, 715 Thomas St., Little Rock, Ark. 72203, and Tommy O. Bell, 109 W. Main St., Hallsville, Tex. 75650
Filed Apr. 5, 1968, Ser. No. 719,149
Int. Cl. B05b *1/20*
U.S. Cl. 239—168 11 Claims

A spraying device, primarily for weed and brush control and adapted to be hitched to a tractor-like vehicle, comprising a substantially horizontal platform having means on one end for connection to a towing vehicle, means for imparting mobility and for elevating the platform slightly above ground, a rigid hood secured to the platform having enclosing walls except at the bottom which is open to the ground, means for directing a spray mixture downwardly within the hood, at least a second



rigid hood similar to said first hood and secured by hinge means to a side of said platform so as to extend laterally therefrom in its operative spraying position, means for directing a spray downwardly within the second hood, and means for raising the outer end of said second hood about hinge means to a substantially vertical inoperative position.

3,512,715
IRRIGATION APPARATUS
John Dennis Bryant, Rte. 1, Macon, Ga. 30004
Filed Mar. 8, 1968, Ser. No. 716,689
Int. Cl. B05b *3/00*
U.S. Cl. 239—189 6 Claims

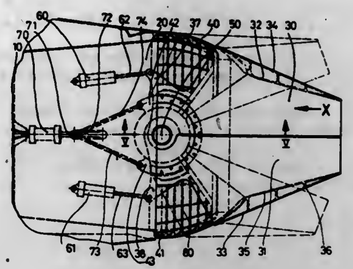


An irrigation apparatus wherein a conduit is connected at one of its ends to a source of pressurized liquid, and control means moves from the other end of the conduit toward the source of liquid and progressively opens the conduit along its length and extracts the pressurized liquid therefrom and spreads it over the surrounding land. The conduit includes a seam along its length, and the control apparatus includes an opening element for opening the conduit as it moves in one direction and closing the conduit as it moves in the opposite direction. The control apparatus also includes a reel for collecting the opened conduit, and an hydraulic piston assembly for gripping the opened portion of the conduit and moving the control apparatus along the length of the conduit.

3,512,716
EXHAUST NOZZLE FOR A JET AIRCRAFT ENGINE
Gerhard Kopp, Munich, Germany, assignor to Entwicklungsring Sud GmbH, Munich, Germany
Filed Dec. 18, 1967, Ser. No. 691,591
Claims priority, application Germany, Jan. 31, 1967, E 33,304
Int. Cl. B64c *15/06*
U.S. Cl. 239—265.29 4 Claims

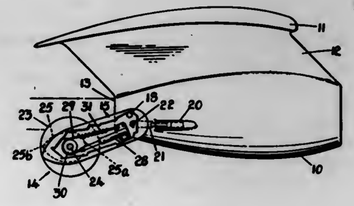
A nozzle for a jet aircraft which includes a pair of shell-shaped covers pivoted for rotation about a common axis. Means are included for selectively positioning the covers with respect to the flow path of the exhaust jet

from the engine for selective obstruction thereof. The apparatus additionally includes a pair of flaps rotatably supported upon an axis parallel to the axis of rotation of



the covers. The flaps serve to direct the jet exhaust stream and are shaped in the form of double-walled half shells reinforced by semi-circular ribs provided upon adjacent surfaces of the shells.

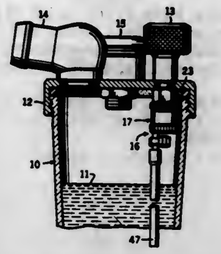
3,512,717
JET PROPULSION PLANT
Charles David Hope-Gill, 1580 Jamaica Square, North Tonawanda, N.Y. 14120
Continuation-in-part of application Ser. No. 589,752, Oct. 26, 1966. This application June 12, 1968, Ser. No. 736,458
Int. Cl. B64c *9/00*
U.S. Cl. 239—265.37 16 Claims



To deflect the jet from a jet nozzle in a jet propulsion power plant, a deflector member is located behind the jet nozzle wholly or partially within the normal flow path of the jet; the deflector extends between laterally spaced boundary walls and presents a convex longitudinal profile curved in a direction away from the jet so that the jet stream tends to follow the curvature of the surface. The transverse profile of the deflector surface matches the cross sectional shape of the jet.

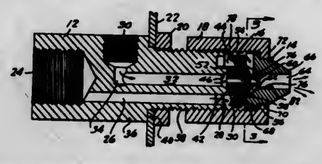
3,512,718
NEBULIZER SPRAY UNIT
Bidwell C. Cranage, Ferguson, Mo., assignor to Stile-Craft Manufacturers, Inc., St. Louis, Mo., a corporation of Missouri
Filed Mar. 6, 1968, Ser. No. 710,997
Int. Cl. A61m *11/02*
U.S. Cl. 239—338 11 Claims

The nebulizer includes a body having threadedly interconnected plug and socket portions. The end face of the plug and the bottom wall of the socket are compatibly shaped to provide a central mixing chamber, an annular liquid chamber surrounding the mixing chamber, and a peripheral gap communicating between the liquid chamber and the mixing chamber. The plug includes a gas inlet having a passageway that converges into a constricted throat portion, and, thence diverges into an entrance orifice leading into the mixing chamber. The socket includes a gas and liquid outlet communicating



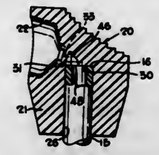
with the mixing chamber and substantially aligned with the gas inlet. The liquid chamber is supplied from a reservoir. A baffle is spaced from the gas and liquid outlet to further reduce the particle size of the mist upon impingement.

3,512,719
SIPHON NOZZLE
Morton E. Phelps, 715 Thomas St., Little Rock, Ark. 72203, and Tommy O. Bell, Hallsville, Tex. 75650
Filed Apr. 5, 1968, Ser. No. 719,152
Int. Cl. B05b *7/10*
U.S. Cl. 239—405 10 Claims



A spray nozzle comprising four parts including a spinner member, with an orifice member disposed adjacent thereto, and an adapter member adjacent the orifice member with a cap member threadably engaging the adapter member so as to hold the parts together in a sealed and proper relationship. The interior of the adapter member and the orifice member and the spinner nozzle member are provided with passageways for passing a liquid and air therethrough so as to provide a rotating stream of air escaping from the nozzle in such a way as to create a suction and pull liquid from the orifice member to provide a spray emanating from the nozzle.

3,512,720
ONE-PIECE AEROSOL SPRAY HEAD AND NOZZLE
Norman E. Platt, St. Louis, Mo., assignor to Clayton Corporation, St. Louis, Mo., a corporation of Delaware
Filed Apr. 23, 1968, Ser. No. 723,455
Int. Cl. B05b *1/34*
U.S. Cl. 239—490 3 Claims

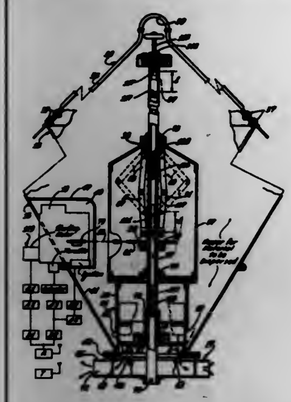


A one-piece aerosol spray head and nozzle has a central bore terminating in a transverse surface recessed to provide a rounded top, forward-facing whirl chamber and

two spaced apart flow passages entering it, one at each of its lower corners. Inflow at each of the two corners effectively turns the inflow from the other, to speed whirling flow to a central spray orifice.

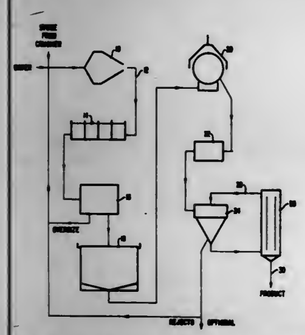
3,512,721
SPREADER FOR FLOWABLE MATERIAL
Conrad R. Barlow, Redondo Beach, and Alexander H. B. Fergusson, Rialto, Calif., assignors to Transland Aircraft, Inc., Harbor City, Calif., a corporation of California
Filed Jan. 29, 1968, Ser. No. 701,342
Int. Cl. A01c 17/00; B05b 17/02
U.S. Cl. 239—668 10 Claims

This disclosure describes a spreader for flowable ma-



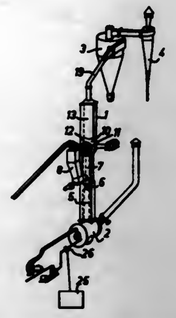
terial which includes a hopper for storing the flowable material and having an opening therein through which the flowable material can pass. An impeller receives the material from the opening in the hopper and distributes the material. A valve controls the flow of material to the impeller.

3,512,722
METHOD OF PRODUCING A FINELY DIVIDED SUBSTANCE AND APPARATUS THEREFOR
Robert F. Hall, Tate, Ga., assignor to The Georgia Marble Company, Tate, Ga., a corporation of Georgia
Filed Oct. 3, 1967, Ser. No. 672,638
Int. Cl. B02c 9/04
U.S. Cl. 241—24 3 Claims



A method for producing finely divided filler, particularly calcium carbonate extender pigment, wherein the crushed rock is subjected to a wet grinding operation and after being subsequently dried and pulverized, is then suspended in an air stream and classified according to a selected particle size. The oversize particles are separated from the air stream to obtain a product that is relatively free of agglomerates and which has improved brightness and reflectance.

3,512,723
INSTALLATION FOR SIMULTANEOUSLY DRYING PULVERISING AND GRADING GRANULAR MATERIALS
Jacques A. Geoffroy, Forbach, France, assignor to Charbonnages de France, Paris, France, a public institution of France
Filed June 26, 1968, Ser. No. 740,381
Claims priority, application France, June 30, 1967, 112,724
Int. Cl. B02c 13/04, 13/288, 21/00
U.S. Cl. 241—34 8 Claims



Improved installation for simultaneously pulverizing in a fluidized bed, grading and drying or preheating non-agglutinant granular materials at the temperature of the drying or preheating treatment, wherein the chamber connected to a lower combustion chamber and to an upper dust removing cyclones comprises in an upward direction:

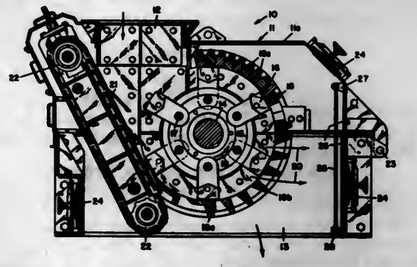
A zone for homogenising the flow of hot gases issuing from the combustion chamber,

A drying zone wherein the product to be treated is introduced,

A pulverising zone wherein the product formed a fluidized layer and is subjected to the impact of a pulverisor, and

A gravity grading zone.

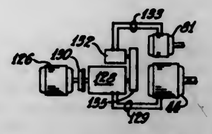
3,512,724
HAMMER MILL WITH FLEXIBLE SHIELD
Robert Lucas, Paris, France, assignor to Fives Lille-Cail, Paris, France
Filed Aug. 1, 1967, Ser. No. 657,716
Claims priority, application France, Aug. 1, 1966, 71,640
Int. Cl. B02c 13/04
U.S. Cl. 241—86 5 Claims



A casing containing a hammer-equipped rotor surrounded by a cooperating grill having openings through

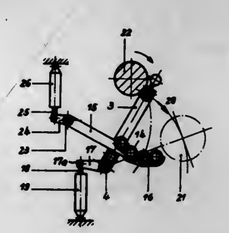
which pulverized material is discharged into the interior of the casing. A resiliently flexible shield is provided in the path of the discharged material to prevent the material from contacting and accumulating on walls of the casing. The shield is vibrated and flexed by impact of the discharged material and is thus self-cleaning.

3,512,725
METHOD AND APPARATUS FOR FORMING AND COLLECTING FILAMENTS
Roy E. Smith, Toledo, and Jerome P. Klink, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application Dec. 22, 1966, Ser. No. 603,857, now Patent No. 3,408,012, dated Oct. 29, 1968. Divided and this application June 17, 1968, Ser. No. 737,682
Int. Cl. B65h 54/02
U.S. Cl. 242—18 15 Claims



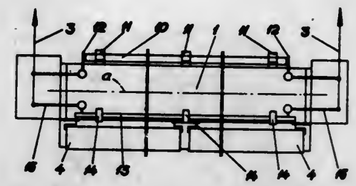
A machine for forming and winding continuous filaments upon a rotating collet whereby the collet is driven by a first motor, and a second motor drives a rotatable strand oscillator. The two motors are supplied with current from a generator or alternator whose speed is varied in accordance with the diameter of the package of filaments being wound to progressively reduce the speed of the collet and oscillator while maintaining a proper ratio of collet speed to oscillator speed.

3,512,726
APPARATUS FOR CHANGING WINDING-UP BOBBINS ON DRAWING FRAMES AND PREPARATORY SPINNING MACHINES
Johann Kaiser, Waldshut, Germany, assignor to Chr. Mann Maschinenfabrik, Waldshut, Germany
Filed Jan. 29, 1968, Ser. No. 701,304
Claims priority, application Germany, Feb. 1, 1967, M 72,611
Int. Cl. D01g 27/04; B65h 75/00
U.S. Cl. 242—54.4 7 Claims



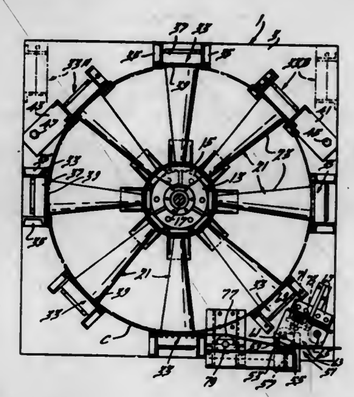
An apparatus for changing winding-up bobbins on drawing frames and preparatory spinning machines, which includes a creel having two arms pivotally supported and carrying clamping means operable to receive an empty bobbin sleeve and to release a full bobbin sleeve, and feeding lever means for feeding an empty bobbin sleeve at a time between the clamping means after release of a full bobbin sleeve from between said clamping means, automatically operable means being provided for operating said clamping means and said feeding arm means.

3,512,727
PRESSURE ROLL BEAM IN A LONGITUDINAL SHEET CUTTER
Jaakko Severi Palovaara, Jyvaskyla, Finland, assignor to Valmet Oy, Helsinki, Finland, a corporation of Finland
Filed Mar. 13, 1968, Ser. No. 712,667
Claims priority, application Finland, Mar. 14, 1967, 756/67
Int. Cl. B65h 17/12, 35/02
U.S. Cl. 242—66 7 Claims



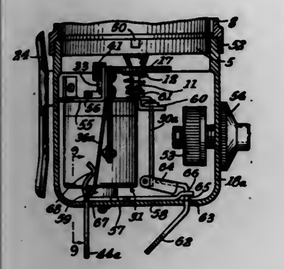
A mechanical, hydraulic or pneumatic device acts upon the pressure roller beam of a longitudinal sheet cutter either above or below its neutral axis—or both above and below—to cancel at least partly the deflection of the pressure roll beam caused by its own weight, action above the neutral axis producing a longitudinal tensile stress in the beam, while action below the neutral axis produces longitudinal compression in the beam.

3,512,728
UNCOILER
William H. Johnson, Harrisonburg, Va., assignor, by mesne assignments, to Tennoco Inc., Houston, Tex., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,827
Int. Cl. B21c 47/16
U.S. Cl. 242—78.6 13 Claims



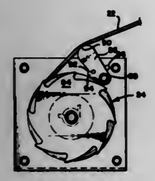
An uncoiling apparatus for large coils of steel has a rotatable center core to receive the center aperture in the coil of steel. Radiating from the center core are a series of tapered rollers on which the coil of steel is supported. At the outer radial ends of the tapered rollers are a series of vertically extending fences. The uncoiler has a pay-out section which includes an automatically operated brake mechanism that places braking pressure on the strip of steel leaving the uncoiler when the pull or tension on the strip is reduced. When this happens, centrifugal force on the coil causes it to expand radially so that the outermost coil engages the surfaces of the fences and the resulting friction acts as a brake to reduce the rotation of the coil.

3,512,729
FISHING REEL WITH ELECTRIC WINDING MEANS
William T. Miller, Parker Star Rte., Box 2502, Blythe, Calif. 92225
Continuation-in-part of application Ser. No. 418,128, Dec. 14, 1964. This application Sept. 12, 1967, Ser. No. 675,276
Int. Cl. A01k 89/00
U.S. Cl. 242—84.2 3 Claims



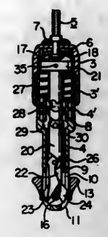
A closed-face spinning reel includes an electric motor geared to rotate a winding head relative to a normally stationary spool. The winding head is located coaxially forward of the spool, within a conical cover of the housing, and on a shaft slidable between forward, casting position and a rearward position surrounding the spool for winding. A lever is provided on the rear section of the housing for manipulation by the rod holding hand of the operator to move the slidable shaft and flyer forward for casting; after which, the operator releases the lever and closes a switch to energize the motor to rotate the flyer to wind line around the spool. The speed of the motor can be regulated by a rheostat in the motor circuit.

3,512,730
RETRACTABLE SAFETY BELTS
Richard G. Board, Bethesda, Md. (3000 Connecticut Ave., Wash, D.C. 20008), and Nelson H. Shapiro, Hyattsville, Md. (7001 Old Cabin Lane, Rockville, Md. 20852)
Continuation of application Ser. No. 417,924, Dec. 14, 1964. This application July 3, 1967, Ser. No. 651,045
Int. Cl. B65h 75/48
U.S. Cl. 242—107.4 21 Claims



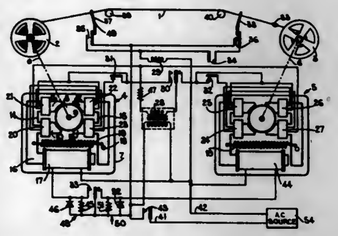
A seat belt retractor comprising a reel and a strap connected thereto for retraction and extension, and means for preventing extensile rotation of said reel, and further means for determining when said strap has been retracted to a predetermined retracted condition and for rendering said extensile-rotation preventing means inoperative only after said strap has been retracted to said condition, and strap guide means render the extensile-preventing means operative after the strap has been extended to a desired length and the force for extending the strap has been reduced.

3,512,731
BOBBIN HANGER
Shinzo Kitamura, 941 Ikaga, Hirakata-shi, Osaka, Japan
Filed Oct. 23, 1967, Ser. No. 677,411
Claims priority, application Japan, June 12, 1967, 42/37,122
Int. Cl. B64c 1/38
U.S. Cl. 242—130.2 10 Claims



A bobbin hanger for suspending a supply bobbin has two pawls pivoted on the lower end portion of a stem fixed at its upper end to a supporting member which is rotatably supported by a screw, a cylindrical guide member slidable on the stem has slots for the pawls and a transverse pin which engages lower cam surfaces of the pawls to swing the pawls outwardly to engage a shoulder in the bore of a bobbin when the guide member is slid upwardly on the stem, a compression spring acts between the supporting member and the guide member to urge the guide member downwardly.

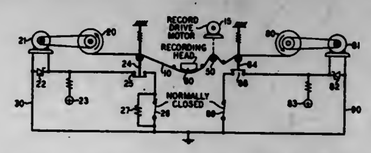
3,512,732
MOTOR AND DRIVING SYSTEM
Charles Bernard Walsh, Hemingford Grey, England, assignor to International Computers Limited, London, England, a British company
Filed Oct. 24, 1968, Ser. No. 770,168
Claims priority, application Great Britain, Aug. 30, 1968, 41,410/68
Int. Cl. B65h 75/02
U.S. Cl. 242—188 9 Claims



A shaded pole motor of modified construction is arranged in a circuit to provide enhanced torque by the substitution of boosted windings to replace the conventional shading windings, and the arrangement includes, instead of the conventional short-circuiting of a pair of shading windings, the energization of the boosted windings by alternating current concurrently with the energization of the normal field coil. In a tape or ribbon drive system two such motors are used, a first one to pay out the tape or ribbon from a first reel and a second to wind up the tape as it is paid out. By the use of normal shading windings and a series reactance in the field coil circuit, the first motor is ararnged to have an output torque lower than normal, while the second motor is arranged to have an enhanced torque so that the tape is maintained under tension while it is fed. Pole pieces of both motors are carried on a spring

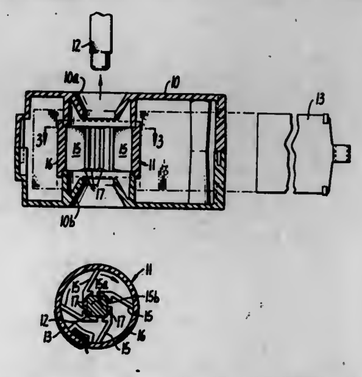
loaded limb of their respective armatures so that, on de-energization, the spring pole pieces act as brakes to maintain tape tension. Reversal of direction of tape feeding is accomplished by providing two diametrically opposed pairs of windings on the pole pieces of each motor, one pair being boosted windings and the other pair being normal shading windings. The winding arrangements of one motor are the inverse of those of the other motor, so that tape tension is maintained while the tape is fed in either direction.

3,512,733
TAPE TRANSPORT FOR INCREMENTAL STEPPING RECORDER
Cyrus F. Ault, Wheaton, Ill., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Apr. 24, 1968, Ser. No. 723,711
Int. Cl. B65h 59/38; G03b 1/04; G11b 15/32
U.S. Cl. 242—190 8 Claims



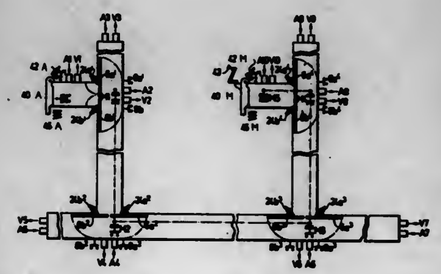
The characteristics of permanent magnet direct current motors are used in apparatus for controlling the tape tension in a magnetic tape recorder and at the same time providing rapid wind or rewind operation. Individual permanent magnet motors are linked with respective tape reels and interconnected into power supply circuitry actuated by switches responsive to tension arm devices. Depending on the tape tension on each tension arm device, the respective switch associated therewith either applies power to the respective motor or places it in a dynamic braking state, thereby holding the tape tension within a prescribed range. For rapid wind or rewind operation, continuous power is applied to the motor associated with the tape take-up reel.

3,512,734
TAPE CARTRIDGE
Lyle G. Priest, San Jose, Calif., assignor to Information Design, Inc., Palo Alto, Calif., a corporation of California
Filed Sept. 23, 1968, Ser. No. 761,429
Int. Cl. G11b 15/32, 23/10; B65h 17/02
U.S. Cl. 242—197 9 Claims



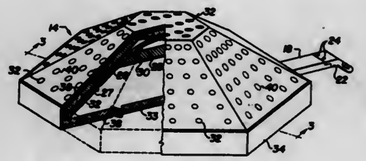
A cartridge for tapes and the like to be used in conjunction with a projector having a drive shaft, the improvement in a spool construction having fingers that engage a multi-sided drive shaft when rotated in one direction but release from the drive shaft if rotated in the opposite direction; a cartridge of the kind described and having a spool that may be engaged with a multi-sided drive shaft without precise alignment.

3,512,735
CONVEYING SYSTEM FOR CONTAINERS
Olof Henrik Hallstrom, Stockholm, Sweden, assignor to AB Centralsug, Johannesshov, Sweden, a corporation of Sweden
Filed Feb. 29, 1968, Ser. No. 709,326
Int. Cl. B65g 51/22, 51/32
U.S. Cl. 243—16 4 Claims



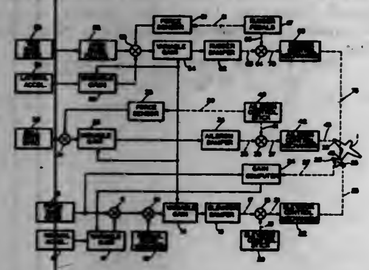
A conveyor system for pneumatically conveying containers through a duct system. The containers have flat top and bottom walls as well as side walls which are perpendicular to the top and bottom walls. The duct system has intersecting vertical and horizontal ducts, and the arrangement is such that the containers remain upright throughout the entire system.

3,512,736
RADIATIVE HEAT SOURCE AND RE-ENTRY BODY
William B. Weber, Timonium, and Robert H. Anderson, Baltimore, Md., assignors, by mesne assignments, to Teledyne, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Oct. 20, 1967, Ser. No. 676,852
Int. Cl. B64g 1/00; G21h 1/10
U.S. Cl. 244—1 19 Claims



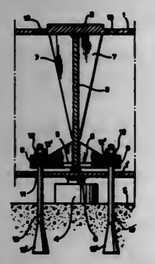
A radioisotopic heat source for use in space traversing vehicles. The source is mounted internally at the center of gravity of a passively stable, self-orienting atmospheric re-entry shield. The shield is shaped having a low ballistic coefficient and formed of a heat conducting material such as graphite. The shield serves the additional function of distributing radioisotopic thermal energy to an array of thermocouples for providing electrical power to the vehicle.

3,512,737
AIRCRAFT CONTROL SYSTEM INCLUDING MEANS FOR ADJUSTING FLIGHT CONDITION SIGNAL GAIN
Walter A. Platt, Fairlawn, and George H. Pfersch, Jr., Lodi, N.J., and Harry W. Bedell, Jr., Huntington Beach, Calif., assignors to The Bendix Corporation, a corporation of Delaware
Filed July 1, 1968, Ser. No. 741,619
Int. Cl. B64c 13/18
U.S. Cl. 244—77 12 Claims



A system for controlling an aircraft in response to gain adjusted flight condition signals. The high frequency gain of the aircraft is determined in response to predetermined flight condition signals, and which gain is an approximate measure of the dynamic pressure of the aircraft. Flight condition signal gain is adjusted in direct or inverse proportion to, or as a predetermined function of, the high frequency gain.

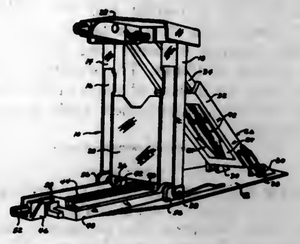
3,512,738
PRESTRESSING OF SUPPORT MEMBERS FOR SLIDE BENCHES OF LARGE MACHINE TOOLS
Mario Galbiati, Pavia, and Francesco Cotta Ramusino, Milan, Italy, assignors to Innocenti Societa Generale per Finanziaria Metallurgica e Meccanica, Milan, Italy
Filed Feb. 19, 1968, Ser. No. 706,334
Claims priority, application Italy, Oct. 20, 1967, 53,436-A/67
Int. Cl. E02d 27/44; F16m 17/00
U.S. Cl. 248—25 3 Claims



A central support jack for a machine tool slide bench to which vertical loads are transmitted by a vertical web is preloaded by two vertical tie-rods disposed symmetrically on opposite sides of the web and engaging respective cross-arms attached to or pivoted on the web.

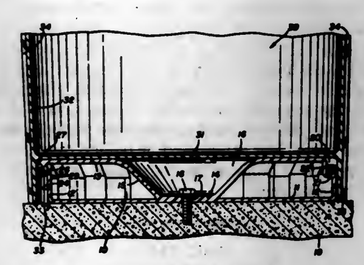
3,512,739
HYDRAULICALLY CUSHIONED RAILWAY TRAILER HITCH
Richard G. Powell, Houston, and Eulas R. Atkinson, Conroe, Tex., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Nov. 16, 1967, Ser. No. 683,500
Int. Cl. B60p 7/16; F16f 5/00
U.S. Cl. 248—119 15 Claims

A cushioned collapsible trailer hitch for securing a trailer to a railway car including an energy dissipating shock absorbing diagonal support to protect the trailer from excessive shock. The diagonal support is provided



with a pair of parallel hydraulic shock absorbers, each having structure for controlling fluid transfer in response to internal pressure differential.

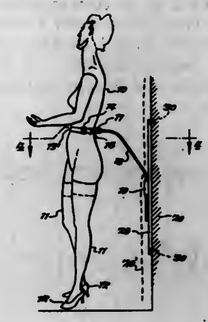
3,512,740
HOLD-DOWN PLUG AND SOCKET CONSTRUCTION
Sergey Gary Podwalny, Smithville, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed Mar. 13, 1968, Ser. No. 712,642
Int. Cl. A47g 23/02
U.S. Cl. 248—154 6 Claims



The invention relates to a plug and socket construction providing detachable supporting means for gripping a receptacle to prevent accidental displacement. The detachable support comprises a plug secured to a supporting surface and having reduced peripheral portions forming a groove receiving an O-ring which frictionally engages and grips the wall of a socket in the receptacle fitting over the plug. At least some of the peripheral portions have annular surfaces inclined upwardly outward and terminating at annular stop shoulders whereby upward movement of the socket wedgably compresses the O-ring and increases gripping action.

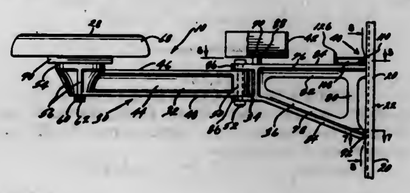
3,512,741
DISPLAY FIGURE SUPPORTING CONSTRUCTION
Irving Goldstein, 260 Westfield Road, Eggertsville, N.Y.
Filed Nov. 14, 1966, Ser. No. 593,879
Int. Cl. A41h 5/00; A63h 3/50
U.S. Cl. 248—206 8 Claims

A display figure supporting construction including a magnet, an elongated rod-like member for mounting the magnet relative to a fixed standard, a keeper, a belt for mounting the keeper on the display figure including a flexible connection between the keeper and the belt, and a coating on the magnet for preventing abrasion of a garment location between the magnet and the keeper upon separation of the magnet from the keeper. A display figure supporting construction wherein two spaced keepers



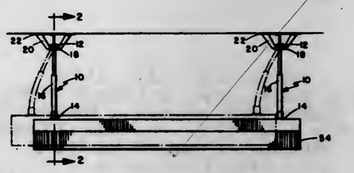
are mounted on the belt and two spaced magnets are mounted on a yoke for engagement with the spaced keepers.

3,512,742
CABLE SPLICER'S SEAT
William F. Robson, Jr., 1263 S. Steele St., Denver, Colo. 80210
Filed Mar. 12, 1968, Ser. No. 712,517
Int. Cl. A47c 3/20
U.S. Cl. 248—240 2 Claims



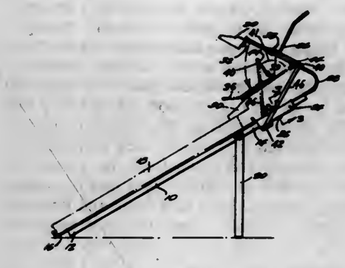
This invention relates to a seat pivotally-attached to one end of a horizontal articulated arm that adjustably-fastens into the uprights of cable-carrying racks.

3,512,743
ADJUSTABLE LIGHTING FIXTURE HANGER WITH WIRING PROTECTION MEANS
Willis L. Lipscomb, 2208 Willow St., San Diego, Calif. 92106
Filed Nov. 14, 1966, Ser. No. 593,143
Int. Cl. F21v 21/16, 21/22, 21/32
U.S. Cl. 248—324 5 Claims



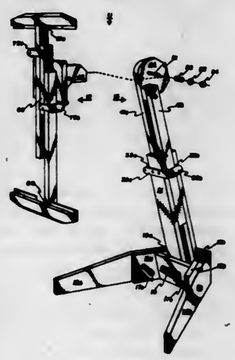
A lighting fixture hanger including a hollow flexible, longitudinally extensible tubular member, the upper end of said tubular member attached to a ceiling fixture, the lower end of said tubular member attached to a lighting fixture and a support cable connected to said ceiling fixture and said light fixture extending through said hollow tubular member.

3,512,744
READING AID APPARATUS
Fred D. Phillips, 204 S. Davis Ave., Columbus, Ohio 43223
Filed Dec. 21, 1967, Ser. No. 692,365
Int. Cl. A47b 23/00
U.S. Cl. 248—448 3 Claims



Reading aid apparatus for the purpose of supporting various sized books, holding pages open to facilitate comfort and ease in reading for long periods of time or achieving copy work for scholastic endeavors. The book is placed on parallel supports or rests and the top is adjustable for various sizes by an adjustment clamp. It is opened and closed to suit by hinged movements with the lever type clamps having a two-state position with an over-center type action of rubberbands and clamp means.

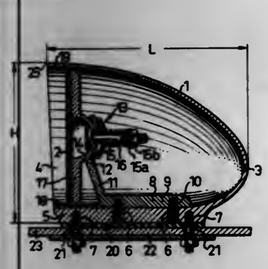
3,512,745
ARTIST'S EASEL
Cletus W. Gress, 3636 4th Ave., San Diego, Calif. 92103
Filed Aug. 7, 1968, Ser. No. 750,820
Int. Cl. A47b 97/08
U.S. Cl. 248—449 10 Claims



An improved artist's easel having two opposing T-square clamps, cross members of which contain a shaped slot and piercing points to engage the work pieces in non-slip relationship; long extensions of the clamps being held parallel to each other on either side of a common support by spring-loaded eccentric cams with accessible release levers; the common support being centered on a rotational pivot oriented at 90° to the long clamp extensions which passes through and is affixed to a perpendicular plate containing rollers with axes oriented along radii centering on the rotational pivot, and through a pivot hole in a second perpendicular detent plate which contains multiple pairs

of elevated ridges or simple depressions which mate with the circumferences of the rollers to form rotational detent stops when the two plates are parallel and held together by spring compression acting along the center line of the rotational pivot; the detent plate being fixedly attached to a perpendicular elevation roller plate which contains rollers with axes oriented along radii centering on a perpendicular elevation pivot hole through which passes an elevation pivot which is fixedly attached to a perpendicular elevation detent plate which contains multiple pairs of elevated ridges or simple depressions which mate with the circumferences of the rollers to form elevation detent stops when the two elevation plates are parallel and held together by spring compression acting along the center line of the elevation pivot; the elevation detent plate being fixedly attached to a pair of long parallel support slides which move up and down freely in recesses in an I pedestal unless locked in position by a pair of eccentric cams which are operated by a foot lever and linkage; the I pedestal rising obliquely from two foot supports and forming a base to which are attached two foldable feet which, for stowage, may be parallel to the I pedestal or, in use, may be locked in rigid support extension with the outermost ends at approximately 60° arc of separation.

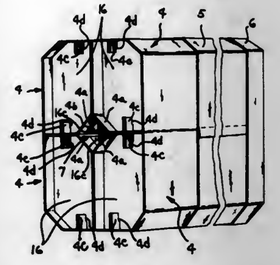
3,512,746
ADJUSTABLE SIDE REAR VIEW MIRROR FOR MOTOR VEHICLES
Mario Vitaloni and Giovanni Vitaloni, both of 12 Via Tepice, Turin, Italy
Continuation of application Ser. No. 476,495, Aug. 2, 1965. This application Apr. 15, 1968, Ser. No. 726,640
Int. Cl. B60r *1/06*
U.S. Cl. 248—483 3 Claims



A side rear view mirror for motor vehicles having a stream-lined housing increasing in cross-section from its closed front end toward its open rear end, and having a bottom wall with bores therein for receiving connecting screws to be screwed into a portion of a motor vehicle body for connecting said bottom wall and thereby said housing to said motor vehicle. Completely arranged in said housing is a holding member with a first arm supported by, and firmly connected to the wall, and with a second arm extending upwardly from said first arm and having a socket section adjustably and arrestably supporting a cup portion of the mirror means.

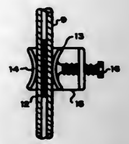
3,512,747
CORRUGATED PAPER BOARD FORM FOR CONCRETE VOIDS
Charles H. Stark, Waterville, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Sept. 1, 1967, Ser. No. 665,158
Int. Cl. B28b *7/34*
U.S. Cl. 249—134 5 Claims

This application discloses a form for defining an elongated void in a poured concrete structure, particularly a concrete box beam, which may be constructed in its entirety from a multiplicity of sheets of corrugated fiberboard, or similar foldable, sheet-like material. The basic element of the void form comprises at least two primary sheets, each having a length corresponding to that of the desired void and being transversely foldable to conform to the desired cross-sectional configuration of portions of the void, the longitudinal edges of each such sheet being folded inwardly and lying in abutment with a simi-



larly folded longitudinal edge of another sheet so that the sheets collectively define the desired void configuration. The sheets are held in assembly and reinforced by a plurality of reinforcing pads each of which is contured to be snugly insertable in the space collectively defined by the primary sheets and each pad having inwardly extending slots in its periphery respectively snugly engagable with the abutting longitudinal edges of the primary sheets to hold the same in assembly.

3,512,748
FLUID-FLOW CONTROLLER
Donald R. Wilson, Santa Cruz, Calif., assignor to Pacific Plantronics, Inc., Santa Cruz, Calif., a corporation of California
Filed Aug. 14, 1967, Ser. No. 660,360
Int. Cl. F16l *55/14*
U.S. Cl. 251—8 2 Claims

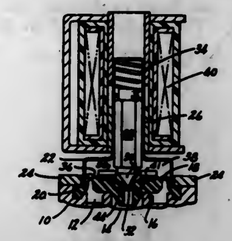


A resilient porous insert is disposed within a flexible fluid-confining tube at a location therein adjacent to a clamp which is arranged to alter the cross-sectional area of the internal bore of the tube for altering the flow of fluid through the tube.

3,512,749
PILOT OPERATED VALVE
Thomas E. Noakes, Detroit, and John E. McRae, Dearborn Heights, Mich., assignors to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 712,728
Int. Cl. F16k *31/06*
U.S. Cl. 251—30 5 Claims

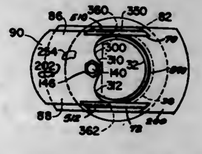
This invention proposes a pilot-operated, solenoid-controlled valve wherein the pilot valve opening is formed by a mass of resilient material which is deformable in response to pressure build-up within a control chamber so that when the pilot element is seated (i.e. closed) the size of the opening is reduced, thereby lessening the solenoid force required to open the element. Preferably

the pilot element takes the form of a plunger mounted for straight-line movement and having a conical tip area registering the pilot opening; guide walls (defining cam



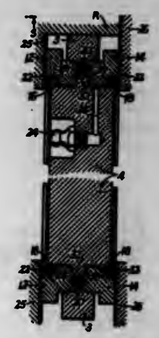
surfaces) are disposed about the pilot opening to guide the tip into the opening even though the opening is in some cases very small, e.g. on the order of .03 inch.

3,512,750
GATE VALVE FOR IRRIGATION PIPES
Ervin H. Neemeyer, Rte. 1, Box 79, Columbus, Nebr. 68601
Filed Mar. 19, 1969, Ser. No. 808,488
Int. Cl. F16k *51/00*
U.S. Cl. 251—145 10 Claims



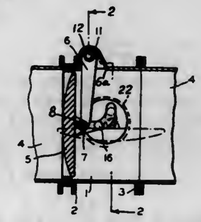
An irrigation valve mounted in a side of an irrigation pipe comprising an annular valve body having a substantially cylindrical portion received in a circular pipe opening, a gate at the inner end of the valve, and means mounting the gate in a manner making possible maximum flow while making also possible the insertion of the valve into operational position by passage through the circular pipe opening.

3,512,751
SHEARING VALVE ASSEMBLY
Thomas W. Fitzgerald, Westfield, N.J., assignor to Everlasting Valve Company, Cranford, N.J., a corporation of New Jersey
Filed Aug. 20, 1968, Ser. No. 754,035
Int. Cl. F16k *1/16, 3/10*
U.S. Cl. 251—302 3 Claims



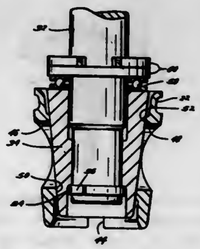
The application discloses a valve assembly having a single shut-off disc. Opposing sealing rings are peripherally mounted on the disc to engage opposite seat faces. Primary sealing pressure is oppositely exerted against the rings by a flexible annulus. A secondary sealing force is adapted to be exerted by a projection of the disc itself against one of the rings. The disc and rings are appropriately sealed and the voids between them are filled with a packing material.

3,512,752
SHUTOFF VALVE FOR PIPELINES
Johannes Uerlichs, Duren-Birkesdorf, Rudolf Muller, Merzenich, and Peter Kentgen, Drove, Germany, assignors to Hermann Rappold & Co. GmbH., Duren-Birkesdorf, Germany
Filed Feb. 12, 1968, Ser. No. 704,778
Claims priority, application Germany, Feb. 16, 1967, R 45,294
Int. Cl. F16k *1/22*
U.S. Cl. 251—308 2 Claims



A valve assembly including a valve casing for mounting in line with pipe lines of large diameter wherein the valve disk is first moved for a slight axial distance perpendicular to its seat and then moved arcuately and at right angles thereto for positioning the valve disk parallel to the flow of media passing through the pipe line. This movement of the valve disk is accomplished by means upon the valve disk including guide bolts or pivot pins projecting from opposite sides of an offset from the valve disk and cooperating with guide cams located at opposed openings in the pipe line casing and outwardly adjacent of the casing so that access may easily be made via removable covers carrying said guide cams from the exterior of the pipe line to the interior thereof for maintenance purposes. A single slender actuating lever with one end attached pivotally and centrally to said valve disk and offset from but closer thereto than said guide bolts, and with the other end of the lever projecting exteriorly of the casing, is utilized to effect a balanced and less obtrusive opening and closing of said valve disk.

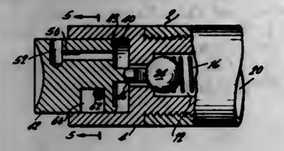
3,512,753
VALVE
Irvin B. Weise, Bellaire, Tex., assignor to Anderson, Greenwood & Co., Bellaire, Tex., a corporation of Texas
Filed May 2, 1967, Ser. No. 635,564
Int. Cl. F16k *31/50, 5/02*
U.S. Cl. 251—317 3 Claims



A valve having a hollow metal seat insert defining narrow internal seating surfaces on which a tapered metal

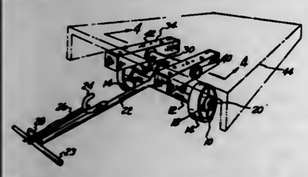
plug is adapted to seat to provide a tight shut-off and said hollow metal seat insert adapted to be lined with a soft seating material to provide a soft seat for the valve.

3,512,754
BLEEDER PLUG
Aurelio E. Zaino, 219 Bay 11th St., Brooklyn, N.Y. 11231
Filed Aug. 30, 1967, Ser. No. 664,356
Int. Cl. F16k 31/58
U.S. Cl. 251—353 4 Claims



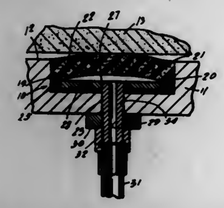
A bleeder plug or relief valve for relieving pressures in a pressure system by bleeding the fluid from the system, the valve including a spring biased ball in a fluid chamber, said valve covering fluid egress, a push button for engaging the ball and depressing it from the egress and a fluid bleeder channel located within the push button.

3,512,755
DEVICE FOR PULLING SKIDS
Stephen P. Donakowski, 7430 St. John, Detroit, Mich. 48210
Filed Aug. 5, 1968, Ser. No. 750,446
Int. Cl. B60p 9/00
U.S. Cl. 254—8 4 Claims



A wheeled device for use on loading docks and in warehouses and storage depots to elevate and holdably engage one end of a skid or pallet so that it may be conveniently pulled either manually or by mechanical means.

3,512,756
PRESSURIZABLE ELASTOMERIC THRUSTING DEVICE
Ernie K. Cleland, Milwaukee, Wis., assignor to Dike-O-Seal Incorporated, Chicago, Ill., a corporation of Illinois
Filed Sept. 5, 1967, Ser. No. 665,391
Int. Cl. B22c 15/22; B66f 3/24
U.S. Cl. 254—93 14 Claims



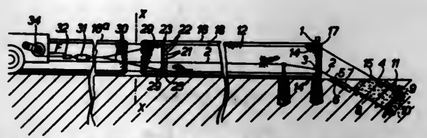
An elastomeric body which substantially fills a recess in a supporting member provides a head thrustable out of a normal plane to impart motion to or restain motion of a confronting relatively movable member.

3,512,757
MAGNETIC TRACTION LINE HAUL
Cyrus W. Ostrom, Seattle, Wash., assignor to Consolidated Electric Corporation, Seattle, Wash., a corporation of Washington
Continuation of abandoned application Ser. No. 564,289, July 11, 1966. This application Feb. 23, 1968, Ser. No. 710,681
Int. Cl. B66d 1/30, 1/76
U.S. Cl. 254—135 21 Claims



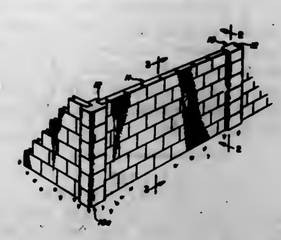
A line haul for steel cable includes one or more power sheaves ahead of a cable storage drum. Each sheave has a circumferential groove in which the cable fits closely and unlike magnet poles are spaced transversely of the groove to produce a flux path intersecting the groove transversely of its length and passing through the cable transversely of its length. The unlike poles may be the peripheries of disks extending circumferentially of the sheave without interruption, and there may be two or three of such disks with nonmagnetic material sandwiched between them. Alternatively, unlike poles may be arranged alternately circumferentially of the sheave and with unlike poles generally in axial registry at opposite sides of the groove. Such magnets may be either of the permanent magnet type or of the electromagnet type. Also, such poles may project radially from side disks of the sheave, or the poles may be poles of U-shaped, permanent magnets arranged with their central portions cradling the cable in the groove, the opposite radially projecting ends forming the poles, or permanent bar magnets can be arranged at opposite sides of the groove with their lengths extending circumferentially of the sheave and having unlike poles arranged in registry transversely of the length of the groove.

3,512,758
WIRE MESH BARRIER FOR TURNPIKES AND METHOD FOR ERECTING SAME
Robert Albert Thomas, Kortrijk, Belgium, assignor to Trefilerles Leon Bekaert, P.V.B.A., Zwenegum, Belgium
Filed Sept. 12, 1968, Ser. No. 759,388
Claims priority, application France, Sept. 12, 1967, 120,655
Int. Cl. E01f 15/00
U.S. Cl. 256—13.1 3 Claims



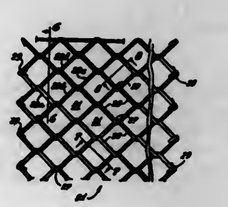
A wire mesh fence attached to fence posts. Cables of the fence kept under a strong tension force which is considerably greater than the usual tension of several kilograms.

3,512,759
FENCE WALL CONSTRUCTION
Frederick D. Rosier, 2015 W. Glendale, Phoenix, Ariz. 85021
Filed May 23, 1968, Ser. No. 731,462
Int. Cl. E04h 17/16
U.S. Cl. 256—19 1 Claim



A disassemblable and movable fence wall having spaced upright support columns and panels therebetween. The support columns are detachably recessed to foundation piers and the panels are comprised of interlocking blocks.

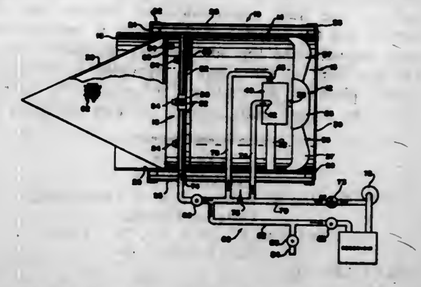
3,512,760
WIRE FABRIC AND APPARATUS AND METHOD FOR MAKING SAME
Herbert E. Rohrbacher, Whittier, Calif., assignor to Bergandi Manufacturing Company, Inc., El Monte, Calif., a corporation of California
Filed Aug. 4, 1967, Ser. No. 658,530
Int. Cl. E04h 17/02
U.S. Cl. 256—32 8 Claims



This disclosure describes a wire fabric of open construction including a plurality of wires each of which is formed into a coil. The several coils are interlinked and secured together to form a wire fabric of open construction. The wire is of non-circular cross section and provides a wire fabric of increased strength.

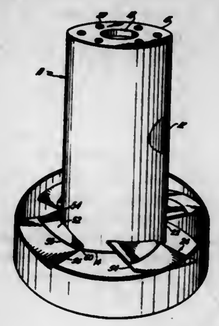
3,512,761
HIGH EXPANSION FOAM GENERATOR
James F. O'Regan, Bertil A. Lundberg, and Walter J. Mussoni, Worcester, Mass., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Continuation of application Ser. No. 597,170, Nov. 25, 1966. This application Apr. 10, 1968, Ser. No. 720,412
Int. Cl. B01d 47/00; F02m 37/00, 69/02
U.S. Cl. 261—25 3 Claims

Apparatus for generating high expansion foam of the type formed by blowing air through a sieve or mesh the openings of which have been filmed over with a liquid foam solution deposited thereon by an airstream. The apparatus includes a tubular housing having an axial flow fan mounted at one end and the mesh or sieve mounted at the other. The fan is rotated by an hydraulic motor adapted to be connected to a fluid pressure source. Jet spray means are connected to the fluid pressure source to introduce a spray of liquid foaming agent



downstream of the fan. The spray is blown along by the airstream and deposited against the mesh or sieve.

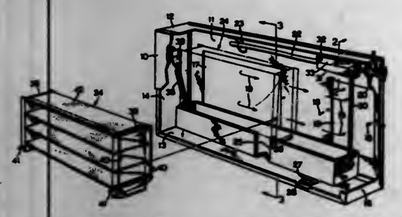
3,512,762
APPARATUS FOR LIQUID AERATION
Emil Umbricht, Northville, Mich., assignor to Ajem Laboratories, Inc., Livonia, Mich.
Filed Aug. 11, 1967, Ser. No. 660,111
Int. Cl. B01f 5/16, 7/22
U.S. Cl. 261—87 3 Claims



An apparatus for liquid aeration having a plurality of hollow impeller blades communicating with a hollow shaft and having fluid communication passages in the hollow impeller blades whereby upon passage of said shaft and impeller blades through a liquid medium (or at least relative motion between blades and liquid) a reduced pressure is created at a surface of the impeller blades in an area where there is a communicating passage for gaseous fluid, from beyond the liquid medium, whereby it is drawn into and flows through the hollow shaft and the hollow impeller blades and becomes entrained and dispersed in the liquid around the impeller blades. The hollow shaft has passages adjacent the junctures of the blades with the shaft to provide fluid communication between the interior of the shaft and the hollow interior of the blades. The leading edges of the blades are off set from the path of the trailing edge of the blades to give an effective angle to the blades with respect to a plane normal to the axis of the shaft. The shaft has an inlet remote from the juncture of the blades with the shaft for supplying gas to flow into and through the interior portion of the shaft. A motor rotates the shaft and blades in the direction of the leading edge. An encircling skirt is fixed to the peripheral edges of the blades to amplify the displacement of a portion fo the liquid. A bottom surface of the blades extends radially outward a greater

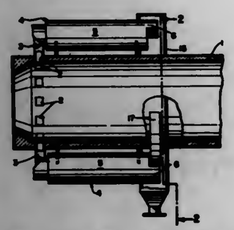
distance than a top surface of the blades. The leading edge of the top surface of the blades is longer than the trailing edge of the top surface. The peripheral edge of the top surface of the blades is spaced from the bottom surface. The fluid communication between the hollow interior and the exterior of the blades is provided by the space between the top surface and the bottom surface. The gas inlet to the shaft is provided by openings in a cover plate for the shaft and by passages in the hollow shaft. The follow shaft extends through the cover plate.

3,512,763
HUMIDIFIER
Gordon R. Winton, R.R. 2, Tilsonburg, Ontario, Canada
Filed Mar. 27, 1968, Ser. No. 716,466
Int. Cl. B01f *3/04*
U.S. Cl. 261—141 17 Claims



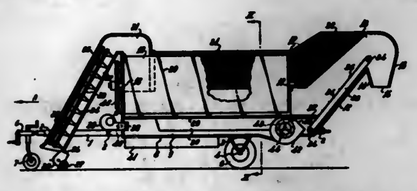
A humidifier for a forced air furnace has a casing for mounting on the furnace and providing a horizontal air flow path between an air inlet and an air outlet. Water is fed through a valve to the upper part of the casing and flows downward in a water flow path over a humidifier element comprising a taut diaphragm-like zig-zag member, preferably of terry cloth. Water that is not evaporated falls into a pivoted tray on which the humidifier element is mounted, the tray comprising an inner member mounted within and thermally insulated from an outer member. As water accumulates in the tray it pivots and squeezes through a mechanical connection a piece of flexible tube comprising the said valve means to close the valve. The diaphragm-like evaporator member vibrates in the air stream to prevent agglomeration of the residue particles and also is lifted by the air stream to give more positive closing of the valve when the air stream stops.

3,512,764
ROTARY KILN HAVING PLANETARY COOLING TUBES
Flemming Edvin Jensen, Copenhagen-Valby, Denmark, assignor to F. L. Smidth & Co., New York City, N.Y., a corporation of Delaware
Filed June 6, 1968, Ser. No. 734,918
Claims priority, application Great Britain, June 20, 1967, 28,345/67
Int. Cl. F22b *7/20*
U.S. Cl. 263—32 3 Claims



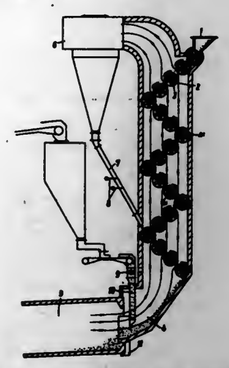
Rotary kiln has a plurality of cooler tubes mounted at the discharge end. One end of each tube connects with the interior of the kiln shell and the opposite end of each cooler tube is provided with an extension having an opening with an arcuate discharge face through which particulate solid material is discharged after leaving the end of the kiln and passing through the cooler tube. Means is provided for either drawing or blowing air through the cooler tubes, the air entering through the discharge openings for the solid material and leaving the cooler tubes at their opposite ends to enter the kiln as secondary air of combustion. A semi-cylindrical or arcuate plate is arranged in stationary position so that the arcuate discharge faces of the cooler tubes successively come into register with this plate to reduce the entrance of air to the tubes during that portion of the rotation of the kiln during which the hot particulate solid material enters the opposite end of a particular cooler tube.

3,512,765
CROP-DRYING SYSTEM
Cornelis van der Lely, 7 Bruschcenrain, Zug, Switzerland
Filed May 22, 1968, Ser. No. 731,011
Claims priority, application Netherlands, May 31, 1967, 6707517
Int. Cl. F27b *7/08*
U.S. Cl. 263—34 37 Claims



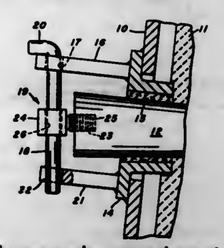
This invention relates to a crop-drying system in which a heating apparatus is positioned to heat a mechanism for conveying crop through the system. The conveying mechanism includes a rotary drum with strips that moves crop over a heated surface towards an exit.

3,512,766
APPARATUS FOR PREHEATING SOLIDS
Johann Oberndorfer, Oberursel, Taunus, Germany, assignor, by direct and mesne assignments, of one-half to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany, and one-half to The Steel Company of Canada Limited, Hamilton, Ontario, Canada, a corporation of Canada
Filed Mar. 30, 1967, Ser. No. 627,165
Claims priority, application Germany, Apr. 13, 1966, M 69,130
Int. Cl. F27b *21/02*; F27d *3/12*
U.S. Cl. Cl. 266—20 12 Claims



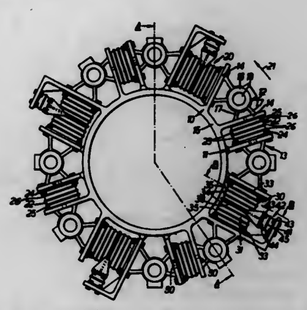
An apparatus for preheating solids wherein the solids are introduced, in divided form, into an upper inlet of a hollow flue and are conveyed downwardly therein to a discharge outlet at the lower portion of the flue by a series of rotary feeder members which pass the solids from one feeder member to the succeeding one whereby the inflowing solids are preheated by hot gases flowing through the flue as they travel over an extended downward path therein established by the arrangement of the feeder members.

3,512,767
BLAST FURNACE COOLING PLATE LOCK
Willard Gilium, Jr., Bensalem Township, Bucks County, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 669,769
Int. Cl. C21b *7/10*; F27b *1/24*
U.S. Cl. 266—32 8 Claims



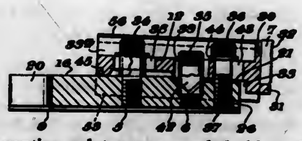
A lock assembly preventing excessive axial movement of a blast furnace cooling plate both inwardly and outwardly, includes at least one anchor secured to the blast furnace shell or to a collar and having an opening therein to receive a securing pin. Various means on the outer end of a cooling plate make locking engagement with the pin. One such means comprises a block having an opening to receive the pin and a threaded end securable in a threaded recess in the plate. In another embodiment, one or more spaced lugs on a plate have a hole or holes therein to receive a second securing pin that also passes through a hole in the first pin. In yet another embodiment a peripheral shoulder on a cooling plate is in abutting and locking relationship with a peripheral shoulder on the securing pin. The assemblies are adjustable to secure replacement cooling plates that may not be in the same axial position after replacement.

3,512,768
FLEXIBLE TRANSMISSION COUPLINGS
Alun John Reed, and Gwynne Bowen, Leicester, England, assignors to Metalastik Limited, Leicester, England, a British company
Filed Dec. 13, 1967, Ser. No. 690,205
Claims priority, application Great Britain, Dec. 14, 1966, 55,912/66
Int. Cl. F16f *15/12*
U.S. Cl. 267—1 5 Claims



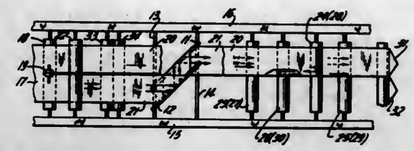
A torque transmission coupling comprising spiders drivably connected by metal interleaved rubber springs has the rubber springs stabilised radially to allow for an increase in torsional flexibility of the coupling in at least one direction of rotation.

3,512,769
MACHINE TOOL WORK HOLDERS
Harold George Pendry and Peter Gerald Pendry, both of Thorpe Industrial Estate, Crabtree Road, 10 Acre Lane, Thorpe, Egham, Surrey, England
Filed Feb. 8, 1968, Ser. No. 704,109
Claims priority, application Great Britain, May 18, 1967, 23,063/67
Int. Cl. B23q *3/02*
U.S. Cl. 269—94 3 Claims



This invention relates to a work holder which carries at a forward end a workpiece engaging face and which is releasably securable to a bed and is adjustable towards and away from a fixed abutment on the bed to grip a workpiece between the face and the abutment. In accordance with the invention the work holder comprises a base part for mounting on the bed and said face is on a clamping jaw mounted on the base part, the clamping jaw being adapted to rock relatively to the base part about a fulcrum and, by the engagement of complemental inclined surfaces on the clamping jaw and base part, to move forwardly on the base part when the rocking moves the said face towards the bed, whereby said face will simultaneously press a workpiece towards the bed and against the fixed abutment.

3,512,770
WEB LEAD
Herbert Schuffenhauer, Haworth, N.J., assignor, by mesne assignments, to James Talcott Inc., New York, N.Y., a corporation of New York
Filed Dec. 8, 1967, Ser. No. 689,146
Int. Cl. B65h *39/16*
U.S. Cl. 270—52 4 Claims

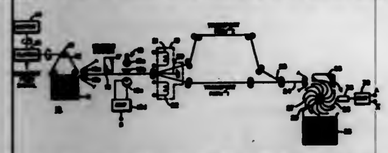


A web lead system in a rotary printing machine which has folders with two former folders and angle bar sections for each printing unit of the machine. A system of web rollers for leading half-width webs to one or the other former folder over the angle bar sections without changing the position of any one of the angle bars.

3,512,771
SYNCHRONIZING DEVICE FOR A HIGH SPEED SHEET STACKING SYSTEM
Vince G. Dempsey, Framingham, Mass., and Ralph H. Schultz, Norristown, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 5, 1968, Ser. No. 734,711
Int. Cl. B65h *5/26, 29/34*
U.S. Cl. 271—3 7 Claims

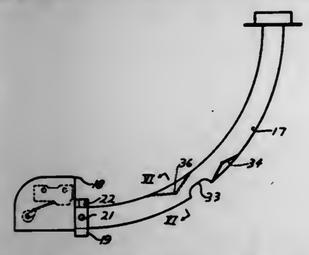
A document handler is provided wherein documents fed from a supply hopper to a continuously rotating disc

stacker are routed through either a first transport path or a second transport path in dependence upon the angular



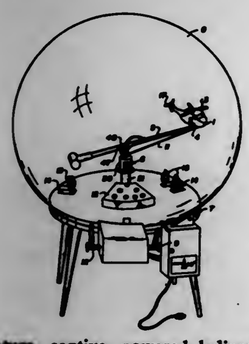
position of the disc stacker at the time the document arrives at a predetermined point in the document transport system.

3,512,772
APPARATUS FOR EJECTING REMNANTS OF BANDING MATERIAL FROM A FEED SYSTEM FOR THE SAME
Donald W. van Doorn, William C. Pease III, and Jack L. Colquett, Columbus, Ga., assignors to Lummus Cotton Gin Company, a corporation of Georgia
Filed June 4, 1968, Ser. No. 734,365
Int. Cl. B65h 7/00
U.S. Cl. 271—57 7 Claims



Means for feeding banding material of various kinds such as flat strapping, wire and the like, in which a given length of the material is used to band bales, bundles, boxes, and the like. At the end of a supply roll of the material the apparatus automatically, in response to coming to the end of the roll, ejects the short length or remnant of the material, thus eliminating misbanding of the package due to the attempt to band with less than the required length of the material.

3,512,773
CAPTIVE HELICOPTER APPARATUS
Peter Charles Jacobs, Edmonton, Alberta, Canada, assignor to Jaycopter Corporation, Ltd., Edmonton, Alberta, Canada, a corporation of Canada
Filed Sept. 19, 1967, Ser. No. 668,868
Int. Cl. A63h 27/04
U.S. Cl. 272—31 2 Claims



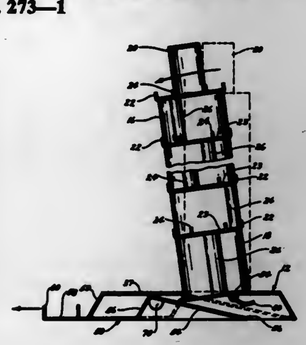
A miniature, captive, powered helicopter is mounted on one end of a boom which in turn is rotatably pivoted on a pylon. The assembly is enclosed in a spherical plastic safety cover. The pivot point of the boom is coincident with the centre of the sphere; the helicopter is therefore always close to the inner surface of the cover, which results in an improvement in its responsiveness. Remote controls for varying the lifting power and attitude of the helicopter's rotor are provided whereby the helicopter may be made to simulate the flight of a conventional helicopter.

3,512,774
THIN METAL ROTATABLE EXERCISE PLATFORM
Henry Honer, 2220 Avenue of the Stars, Apt. 1504, Century Tower W., Los Angeles, Calif. 90067
Filed May 21, 1968, Ser. No. 730,712
Int. Cl. A63b 23/02
U.S. Cl. 272—57 1 Claim



An exercise platform having two identical circular metal disks of equal diameter, sufficient to support the user's feet, and having a large diameter ring of balls between the disks; the disks being retained by a central collar and capable of use either side up. The margins of the disks are curved toward each other and the total thickness is minimized.

3,512,775
TILTABLE TOWER GAME
Bobbie S. Harvey, RR on Island, Tracy, Iowa 50256
Filed Mar. 21, 1967, Ser. No. 625,561
Int. Cl. A63f 9/00
U.S. Cl. 273—1 9 Claims

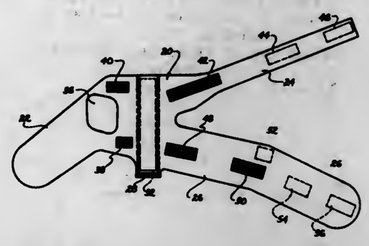


A tower structure including a plurality of sections with weight elements therein disposed upon a platform which is adapted to have its angle of support selectively changed by an adjustment member. The tower will tip over or remain standing depending upon the angle of the support platform. The center of gravity of the tower may be varied by the selective rotating of the weighted sections and thereby change the angle at which the tower may tilt before it begins to tip.

3,512,776
WRIST SUPPORTING DEVICE FOR BOWLERS
Edward J. Thomas, Sr., 797 Kingston Ave. Grove City, Ohio 43123
Filed Jan. 18, 1968, Ser. No. 698,772
Int. Cl. A61f 13/10
U.S. Cl. 273—54 4 Claims

A wrist supporting device for bowlers for positioning the hand and forearm in a predetermined relationship as the ball is released which includes a piece of flexible material adapted to overlie the back of a user's hand,

forearm and wrist. A rigid strip of material of sufficient length to extend over portions of the back of the user's hand and forearm and across the wrist joint is removably mounted on the piece of flexible material and is securely held in position to brace the wrist by a plurality of leg portions extending outwardly from said



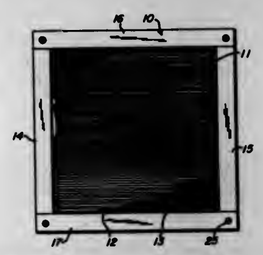
body of flexible material and which are adapted to encircle the user's wrist and forearm and the back of a user's hand. The leg portions are of sufficient length to overlap themselves to provide additional support to the user's wrist joint and are provided with means for removably fastening them in position upon the bowler's hand and forearm.

3,512,777
GAME BALL
Robert Bruce Henderson, Newport Beach, Calif., assignor to W. J. Voit Rubber Corporation, a corporation of California
Filed Sept. 11, 1964, Ser. No. 395,677
Int. Cl. A63b 41/10, 41/08
U.S. Cl. 273—65 3 Claims



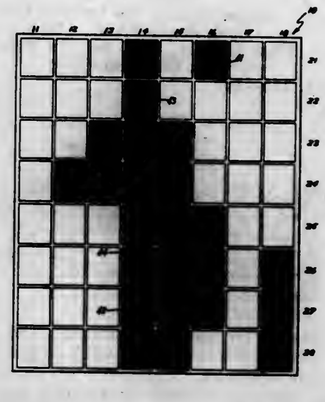
An inflatable game ball in which raised simulated seams and the outer cover panels are all molded at the same time. The panels include inwardly projecting depressions directly in the vicinity of the raised seams.

3,512,778
SEGMENTED PIERCEABLE TARGET
Harry W. Allen, 6220 Apache St., Dayton, Ohio 45424
Filed Apr. 10, 1967, Ser. No. 629,738
Int. Cl. F41j 3/00
U.S. Cl. 273—102 3 Claims



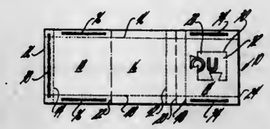
A target structure capable of extended useful life characterized by a segmented form, the segments, in a preferred embodiment, including a plurality of releasably confined corrugated cardboard strip elements, the composite of which presents a honeycombed impact surface. The strips are mutually grooved to provide channels at each side of the impact surface, which channels engage longitudinal projections extending from the side frame elements.

3,512,779
GAME APPARATUS WITH CARDS PLAYED IN ALIGNMENT ACROSS A BOARD
William H. T. McGaughey, Jr., 461 W. Maryland, St. Paul, Minn. 55117
Filed Nov. 22, 1967, Ser. No. 685,078
Int. Cl. A63f 3/00
U.S. Cl. 273—135 8 Claims



A game for two players each having a deck of fifty-two cards including one carrying the profile of each state and of the District of Columbia and one wild card representing the United States, the cards of each deck being visually distinguishable from those of the other deck. The players select one card at a time at random and play it face up on one of a plurality of contiguous zones laid out on a board in a rectangular pattern. Players attempt to line up cards from their own deck in a pathway of adjacent cards. After the starting moves of the game, each card must be placed immediately adjacent another card of the same player. The game ends when one player completes a continuous pathway of adjacent cards from one side of the board to the other.

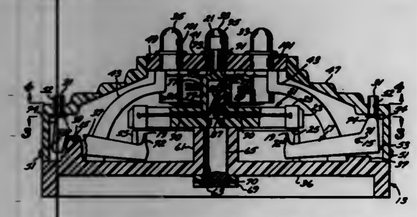
3,512,780
FOLDED COUPON WITH DETACHABLE PUZZLE PIECE
Robert D. Allison, West Hartford, Conn., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine
Filed Feb. 6, 1968, Ser. No. 703,327
Int. Cl. A63f 1/18
U.S. Cl. 273—139 11 Claims



A folded paper article serving as a coupon or a chance ticket in an advertising or promotional game or contest includes one panel with a detachable puzzle piece forming part of the panel and delineated by and attached to the remainder of the panel along a weakened line so as to permit it to be separated from the remainder of the panel by tearing along the weakened line. One or two

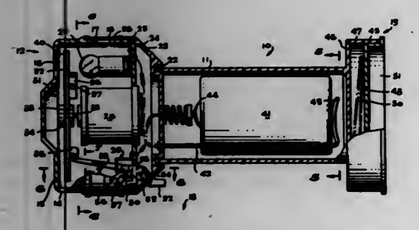
additional panels are connected with the puzzle piece bearing panel and are so sealed relative to the puzzle piece panel as to totally enclose one or both of the faces of the puzzle piece to prevent viewing of the concealed face or faces of the puzzle piece until the article is opened. A weakened line extending along one or more edges of the article and located inboard of the sealing adhesive permits the article to be readily opened by tearing along such weakened line.

3,512,781
CHANCE TOY
Zlatan Grsetic, 226 Orizaba Ave., Long Beach, Calif. 90803
Filed June 26, 1968, Ser. No. 740,327
Int. Cl. A63b 71/06
U.S. Cl. 273—141 9 Claims



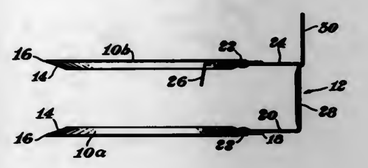
A chance toy including an opaque housing formed with a mechanism chamber in which is mounted a circular electrical conductor. A plurality of radially extending rocker arms are mounted intermediate their ends from the conductor and project radially inwardly to form first connectors which are arranged to collectively define a circle. A rotatable setter is mounted in the chamber for rotation about the axis of the circle and includes at least one radially extending arm mounting a second electrical contact disposed in engageable alignment with the first electrical contacts. Electrical circuitry is provided for connecting a power source in series with the conductor, an indicator light, and the second electrical contact whereby selector buttons disposed over the outer extremities of the rockers may be individually pressed to rock the inner extremity of the rocker arms upwardly and when the rocker with which the second contact is registered is rotated upwardly, such first contact will engage the second contact to complete an electrical circuit through the indicator light thereby indicating a score for the player pressing such button.

3,512,782
ILLUMINATED AMUSEMENT APPARATUS
Doris N. Gesin, Los Angeles County, Calif. (7185 C Estrella Demar, Carlsbad, Calif. 92008)
Filed June 17, 1966, Ser. No. 558,476
Int. Cl. A63b 71/06
U.S. Cl. 273—142 8 Claims



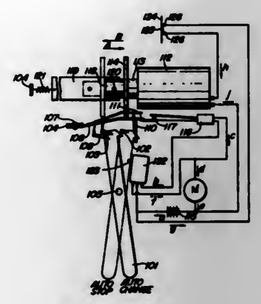
This invention relates to amusement devices of the gaming or chance type and more particularly to a novel hand held device having powered chance determining means carrying related indicia thereon and illuminating means for displaying particular indicia as selected by the chance determining means from the related indicia.

3,512,783
PRACTICE PUTTING DEVICE
Robert F. Anderson, 3613—13th St., Menominee, Mich. 49858
Filed Apr. 25, 1968, Ser. No. 724,122
Int. Cl. A63b 57/00
U.S. Cl. 273—177 8 Claims



A golf practice putting device including vertically spaced apart plate-like members having opposed projections on their peripheral edges. A support connecting the plate-like members is so constructed that when a putted golf ball engages the projections, the plate-like members are sprung apart and permit the ball to enter and be trapped therebetween. When the support is made from a material such as metal, projections can be stamped or punched therefrom to form a rearwardly positioned upwardly extending flag simulating member and a ball stopping member positioned between the plate-like members.

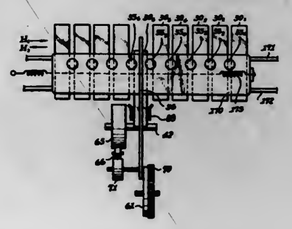
3,512,784
AUTOMATIC CHANNEL CHANGEOVER AND STOPPING DEVICE FOR USE IN MAGNETIC RECORDING AND REPRODUCING APPARATUS
Kozo Yamamoto, Osaka, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Aug. 29, 1967, Ser. No. 664,286
Int. Cl. G11b 5/00
U.S. Cl. 274—4 3 Claims



An automatic channel changeover and stopping device for use in a magnetic recording and reproducing apparatus having a single change lever which can take two operative positions and having a solenoid to which an energizing current is supplied by electrical contact between a contactor and a metal foil on a magnetic tape, so that, in one position of the change level, the motor

circuit is continuously energized and the channel changeover is automatically effected by movement of a plunger operatively associated with the solenoid, while in the other position of the change lever, the above movement of the plunger automatically deenergizes the motor circuit.

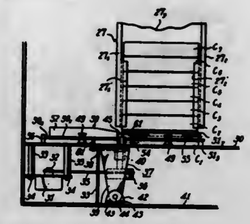
3,512,785
AUTOMATIC PLAYING APPARATUS UTILIZING PLURALITY OF ENDLESS TAPE CARTRIDGES
Itsuki Ban, 829 Higashi-Oizumi-machi, Nerima-ku, Tokyo, Japan
Filed Feb. 9, 1968, Ser. No. 704,985
Claims priority, application Japan, Feb. 17, 1967, 42/9,867, 42/9,868; Mar. 2, 1967, 42/12,841
Int. Cl. G11b 5/00
U.S. Cl. 274—4 15 Claims



An apparatus for automaticaly playing a plurality of endless tape cartridges in succession according to a specific sequential program. A cylindrical or rectilinear casing for holding a line of a plurality of cartridges for slidable movement transversely of the casing is mounted on mounting means for movement in the direction of the line of cartridges for moving the cartridges in succession past a reproducing station. Means is provided cooperating with an abutment at said reproducing station for stopping movement of said casing. A cartridge moving lever at said reproducing station is reciprocally movable in the direction of the sliding movement of said cartridges and engagable with successive cartridges at said reproducing station for moving the cartridge from the casing into a play position and back into the casing. A lever moving means is coupled to said lever for moving said lever in one direction at the time when the casing brings the cartridge into position opposite the reproducing station and moving it in the other direction when the play of the tape is ended. A drive connecting means couples said lever moving means with the drive of the tape recorder and reproducer for actuating the lever moving means to move the cartridge being played into the casing and after the casing has moved moving the next cartridge in succession into the reproducing station and then disconnecting the lever moving means from the drive. A sensing device is provided for scanning the tape for sensing completion of play of the tape, said sensing device being coupled to said drive connecting means for actuating it when play of the tape has ended.

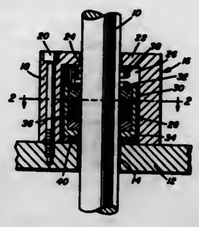
3,512,786
TAPE PLAYER UTILIZING PLURALITY OF ENDLESS MAGNETIC TAPE CARTRIDGES
Itsuki Ban, 829 Higashi-Oizumi-machi, Nerima-ku, Tokyo-to, Japan
Filed Nov. 19, 1968, Ser. No. 777,029
Claims priority, application Japan, Nov. 22, 1967, 42/74,711, 42/74,712
Int. Cl. G11b 5/00
U.S. Cl. 274—4 7 Claims

A tape player utilizing a plurality of endless tape cartridges, comprising a bottomless enclosure accommodating a plurality of endless magnetic tape cartridges in a stack, a horizontal platform receiving the lowermost cartridge falling from the lower end of said enclosure, a frame movably mounted on the upper face of the horizontal platform and holding the lowermost cartridge leaving the enclosure, frame means having a frame moving mechanism, reproducing means including reproducing members such as a capstan, a magnetic head disposed in



a position to oppositely face to the leading edge of the lowermost cartridge held by the frame, whereby the lowermost cartridge is away from the reproducing means upon completion of reproduction by backward movement of the frame, the cartridge passes through an opening formed in the platform while the next cartridge is out of the enclosure by its dead load to effect reproduction of the tape in the next cartridge.

3,512,787
FLOATING SEAL PACKING ASSEMBLY
Garth P. Kennedy and William A. Kennedy, Jr., Oklahoma City, Okla., assignors to Corken Pump Company, a corporation of Oklahoma
Filed Sept. 6, 1967, Ser. No. 665,903
Int. Cl. F16j 15/18
U.S. Cl. 277—4 6 Claims

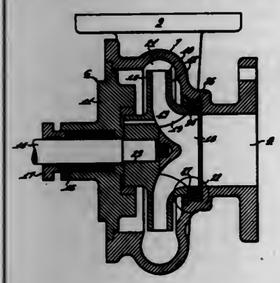


A pressure sealing assembly for reciprocating rods projecting from a fluid containing housing on which a stuffing box is fixedly mounted. A packing cartridge is mounted on the rod within the stuffing box with sufficient radial clearance to accommodate any lateral displacement thereof with the rod during its reciprocatory stroke. Flexible packing elements are stacked in the cartridge under the axial bias of a spring to also clamp a sealing gasket between the cartridge and the housing wall preventing leakage from the wall opening through which the rod extends.

3,512,788
SELF-ADJUSTING WEARING RINGS
John K. Kilbane, Wauwatosa, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 1, 1967, Ser. No. 679,759
Int. Cl. F16j 9/00; F16k 41/00
U.S. Cl. 277—25 2 Claims

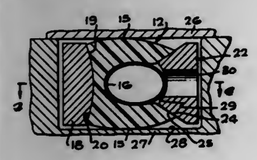
A self-adjusting wearing ring between a pump impeller and the pump casing. The wearing ring is slidably con-

tained in an annular groove in the peripheral surface of the impeller and forced into sealing engagement with the



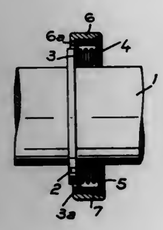
pump casing due to centrifugal force as the impeller rotates.

3,512,789
CRYOGENIC FACE SEAL
Charles L. Tanner, 1641 Bedford St., Los Angeles, Calif. 90035
Filed Mar. 31, 1967, Ser. No. 627,560
Int. Cl. F02f 5/00; F16j 15/00, 15/40
U.S. Cl. 277—26 3 Claims



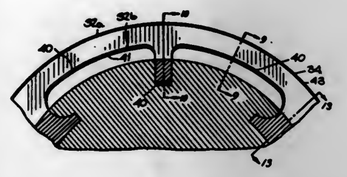
The application discloses a multiring seal ring made up of a sealing ring and one or more other rings having a different coefficient of expansion from that of the sealing ring and designed to cause the sealing ring to enlarge laterally as it contracts upon shrinking at extremely low temperatures.

3,512,790
SEALING DEVICES FOR ROTATING PARTS
Raymond Mancel, Paris, France, assignor to Societe d'Adaptations Industrielles et Commerciales des Matieres Plastiques Saimap, Paris, France, Societe Anonyme Organised under the law of France
Filed May 23, 1967, Ser. No. 640,738
Claims priority, application France, June 1, 1966, 63,760
Int. Cl. F16j 9/00, 15/34
U.S. Cl. 277—42 3 Claims



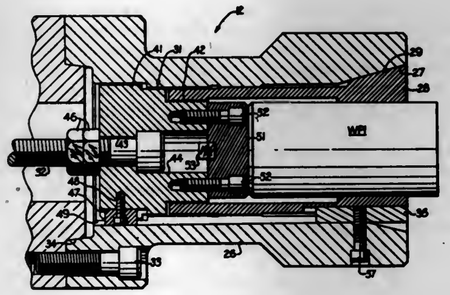
A sealing device for a rotating shaft having a flange formed thereon, constituted by a fixed annular sealing element of graphite or metal fabric impregnated with "Teflon" applied against the flange of the shaft by a resilient bellows, the annular sealing element being in direct contact, at its periphery, with a metal casing surrounding the sealing device.

3,512,791
LIGHT METAL PISTON WITH PISTON RING GROOVE ARMORING MEANS
Rudolph Daub, 9 Hickory Drive, North Caldwell, N.J. 07006
Continuation-in-part of application Ser. No. 316,932, Oct. 17, 1963. This application Aug. 23, 1967, Ser. No. 662,622
Claims priority, application Germany, Mar. 7, 1963, M 56,017, Patent 1,184,569
Int. Cl. F16j 9/00, 9/22
U.S. Cl. 277—189.5 3 Claims



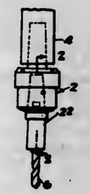
The internal combustion engine piston is made of aluminum or aluminum alloy and has an iron ring means armoring the piston ring grooves. The armoring means has widely spaced radial and axial anchors and interconnecting circumferential portions radially movable relative to the piston and the anchoring means.

3,512,792
COLLET CHUCK FOR INERTIA WELDERS
James L. Farley, East Peoria, Harvey L. Gerecke, Pekin, and Emil S. Nickel, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of Illinois
Filed July 12, 1967, Ser. No. 652,766
Int. Cl. B23b 31/20, 31/26
U.S. Cl. 279—51 2 Claims



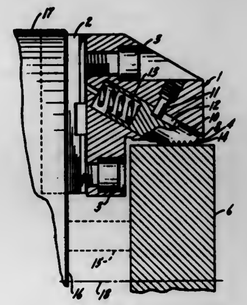
A collet chuck for use in friction welding of a type having a tapered split collet sleeve disposed in a tapered chuck housing to receive a workpiece, wherein the collet sleeve is tightened upon the workpiece to prevent circumferential slippage therebetween as axial force is exerted upon the workpiece during the welding process. A backup member which is connected to the sleeve and engaged by an end of the workpiece is provided with freedom of motion so that axial force exerted by the workpiece thereupon urges the backup member and tapered sleeve into the chuck.

3,512,793
QUICK CHANGE TOOL HOLDER
Donald W. Botimer, 644 Eastgate Drive, Frankenmuth, Mich. 48734
Filed July 11, 1967, Ser. No. 652,591
Int. Cl. B23b 31/06
U.S. Cl. 279—91 7 Claims



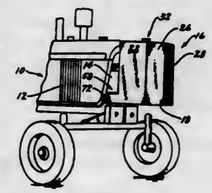
This invention relates to quick change tool holders and discloses an improved version of a tool holder in which tools can be inserted and removed, while the holder is rotating thereby reducing tool set-up time.

3,512,794
PULL-BACK CHUCK FALSE JAWS FOR MACHINE CHUCKS
Edward G. Lohman, Logansport, Ind., assignor to Logansport Machine Co., Inc., Logansport, Ind., a corporation of Indiana
Filed Feb. 23, 1968, Ser. No. 707,586
Int. Cl. B23b 31/16
U.S. Cl. 279—123 4 Claims



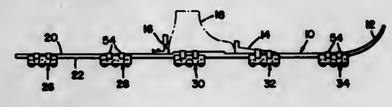
Pull-back camming elements are associated with the false jaws of a chuck or other work holding device so that when serrated camming plungers in the false jaw contact the work, further radial movement of the false jaws causes the camming plungers to move inwardly forcibly drawing the work back against and seating it upon the locator bars or other positive stops on the chuck or work holding device. Further inward movement of the false jaw continues the camming action until the gripping surface of the false jaw machined to mate with the contour of the workpiece has seated on and gripped the work. The spring pressed camming plunger still grips the work but the work is positively held by contact with the false jaw. This makes it unnecessary to take time to hammer the workpiece into positive engagement with the stops on the chuck or holding device face.

3,512,795
AUXILIARY FUEL TANK FOR A TRACTOR
Gary E. Naeve, Bradgate, Iowa 50520
Filed Feb. 28, 1968, Ser. No. 708,948
Int. Cl. B60p 3/22
U.S. Cl. 280—5 6 Claims



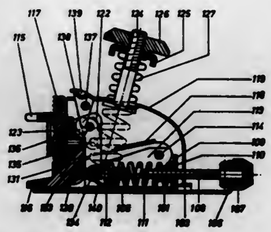
An auxiliary fuel tank for a tractor which is detachably secured to the forward end of the tractor. The auxiliary tank includes a support means extending rearwardly from the rearward end thereof which is secured to the front end of a tractor. A fuel line extends from the lower end of the tank to the tractor fuel system.

3,512,796
ROLLER SKIIS
Donald J. Mangus, 514 Vicente, San Francisco, Calif. 94116
Filed May 27, 1968, Ser. No. 732,209
Int. Cl. A63c 17/06
U.S. Cl. 280—11.22 5 Claims



Skiing apparatus for simulated snow skiing in the absence of snow comprising removable roller frames for attachment to conventional snow skiis where the attachment carries double cone rollers which aid side slipping of the ski.

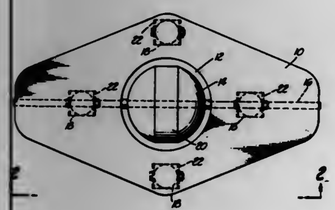
3,512,797
HEEL-HOLDING DEVICE FOR SAFETY SKI BINDINGS
Hannes Marker, 51–53 Hauptstrasse, Garmisch-Partenkirchen, Germany, and Bernd Payrhammer, Farchant, Upper Bavaria, Germany; said Payrhammer assignor to said Marker
Filed Oct. 2, 1967, Ser. No. 672,099
Claims priority, application Germany, July 5, 1967, 74,643
Int. Cl. A63c 9/084
U.S. Cl. 280—11.35 19 Claims



A carrying member for a soleholder and a closing pedal is pivoted on an axis disposed behind the heel and is under the influence of a spring element. The heel-holding

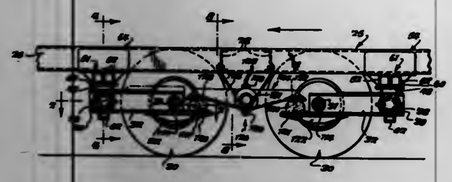
device automatically assumes a locking position in response to the insertion of a skiing boot into the binding and can be arbitrarily open, e.g., by the application of slight pressure with a ski stick to a release member, and can be automatically released in response to an excessive upward tensile force, which is approximately vertical. The carrying member consists of two jaw arms, which are pivotally movable relative to each other against the force of the spring element. One of said jaw arms is directly connected to the soleholder. A locking device is provided, which is under the action of the soleholder or of that arm of the carrying member which is directly connected to the soleholder. The locking device acts on the other arm of the carrying member and releases said other arm after a predetermined upward movement of hte soleholder.

3,512,798
SKATE BOARD DEVICE
Samuel Siegel, 1956 N. Vermont Ave., Los Angeles, Calif. 90027
Filed Dec. 4, 1967, Ser. No. 687,699
Int. Cl. B62b *5/00*; B62k *17/00*
U.S. Cl. 280—87.04 5 Claims



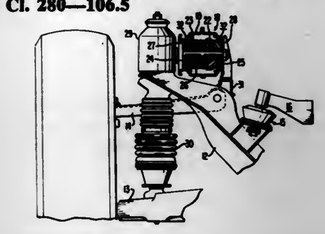
A skate board device to be ridden by children comprising a wing shaped board having a large ball in the center and several smaller balls or wheels around the outside. These smaller balls or wheels being so positioned as to provide a starting balance to the board so that once speed has been attained the child is riding on the large center ball only.

3,512,799
COMPRESSION RUBBER TANDEM WHEEL VEHICLE SPRING SUSPENSION
Albert F. Hickman, 8009 N. Gowanda State Road, Eden, N.Y. 14057
Application Apr. 28, 1967, Ser. No. 634,561, which in turn is a continuation-in-part of Ser. No. 591,899 filed Nov. 3, 1966. Divided and this application May 29, 1969, Ser. No. 828,874
Int. Cl. B60g *25/00*
U.S. Cl. 280—104.5 2 Claims



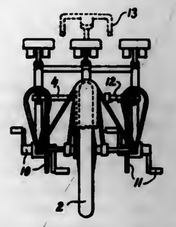
Each of two or more tandem wheels are connected to each side of the vehicle frame by a hub structure journalled to the frame and having a fixed radially projecting arm to the opposite end of which the corresponding wheel is journalled. These arms are in a plane extending lengthwise of vehicle travel and which plane is in common to a walking beam journalled to the frame. Substantially the entire resilient support for the frame is provided by a resilient rubber body between each end of the walking beam and the corresponding one of said arms, these rubber bodies being compressed therebetween to expand and contact laterally of the force of such compression.

3,512,800
SUSPENSION OF AN AUXILIARY FRAME AT THE MAIN FRAME OF A VEHICLE, ESPECIALLY OF A MOTOR VEHICLE
Friedrich H. van Winsen, Kirchheim, Teck, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed July 13, 1967, Ser. No. 653,267
Claims priority, application Germany, July 14, 1966, D 50,563
Int. Cl. B60g *9/00*
U.S. Cl. 280—106.5 15 Claims



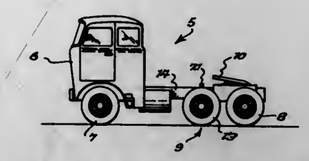
A suspension for an auxiliary frame on the main frame of a vehicle, especially of a motor vehicle, in which the driving engine is adapted to be supported by elastic means on the auxiliary frame and the auxiliary frame also receives the wheel suspension parts, in which the auxiliary frame is elastically connected to the main frame by elastic bearings in a hinge-like manner in two points located above a plane parallel to the road surface and passing through the wheel axes, and in which the auxiliary frame is additionally supported at the main frame, preferably by elastic bearings adapted to be stressed under compression, at a point located at a considerable distance in the longitudinal direction—as viewed in the driving direction—from the hinge-like support. The elastic bearings producing the hinge-like supports may be so constructed and arranged as to preclude substantially all lateral movements in the direction of their bearing axis as well as all movements in a direction perpendicular thereto while permitting substantially only pivotal movements about the bearing axis.

3,512,801
VERSATILE BICYCLE
George L. Kerr, Box 153, Okeene, Okla. 73763
Filed Oct. 18, 1968, Ser. No. 768,833
Int. Cl. B62m *1/20*
U.S. Cl. 280—231 2 Claims



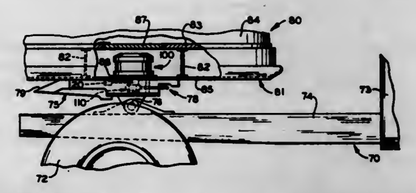
A bicycle which can be operated in the usual manner by one person, either with or without a passenger, but which can also be operated and propelled by the combined efforts of two people, and in either case can also carry a third person. This is made possible by rigidly attaching three bicycle frames of usual construction parallel to one another, removing the pedals and pedal shaft from the frame in the middle and the two track wheels from each side frame. The three steering columns are then linked together for operation in unison and a transverse countershaft is positioned beneath the seats to transmit the propulsion from a pedal-operated sprocket wheel on each side frame through intermediate sprockets on the countershaft to the rear bicycle wheel of the middle frame.

3,512,802
TRACTOR RIG
Arthur La Rock, Jr., 109 Hudson St., South Glens Falls, N.Y. 12801
Filed Mar. 7, 1968, Ser. No. 711,325
Int. Cl. B60j *1/00*
U.S. Cl. 280—405 4 Claims



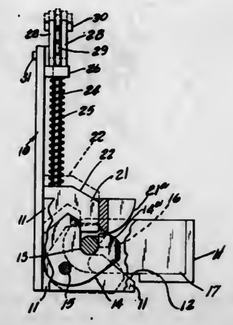
This invention is directed to a single drive axle tractor provided with a pair of adjustable-load, self-steering pusher wheels mounted on a drop center axle positioned ahead of the single drive axle.

3,512,803
STABILIZING DEVICE FOR ARTICULATED VEHICLES
Eugene W. Hines, Saline, Mich., Norman F. Lapine, Sr., Toledo, Ohio, and Harold F. Mensing, Monroe County, and Clifford M. Wakeman, Flint, Mich., assignors to The Mather Company, Sylvania, Ohio, a corporation of Ohio
Filed Oct. 2, 1967, Ser. No. 672,258
Int. Cl. B62d *1/06, 53/08*
U.S. Cl. 280—432 26 Claims



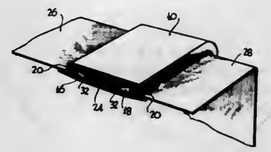
An automatic fluid damping device connected to the vertical pivot connection between articulated vehicles to improve road stability including suppressing swaying and jackknifing, comprising an arm on the pivot connected to one of the vehicles to rotate the pivot with that vehicle as the vehicles articulate, and a vane also attached to the pivot which oscillates in a sector-shaped chamber fixed to the other vehicle, which chamber is filled with a damping fluid for restricting the rotation of the pivot within respect to the other vehicle. The housing for this chamber, or vane therein, includes a special sealing means and a passageway with a positively adjustable restricting, continuously open orifice therein for controlling the rate of flow of fluid from one side of the vane to the other in the chamber. This adjustably restricted passageway may be connected to a signalling means and/or to a hydraulically operated brake means for further restricting the relative articulated motion between the vehicles.

3,512,804
LOCK AND HITCH ASSEMBLY
Arnold Siegert, Hubbard Lake, Mich. 49747
Filed Dec. 15, 1967, Ser. No. 690,840
Int. Cl. B60d *1/04*
U.S. Cl. 280—509 8 Claims



This invention relates generally to a quick connect and disconnect hitch for securing an implement, such as a snow-plow, to a power vehicle and specifically relates to a quickly operable means for connecting and/or disconnecting a snow-plow or the like to or from a power vehicle.

3,512,805
MEANS FOR JOINING TWO CONDUITS
Charles B. Glatz, 113 Palmweed Ave., Ashland, Cherry Hill Township, N.J. 08034
Filed Aug. 16, 1968, Ser. No. 753,171
Int. Cl. F16l *21/06, 25/00*
U.S. Cl. 285—109 3 Claims

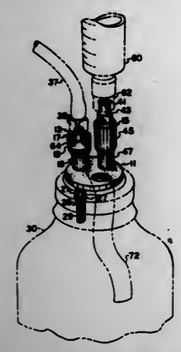


Means for joining two ducts are provided. A flexible strip including a pair of longitudinal grooved edges are provided to receive the ends of the ducts therein. The grooves in the strip receive the ends of the ducts. The strip is cut to the proper length to provide sealing completely around the ducts.

3,512,806
ADAPTER FOR MULTIPLE CONNECTIONS TO INTRAVENOUS FLUID RECEPTACLES AND THE LIKE
Russell H. Romney, 3259 Bon View Drive 84109, and Rodger S. Fullmer, 1511 East 7335 South 84121, both of Salt Lake City, Utah
Filed Jan. 22, 1968, Ser. No. 699,660
Int. Cl. F16l *39/00*
Int. Cl. 285—137 2 Claims

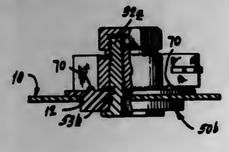
A convenient leak-proof adapter for making connections to a multiperforate stopper in a vessel for supplying liquid for intravenous injections and the like includes a pair of tubular connectors secured to a base member to form a unit which can be inserted into the stopper

in a single operation. The tubular connectors are mutually reversed, one having a male tip, the other a female, to attach to complementary fastenings respectively on



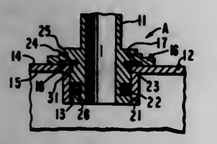
liquid outflow and air flow lines. The latter may be pressurized if desired. Locked connections are secured by simple insertion and fractional turn locking.

3,512,807
MANIFOLD FOR INFLATABLE LIFE PRESERVERS AND THE LIKE
Harold J. Moran, Trenton, N.J., assignor to Switlik Parachute Co., Inc., a corporation of New Jersey
Filed Apr. 9, 1969, Ser. No. 814,692
Int. Cl. F16l *3/04*
U.S. Cl. 285—158 9 Claims



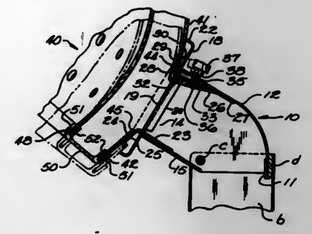
A manifold for inflatable flotation devices, such as life preservers, utilizes a plastic base having the property of sealably adhering to the body of the inflatable responsive to the application of heat. A tubular insert extends through the manifold body and has a noncircular collar at one end engaging in a mating recess of the base to prevent relative rotation of these components. The insert and the manifold body are also interengaged against relative rotation. The base and manifold body are clamped between the between the collar and a cap nut threaded on the insert.

3,512,808
FLUID COUPLING ASSEMBLY
Charles H. Graham, Mountain View, Calif., assignor to Gra-Tec, Inc., Los Altos, Calif.
Filed Aug. 4, 1967, Ser. No. 658,405
Int. Cl. F16l *41/00*
U.S. Cl. 285—189 5 Claims



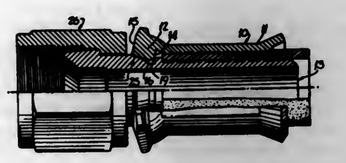
A fluid coupling assembly and method of making same from a female member and an end of a tubular male member having a pair of annular grooves spaced apart axially between a shoulder stop and the end wherein the male and female members have slidably mating enlarged diameter portions juxtaposed the edge of the groove nearest the shoulder stop when in assembled position. The female member can be formed by punching a hole at an obverse wall surface and securing a channel defining plate on the obverse wall surface over the hole.

3,512,809
BOWL-ATTACHING DUCT MEMBER FOR A HAIR DRYER
Frank D. Markanka, Florissant, Mo., assignor to E. W. Harting Manufacturing Company, Inc., St. Louis, Mo., a corporation of Missouri
Filed Oct. 10, 1968, Ser. No. 766,563
Int. Cl. F16l *41/00*; F26b *9/00*
U.S. Cl. 285—189 5 Claims



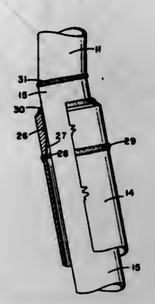
A bowl-attaching duct member for a hair dryer imposes a minimum of localized stresses on the bowl adjacent to its rectangular duct attachment opening. A circular flange, presented against the outer side of the outer bowl, provides an outer line of clamping. For clamping within the outer bowl, rounded upper and lower flanges are used, the upper flange being formed on the end of a leaf spring, and drawn upward by a thumb screw. When the screw is loosened, light downward pressure so deflects the spring as to permit disengagement of the duct opening over the flanges, for cleaning and for easy remounting.

3,512,810
HOSE FITTING HAVING A DEFORMABLE SOCKET
John B. Harris, Clifton, N.J., assignor to Resistoflex Corporation, Roseland, N.J., a corporation of New York
Continuation-in-part of application Ser. No. 666,249, Sept. 8, 1967. This application May 22, 1969, Ser. No. 826,929
Int. Cl. F16l *13/02, 33/20*
U.S. Cl. 285—256 10 Claims



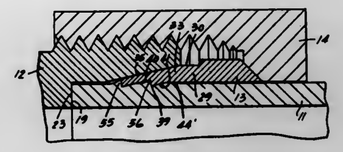
The radially inner edge adjacent the exterior of the flange on a fitting socket is welded to an abutment on the nipple providing an annular web of limited cross-section therebetween. The nipple is provided with a channel or groove adjacent the abutment and underlying the flange. When the socket is radially contracted the flange deforms and bends about the web penetrating the groove in the nipple. The groove has a side wall which then provides an interlock with the flange.

3,512,811
PILE-TO-JACKET CONNECTOR
John J. Bardgette, New Orleans, and William J. Ruez III and Luther S. Moody, Metairie, La., assignors to Esso Production Research Company
Filed Jan. 22, 1968, Ser. No. 699,461
Int. Cl. F16l *13/02*
U.S. Cl. 285—286 4 Claims



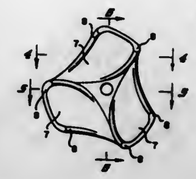
A single ring connector of variable wall thickness for joining an outer pipe (e.g., platform jacket leg) to an inner pipe (e.g., platform pile) for load transfer purposes. In the erection of an offshore structure, a pile member is inserted through each jacket leg of the substructure; and after the substructure is positioned on the sea floor each pile member is driven into the sea floor; and then a pile-to-jacket connector is lowered over the top of each pile member and welded to the jacket leg and to the pile member.

3,512,812
SEALING RING WITH DIFFERENT SHAPED CUTTING EDGES FOR PIPE CONNECTIONS
Hans Kreidel, Sr., and Hans Kreidel, Wiesbaden, Germany, assignors to Inventex Ltd., a Swiss corporation
Filed Jan. 30, 1969, Ser. No. 795,287
Claims priority, application Germany, Feb. 23, 1968, 1,675,336
Int. Cl. F16l *19/08*
U.S. Cl. 285—341 2 Claims



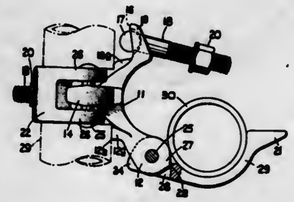
A sealing sleeve used in a tube connection by insertion on a tube between a connecting nipple and a pressure applying nut. The sleeve has a pair of circular cutting edges each having a different diameter and a concave shaving surface of a different width and different curvature in cross-section with the small diameter cutting edge having a shaving surface of the greater width. The sealing sleeve includes a transition portion having a cylindrical outer surface and a conical inner surface which transition portion is deformed during the formation of a tube connection into a wedge having a trapezoidal cross-section for limiting the penetration of the large diameter cutting edge and indicating the completion of the formation of the connection.

3,512,813
ROD COUPLING
Torsten Brimberg, Box 21, Mellosa, Sweden
Filed Dec. 9, 1968, Ser. No. 782,109
Int. Cl. F16b *7/04*
U.S. Cl. 287—49 7 Claims



A coupler for releasably connecting two or more rods to one another when erecting scaffoldings, storage racks or the like. The clamp members engage each of the rods to be connected and also force the rods against each other. A frictional material is provided in the groove of the clamp to produce a wedging effect as displacement of the rods occurs.

3,512,814
SCAFFOLD COUPLINGS
Jack Graham Lowe, Belbroughton, England, assignor to Burton Delingpole & Company Limited, Cradley Heath, Warley, England, a British company
Filed Dec. 6, 1967, Ser. No. 688,602
Claims priority, application Great Britain, Dec. 6, 1966, 54,519/66; Mar. 4, 1967, 10,338/67; May 25, 1967, 24,364/67
Int. Cl. E04g *7/00*
U.S. Cl. 287—54 3 Claims

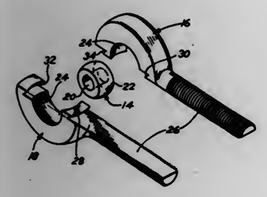


This invention relates to scaffold couplings for connecting a pair of scaffold tubes in mutually transverse relationship, and is concerned with producing the couplings in a particularly economical manner in respect in particular of material savings and rate of production.

3,512,815
BALL-AND-SOCKET ASSEMBLY
Rudolf A. Spyra, 5344 N. Paulina, Chicago, Ill. 60640
Filed June 6, 1968, Ser. No. 735,107
Int. Cl. F16c *11/06*
U.S. Cl. 287—88 3 Claims

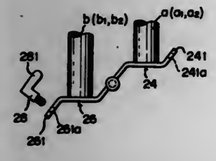
A ball-and-socket assembly comprising an outer housing member of two-part construction having a spherical

inner surface formed in the two parts thereof, and an inner member having a spherical outer surface mating with the inner surface of the outer housing member. The outer housing member may be a male or female type of rod end or any other type of housing for the spherical inner member may have a bore to receive a shaft or rod, the entire assembly being usually termed a "spherical rod end bearing." The two parts of the outer housing member are connected together by mating dove-tail joints which are generated on a radius from an axis of the spherical surfaces whereby the two parts of the outer housing member may be crossed in relation to each other to receive the inner member, and then assembly



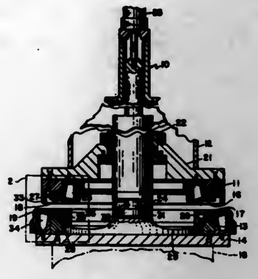
may be accomplished by rotating the two parts to an aligned connected position wherein the dove-tails mate with each other. The two-part outer housing member may be partly in the form of a rod, which, when the two parts thereof are received in a sleeve or the like will be held assembled thereby, or the two parts may have a bore formed therein, which, upon reception of a rod therein effects retention of the two parts against disassembly. The dove-tail joints may assume a variety of configurations, but each generated about an axis of the spherical surfaces to accomplish the type of assembly described.

3,512,816
MEANS FOR CONNECTING FRONT AND REAR PORTIONS OF A FOLDABLE BICYCLE
Jiro Katano, Nagoya, Japan, assignor to Katano Jitensha Kabushiki Kaisha, Nagoya, Japan, a corporation of Japan
Filed Mar. 18, 1968, Ser. No. 713,784
Claims priority, application Japan, Sept. 6, 1967, 42/76,290
Int. Cl. B25g *3/38*
U.S. Cl. 287—99 **1 Claim**



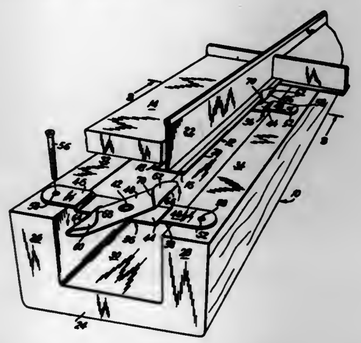
Means for connecting the front and rear portions of a foldable bicycle, which is capable of preventing relative twisting movement of the two portions. The connecting means comprises a hinge shaft, a pair of similarly shaped non-planar hinge plate members, one of the hinge plate members being adapted to be symmetrical with respect to the hinge shaft when the bicycle is folded, and fastening means to hold the two hinge plate members in tight contact.

3,512,817
CONNECTOR
Lawrence A. Attermeyer, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 15, 1967, Ser. No. 690,926
Int. Cl. B25g *3/36*
U.S. Cl. 287—103 **9 Claims**



This invention relates to a connector and, more particularly, to apparatus for connecting machine elements together for accurate location relative to one another and including a seal means for excluding foreign matter from the operative parts.

3,512,818
CLIP
Stephen Pechenik, Red Lion, Pa., assignor to Paeco, Inc., a corporation of New Jersey
Filed Nov. 29, 1968, Ser. No. 779,882
Int. Cl. F16b *12/00*
U.S. Cl. 287—189.35 **9 Claims**

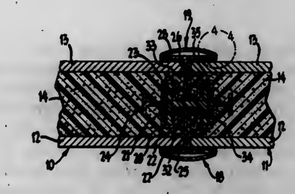


Clip for supporting imitation, lightweight and cellular channel members comprising imitation beams of generally U-shaped cross-section for attachment to suspended ceilings comprising ceiling bars having generally inverted T-shaped cross-section by engagement with the flange thereof.

3,512,819
CONNECTOR STRUCTURE FOR MODULAR PANELS AND THE LIKE
Everett L. Morgan, Walnut Creek, and Alfred G. Gillingwater, Concord, Calif., assignors to Foamcor, Inc., Benicia, Calif., a corporation of California
Filed Sept. 13, 1968, Ser. No. 759,618
Int. Cl. F16b *5/00*
U.S. Cl. 287—189.36 **5 Claims**

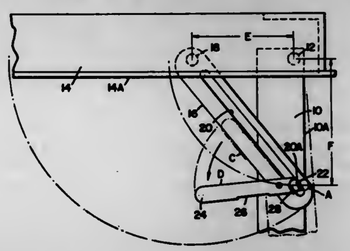
Connector structure for modular building wall panels and the like is described. Modular wall panels for building structures include inner and outer faces formed of

standard construction materials, and a core of insulating or similar material sandwiched therebetween. The core of the panels described is foamed-in-place polyurethane self-bonded to the inner and outer faces of the panels, and to a longitudinally extending fastener forming a part of connector structure used to join adjacent panels along longitudinal edge portions thereof. The fastener substantially encloses the longitudinal edge of the associated panel and has a generally T-shaped channel section embedded within the core, such section defining a generally T-shaped channel having its opening along the



longitudinal edge of the panel. When a pair of panels are juxtaposed along the longitudinal edge portions thereof, the two channel sections define a channel having generally H-shaped configuration that slidably receives an H-shaped coupling. Such coupling is operative to secure a pair of panels together along such edges. The fasteners have laterally turned flanges overlying the inner and outer faces of the associated panel, and such flanges are equipped with lips cooperative with cover strips which bridge and overlie the joint formed by the connection of two such panels.

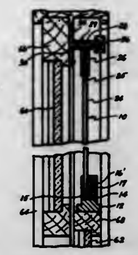
3,512,820
DEVICE FOR SELECTIVELY HOLDING A DOOR OPEN
Louis F. Barroero, 1585 Daniels Drive, San Leandro, Calif. 94577
Filed Dec. 18, 1967, Ser. No. 691,425
Int. Cl. E05c *17/16*
U.S. Cl. 292—270 **2 Claims**



A device for selectively holding a door open relative to a frame having a brace pivotally mounted on the frame and having an elongated aperture therein, a pin fixed to the door and slidable within the aperture as the door is opened and closed, and an arm pivotally mounted on the brace and pivotable to limit the movement of the pin to hold the door in its open position.

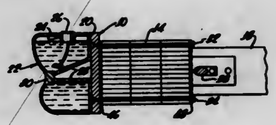
3,512,821
SAFETY LOCK FOR WINDOWS
Carl T. Savio and Margaret M. Savio, both of 2000 Creston Ave., Bronx, N.Y. 10453
Filed May 20, 1968, Ser. No. 730,326
Int. Cl. E05b *1/00, 3/00*
U.S. Cl. 292—305 **4 Claims**

A window lock assembly for locking double hung windows is disclosed. A socket is secured to the top of a lower window and a T-fitting with threaded socket is secured to the top of an upper window. A bar can be inserted into the lower socket and then screwed into the upper socket. Set screws in the lower socket secure the bar in place. For locking the windows in partially open position an eyebolt engages on the upper T-fitting. A bar



with threaded end engages with the eyebolt. The lower end of the bar fits into the lower socket and is secured by the set screws. For casement windows, window lock assemblies are described having socket bars which receive U-bars. The U-bars engage handles of the casement windows. The U-bars are held in place by set screws in the socket bars.

3,512,822
COMBINATION LIQUID AND METAL SHOCK ABSORBING BUFFERS
John W. Rich, 2117 Arden Way, and Grant W. Walker, 4339 Lantzy Court, both of Sacramento, Calif. 95825
Continuation-in-part of application Ser. No. 671,472, Sept. 28, 1967. This application Nov. 20, 1968, Ser. No. 777,317
Int. Cl. B60r *19/00, 19/04, 21/00*
U.S. Cl. 293—1 **7 Claims**

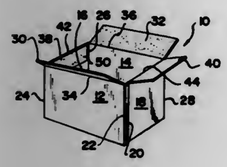


A combination bumper including a normally water filled buffer member securing to one side of a backing plate and shear action energy absorbing material secured to the other side of the backing plate is disclosed. The buffer member is a resilient elongate member normally filled with water including normally closed apertures to permit displacement of the water there through at a rate and in a quantity commensurate with impact energy. The shear action energy absorbing means comprises sets of rigid sheets or matrices which are positioned relative to each other to intersect each other at the edges thereof such that when a force is exerted thereon the edges cut into the respective sheets thereby absorbing the impact energy.

3,512,823
COLLAPSIBLE CONTAINER
Julian C. D'Esposito, Wilmette, and Richard G. Taus, Berwyn, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed May 6, 1968, Ser. No. 726,876
Int. Cl. B65d *5/02*
U.S. Cl. 229—37 **5 Claims**

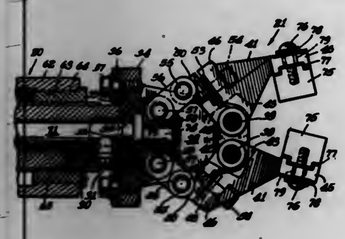
A collapsible container is formed from a blank of paperboard and has opposed pairs of hingedly interconnected first and second sidewalls which have first and

second closure flaps hinged respectively thereto. The container is erected in the usual manner to form a tubular structure. The inner surface of each of the first closure flaps and the outer surface of each of the second closure flaps is covered with adhesive coating, the adhesive being of the self-sticking type so that a surface coated therewith



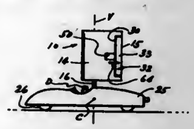
will adhere only to another similarly coated surface. When the container is collapsed, in order to prevent adherence of adhesively coated surfaces to one another, each of the flaps is folded against the sidewall to which it is hinged so that the adhesively coated surfaces will contact only the uncoated surfaces.

3,512,824
GRIPPER FINGER MECHANISM FOR PRESS TRANSFER ASSEMBLY
Frederick H. Bantz, Hazel Crest, and Tsuneo Otsuka, Harvey, Ill., assignors to Verson Allsteel Press Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 16, 1967, Ser. No. 675,544
Int. Cl. B66c *1/44*
U.S. Cl. 294—115 **19 Claims**



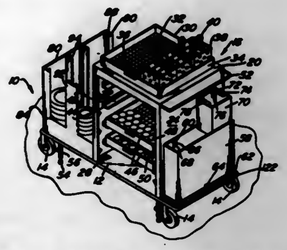
A transfer assembly is provided for a press for gripping and transferring workpieces from station to station along the press. It includes at least one longitudinally movable feed bar and at least one gripper mechanism carried by said at least one feed bar for longitudinally moving gripper finger mechanisms having gripper fingers to grip and release the workpieces for transferring the workpieces as said at least one feed bar is longitudinally moved. The gripper mechanisms laterally advance and retract the gripper finger mechanisms and open and close the gripper fingers thereof. Said at least one feed bar is also raised and lowered by a lifter mechanism. In operation, the feed bars are in their lowered position, and the gripper finger mechanisms are then laterally advanced and the fingers are closed to grip the workpiece. The feed bars and gripper finger mechanisms are then raised, longitudinally moved in one direction and then lowered to transfer the workpiece from one station to the next. The gripper fingers are then opened and the gripper finger mechanisms are then laterally retracted and longitudinally returned in the opposite direction by the lowered feed bar for another cycle of operation.

3,512,825
AERODYNAMIC WING FOR RACING CARS
Robert D. Green, % Ethiopian Air Lines, Box 1755, Addis Ababa, Ethiopia
Filed June 11, 1968, Ser. No. 736,154
Int. Cl. B62d *1/89*
U.S. Cl. 296—1 **9 Claims**



An aerodynamic wing is turnably mounted on a racing car to produce a substantial centripetal aerodynamic force to counteract centrifugal force encountered while the car is turning to enable the car to maintain high speed while turning. The device operates fully automatically without any direct coupling to steering gear, engine or wheels, and without supplementary driving mechanical or hydraulic control means. The wing is self-centering and streamlines into the relative wind on straightaway driving to minimize drag. The wing has a pivotable rear control tab turned by a laterally movable mass responsive to lateral centrifugal force.

3,512,826
MOBILE FOOD SERVICE WAGON
Arthur Hahn, 4000 Ridge Pike, Collegeville, Pa. 19426
Continuation-in-part of application Ser. No. 672,911 Oct. 4, 1967. This application Dec. 9, 1968, Ser. No. 783,780
Int. Cl. A47b *31/00*; B60p *3/02*
U.S. Cl. 296—22 **10 Claims**

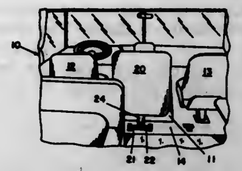


A food service wagon is provided, having a frame mounted on wheels, and having a plurality of posts extending upwardly from the frame to define a plurality of openings for receiving dishes. Vertically disposed dividing walls adjacent the posts define an open-sided well. A receptacle for scrapings from the plates is provided, complemental with the well. One wall of the receptacle provides a lateral retaining means for dishes received in one of the openings. Another receptacle is provided on one side of the wagon for receiving other waste materials such as paper and/or linen, and a further receptacle for liquid refuse is provided, nested within the other receptacle, but readily removable therefrom.

3,512,827
COMBINATION TABLE-SEAT FOR MOTOR HOMES
Wilfred H. Stange, Rte. 2, Box 206, New Lisbon, Wis. 53950
Filed June 2, 1969, Ser. No. 829,360
Int. Cl. B60n *1/10*
U.S. Cl. 296—64 **2 Claims**

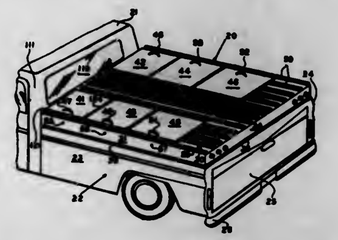
A combination table-set unit mounted over the engine housing of a motor home. The unit has a seat portion extending forwardly from a vertical frame removably supported in a well installed in the floor of the motor home

adjacent the rear of the engine housing. The back portion of the seat has a hinged mounting member inserted in



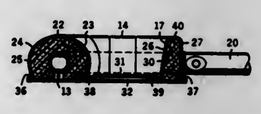
the frame for maintaining the back portion in an upright "chair" position and pivoting it to a horizontal "table" position in which it rests on the seat portion.

3,512,828
PICKUP BED CAP
John T. Craft, Mount Hope, Kans., assignor to Jolyn Corporation, a corporation of South Dakota
Filed Sept. 5, 1967, Ser. No. 665,475
Int. Cl. B60p *7/02*
U.S. Cl. 296—100 **7 Claims**



This invention comprises a pickup bed cap providing a liftable and removable load-carrying deck and a weather tight cover for a bed of a pickup truck. The deck has doors for providing access to the pickup bed and for providing access to special storage compartments beneath the deck. Moreover, one embodiment of the invention provides a load-carrying deck that can be erected to form a camper-like living compartment on the pickup truck.

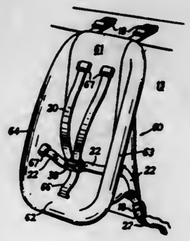
3,512,829
REINFORCED, CUSHIONED TRAY FOR INFANT SEAT
Roy F. Paris, Bethalto, Ill., assignor to The Welsh Co., St. Louis, Mo., a corporation of Missouri
Filed Mar. 21, 1968, Ser. No. 718,978
Int. Cl. A47b *39/00*
U.S. Cl. 297—148 **8 Claims**



The reinforced, cushioned tray includes a peripheral rim having a U-shaped bent portion interconnected by a yieldable band portion. A U-shaped frame reinforces the interior of the bent portion and the bent portion includes padding embracing the U-shaped frame. The bottom of the tray is provided by a two-ply panel, the plies being marginally connected to the peripheral rim.

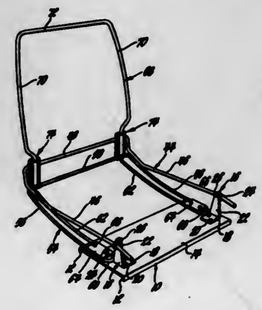
A method is disclosed for forming a reinforced, cushioned tray which includes molding a plastic sheet into an upper shell, reinforcing and padding the shell, and heat-sealing a reinforcing panel to shell.

3,512,830
SAFETY BELTS
Neville Marshall Norman, Ashford, and Derek Morley, Folkestone, Kent, England; said Norman assignor to Cleaver-Hume International Limited, London, England, a company of Great Britain
Filed Apr. 11, 1967, Ser. No. 630,022
Claims priority, application Great Britain, Apr. 15, 1966, 16,628/66; Aug. 23, 1966, 37,729/66; Oct. 28, 1966. 48,479/66
Int. Cl. A47c *1/08*; A44b *21/00*
U.S. Cl. 297—250 **13 Claims**



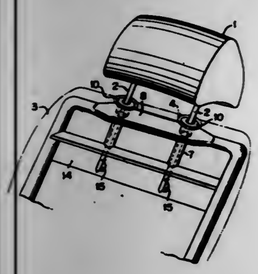
The invention provides a combination of a safety belt and child's seat in which the child's seat is restrained from forward movement independently of a child in the seat the safety belt having shoulder straps and lap straps which are anchored to the vehicle so that the belt can be used by an adult or older child when the child's seat is detached.

3,512,831
SPRING SEAT
Hyland C. Flint, 3551 Walnut Lake Road, Rte. 2, Orchard Lake, Mich. 48033
Filed Aug. 24, 1964, Ser. No. 391,518
Int. Cl. 47b *3/10*
U.S. Cl. 297—309 **41 Claims**



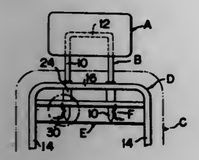
1. A seat comprising:
base means;
a resilient seat support means extending rearwardly from said base means;
a resilient suspension means extending rearwardly from said base means independently of said seat support means;
back support means pivotally secured to said seat support means and to said suspension means at vertically spaced positions, and secondary suspension means for engaging said suspension means when the seat is loaded to provide additional support.

3,512,832
HEAD-REST FOR THE SEAT OF VEHICLES
Motokuni Kage, Toyota-shi, Japan, assignor to Toyota Jidosha Kogyo Kabushiki Kaisha, Toyota-shi, Japan, a corporation of Japan
Filed July 25, 1968, Ser. No. 747,656
Claims priority, application Japan, Aug. 23, 1967, 42/72,586
Int. Cl. 47c 7/36
U.S. Cl. 297—410 1 Claim



This invention relates to a head-rest for car-seat wherein the stays of the head-rest are fitted adjustably on the frame of the back of the seat, which is characterized in that a plurality of concaved portions for adjustment rectangularly against the axial direction thereof are provided at the portion of the stays in the up-and-down direction, which are inserted inside the back of the seat through the surface leather holes, and a fitting tool to be fitted to one of the concaved portions for adjustment, is provided on the frame of the back of the seat, and the stay-guides for fitting the stays movably is provided on the frame of the back of the seat, and the stay-guide accessories, one end of which is inserted into a part of said stay guides, and the other end of which is fixed to the holes of the surface leather of the back through which the stays are passed through, are provided to smoothly adjust the head rest in the up-and-down direction against the back of the seat by moving inside the stay guides and the stay guides accessories.

3,512,833
ADJUSTABLE HEAD REST FOR VEHICLE SEATS
Koichi Segawa, Toyota-shi, Japan, assignor to Toyota Jidosha Kogyo Kabushiki Kaisha, Toyota-shi, Aichi-ken, Japan, a corporation of Japan
Filed Aug. 5, 1968, Ser. No. 750,096
Claims priority, application Japan, Aug. 11, 1967, 42/69,232
Int. Cl. A47c 7/38
U.S. Cl. 297—410 7 Claims



An adjustable head rest for a vehicle seat which employs a plate member secured to the fixed frame for the back rest of the seat. The plate member has guide means associated therewith. A connecting member depending from the head rest and secured thereto is guided for up and down movement. The connecting member is provided with a plurality of vertically spaced, substantially V-shaped recesses. A wire spring member is positioned adjacent the head rest connecting member with its ends secured to the plate member by vertically spaced means provided by the plate member. The wire spring member has an intermediate portion formed to provide a detent projection of substantially V-shape. The detent projection is receivable in the vertically spaced, substantially V-shaped recesses, whereby the head rest may be adjusted to desired position with respect to the fixed seat frame.

3,512,834
METHOD AND MEANS FOR SECURING THE ENDS OF THE WEBBING MATERIAL TO THE FRAME OF GARDEN OR PORCH FURNITURE
Samuel D. Lockabin, Northampton, Mass., assignor to Shott Chairs Corporation, Hamilton, Ohio, a corporation of Ohio
Filed Dec. 22, 1967, Ser. No. 692,794
Int. Cl. A47c 7/02
U.S. Cl. 297—441 14 Claims



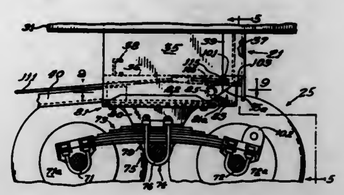
The garden or porch chair and/or chaise are formed of aluminum or similar materials for the frame members and the ends of the webbing strips or lengths are retained in operative position by either a single retaining member cooperating with and securing an end of each strip of flexible webbing material or a single retaining member cooperating with and simultaneously securing all of the ends of the webbing material strips to an aluminum frame member.

3,512,835
CHAIR
Fritz Flötotto, Friedrichsdorf, Germany, assignor to Fritz Flötotto Friedrichsdorfer Schulmobelfabrik und Sagewerk, Westphalia, Germany, a firm of Germany
Filed Apr. 22, 1968, Ser. No. 723,336
Int. Cl. A47c 7/16
U.S. Cl. 297—458 1 Claim



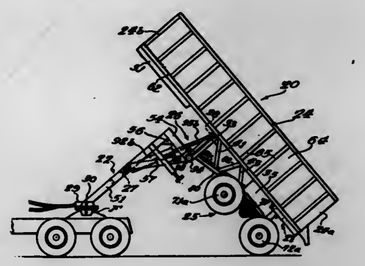
A chair, preferably a school chair, with a single piece made of a pressed material and forming the seat and the back, having an outwardly curving lower back portion connected with a central portion, the chair being characterized by an elongated seat surface with a slightly projecting central section and a curved recessed portion, the seat surface being followed by a strongly outwardly bent lower back portion the top of which is inclined and extends toward the lower portion which is V-shaped when viewed from the front and curved when viewed from the top with a slight recess in the middle, while the curved upper back portion has considerably wider sides and is curved for supporting the lumbar section of the spine in its upper section and the breast section of the spine in its lower section.

3,512,836
LATERAL STABILIZING MEANS FOR A SEMI-TRAILER DUMP BODY
Anthony Polich, Jr., 8746 40th St., Lyons, Ill. 60534
Filed Oct. 9, 1968, Ser. No. 766,051
Int. Cl. B60p 1/18
U.S. Cl. 298—17 7 Claims



A semi-trailer dump body construction in which the dump body supporting frame and the rear axle assembly are provided with releasable interengaging means which automatically engage as the dump body approaches full dump position, so as to laterally stabilize the body in that position, and which automatically release at the beginning of movement of the dump body toward travel position.

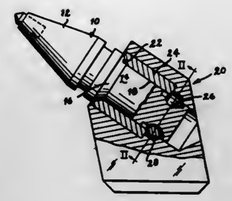
3,512,837
SEMITRAILER DUMP BODY STRUCTURE
Anthony Polich, Jr., 8746 40th St., Lyons, Ill. 60534
Filed Oct. 9, 1968, Ser. No. 766,052
Int. Cl. B60p 1/18
U.S. Cl. 298—22 7 Claims



A semitrailer dump body construction in which a longitudinal main frame which has its rear end supported by a rear axle assembly and carries the dump vehicle, and a longitudinal forward frame the forward end of which is carried upon a transverse pivot on a fifth wheel of a tractor and which supports the forward portion of the dump body in a horizontal or travel position of the body, have their adjacent ends connected by a transverse main pivot which is located adjacent the midpoint between the front and rear ends of the dump body, and in which extensible means is pivotally connected to the two frames across the main pivot so that extension of the extensible means elevates the adjacent ends of the two frames and jackknifes them about the main pivot to move the main frame and dump body to an inclined dump position.

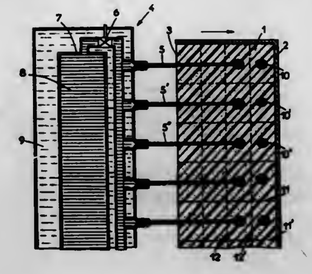
To permit the forward wheels of a tandem rear axle assembly to remain on the ground as the main frame and dump body move toward dump position, means are provided for pivotally mounting the rear of the main frame upon the tandem axle assembly.

3,512,838
PICK-TYPE MINING TOOL
Thomas J. Kniff, Bedford, Pa., assignor to Kennametal Inc., Latrobe, Pa.
Filed Aug. 8, 1968, Ser. No. 751,096
Int. Cl. E21c 35/18
U.S. Cl. 299—86 7 Claims



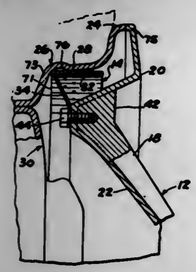
Mining tool of the pick-type in which a pick-type bit is mounted in a holder so as to be rotatable on the axis of the shank of the bit and wherein a hard wear-resistant bushing is provided in the holder forming the seat on which the bit bears and also forming at least a portion of the sidewall of the socket in which the bit shank rotates.

3,512,839
PROCESS FOR MANUFACTURING SPONGES CONTAINING A CHARGE OF MATERIAL
Suzanne Jouffroy, 3 Rue Dobropol, Paris, France
Filed Sept. 7, 1967, Ser. No. 666,194
Int. Cl. A46b; A46d
U.S. Cl. 300—21 6 Claims



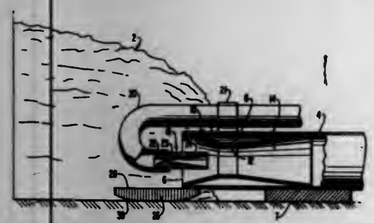
A sponge of the type having a body made of an alveolar material of low porosity and having a charge of detergent or other suitable product inserted in the core of the body, and a process for manufacturing such sponges including the steps of injecting the charges in a pasty or solid state in a large body of spongy structure and cutting the large body of spongy structure into a plurality of sponges each including a charge.

3,512,840
WHEEL COVER
Edwin E. Foster, P.O. Box 714, Austin, Tex. 79167, and Thomas E. Foster, Austin, Tex.; said Thomas E. Foster assignor to said Edwin E. Foster
Filed Nov. 24, 1967, Ser. No. 685,382
Int. Cl. B60b 7/06
U.S. Cl. 301—37 19 Claims



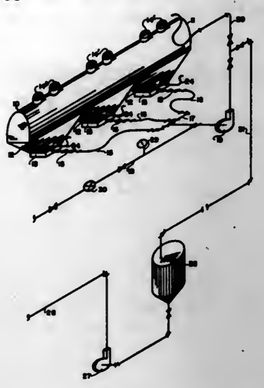
A cover for a vehicle wheel removably mounted on the wheel by a circumferentially expandable band adapted to frictionally engage the inner periphery of the wheel rim. The band is either permanently attached to the wheel cover or adapted to be removably connected to the wheel cover. Where the band is separate from the wheel cover it is first expanded into engagement with the wheel rim and the cover is thereafter attached to the wheel-mounted band. Where the band is permanently connected to the wheel cover the means for circumferentially expanding the band are accessible from the front side of the cover.

3,512,841
METHOD AND APPARATUS FOR CONVEYING PARTICULATE MATERIAL UTILIZING A GASEOUS CONVEYING MEDIUM
Edward J. Kollasch and Robert B. Emery, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Mar. 28, 1968, Ser. No. 716,800
Int. Cl. B65g 53/40
U.S. Cl. 302—51 9 Claims



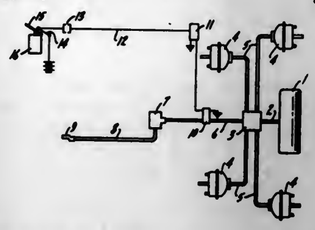
A method of conveying particular material from a mass thereof, which utilizes a nozzle and a venturi tube, with a convergent entry passage of the venturi tube positioned downstream of and facing toward a divergent exit passage of the nozzle. The method includes the steps of passing gas from a pressure source through the nozzle to provide a divergent gas stream directed into the venturi tube, thus creating a suction zone between the nozzle and the venturi tube. The suction zone is placed in fluid communication with a quantity of the particulate material to cause particles of the material to be drawn into and become entrained in the gas stream. Gas is supplied under pressure to the mass of material to replace at least a portion of the interstitial air present between the particles in the mass withdrawn in the suction zone, to prevent compaction of the material. The gas stream is then passed into a downstream divergent passage of the venturi tube to provide a pressure build-up to assist in removal of the entrained material to a subsequent location.

3,512,842
METHOD OF SLURRY UNLOADING OF DRY BULK POWDER SHIPMENTS
Dennis S. Milewski and Ralph O. Treat, Havre de Grace, Md., assignors to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 691,864, Dec. 19, 1967. This application Oct. 25, 1968, Ser. No. 770,864
Int. Cl. B65g 53/04
U.S. Cl. 302—66 10 Claims



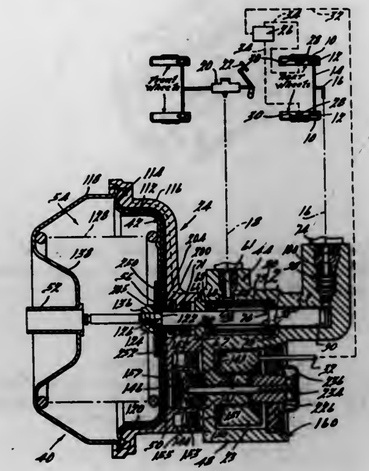
A method of slurry unloading of dry bulk powder shipments of synthetic, finely divided, precipitated, amorphous sodium alumino silicate pigments having a mean particle diameter in the sub-micron range from hopper cars which includes pumping heated water into the bottom of the hopper car in sufficient quantity to make the desired solids content slurry. A soaking period sufficient to wet out the pigment is provided. The powder-water mixture is then agitated by pumping air into the hopper car through a multiple point air agitation system to disperse the powder in the water. With the air agitation continuing, the slurry is pumped through throttled-down pumps providing high shear to the slurried material in a recycle operation to wet out any powder not yet dispersed. The slurry is then pumped from the car to the final point of use.

3,512,843
TRAILER BRAKE RELEASE
Joseph L. Cannella, Melrose Park, Ill., assignor to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois
Filed Nov. 5, 1968, Ser. No. 773,401
Int. Cl. B60t 13/68
U.S. Cl. 303—7 3 Claims



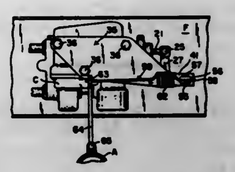
A release for trailer brake systems in which a switch is closed upon release of the tractor brake pedal to supply electrical energy to an electrically openable exhaust valve to exhaust the relay emergency valve and each of the brake actuators is provided with a quick-acting exhaust valve responsive to diminution of pressure delivered to the actuators.

3,512,844
SKID CONTROL SYSTEM INCLUDING HYDRAULIC MODULATING AND PROPORTIONING VALVE
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Jan. 31, 1968, Ser. No. 702,094
Int. Cl. B60t 8/12, 8/26
U.S. Cl. 303—21 1 Claim



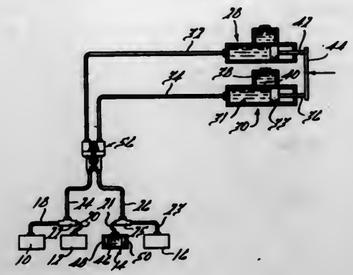
A skid control system for fluid actuated brakes of a wheeled vehicle including a modulating valve for modulating the fluid pressure to the fluid actuated brakes and for proportioning the pressure between front and rear brakes.

3,512,845
LOAD CONTROLLED BRAKING SYSTEM
George Kenneth Farmery, and Wilbur Mills Page, Lincoln, England, assignors to Clayton Dewandre Company Limited, Lincoln, England, a British company
Continuation of application Ser. No. 731,773, May 24, 1968, which in turn is a continuation-in-part of Ser. No. 658,240; and Ser. No. 658,241, both filed Aug. 3, 1967. This application July 14, 1969, Ser. No. 849,543
Int. Cl. B60t 8/18
U.S. Cl. 303—22 10 Claims



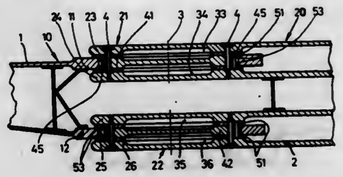
A control valve unit in the fluid pressure brake operating system of a vehicle is mounted on the vehicle frame and directly positively connected by a motion transmitting linkage to a vehicle axle, so that changes in vertical spacing between the frame and axle due to vehicle load are sensed and applied to correspondingly modify the action of the control unit. A fail-safe feature automatically retains adequate control should the linkage break.

3,512,846
VEHICULAR BRAKING SYSTEM
William L. Sheppard, 36655 Romulus Road, Romulus, Mich. 48174
Continuation of application Ser. No. 591,668, Oct. 24, 1966. This application Aug. 22, 1968, Ser. No. 768,577
Int. Cl. B60t 17/18, 11/32
U.S. Cl. 303—84 15 Claims



A control unit for addition to a dual or split braking system to equalize or limit the differences between the hydraulic pressures in the two braking sub-systems, or to provide four-wheel braking even though one of the two master cylinders fails, or both.

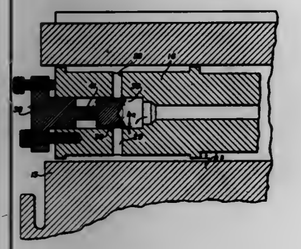
3,512,847
BEARING FOR AN AIRCRAFT WING HAVING ADJUSTABLE SWEEPBACK
Anton Link, Furstenfeldbruck, Germany, assignor to Entwicklungsring Sud G.m.b.H., Munich, Germany
Filed Nov. 29, 1967, Ser. No. 686,546
Claims priority, application Germany, Dec. 22, 1966, E 33,080
Int. Cl. F16c 11/00; B25g 3/38; B64c 3/38
U.S. Cl. 308—2 2 Claims



The invention concerns a bearing structure for securing the wing of an aircraft to the fuselage thereof so as to permit relative movement between the fuselage and the wing for adjustment of wing sweepback. The bearing includes a bifurcated wing support stub projecting from the fuselage of the aircraft. Disposed between the prongs of the stub is a spacing washer. Positioned between each of the surfaces of the spacing washer and the adjacent surfaces of the wing stub are bearing washers. The washers

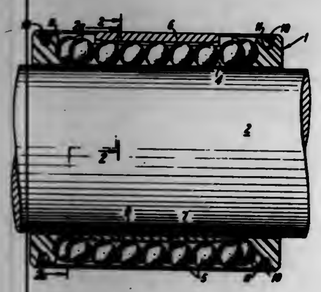
and the spacing disc are secured to the support stub by suitable means. The base of the wing is formed to define a circular opening therethrough having a diameter slightly greater than the diameter of the disc. The disc is positioned within the opening defined by the base of the wing so as to captively retain the wing base between the prongs of the bifurcated support stub.

3,512,848
MACHINE BEARING
Herbert R. Uhlenwoldt, Worcester, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware
Filed May 16, 1968, Ser. No. 729,690
Int. Cl. F16c *1/24, 33/10*
U.S. Cl. 308—5 2 Claims



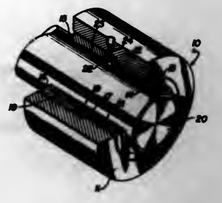
This invention relates to a machine bearing and, more particularly, to a machine construction having hydrostatic ways.

3,512,849
BALL BEARING FOR LINEAR MOTION
Heinrich Weisel, 17 Haardtweg, 8729 Zell (Main), Schweinfurt, Germany
Filed Jan. 19, 1968, Ser. No. 699,070
Int. Cl. F16c *17/00*
U.S. Cl. 308—6 1 Claim



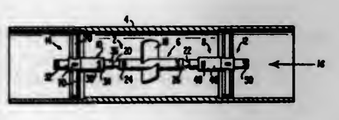
A linear ball bearing construction wherein the ball retainer is formed as a single, integral unit from a resilient, non-metallic material. Provision is made in the retainer for the attachment of a rigid, load-carrying plate to the portion of each of the raceways in which the balls directly contact the shaft on which the bearing is mounted. The load-free portion of each of the raceways surrounds the balls by more than 180° so as to retain and guide the balls in the raceway. A groove formed in the retainer about and closely adjacent to each side of the raceways permits rapid "snap-in" assembly and withdrawal of the balls and the load-carrying plate.

3,512,850
FLUID BEARING
David H. Youden, Worcester, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,573
Int. Cl. F16c *17/16*
U.S. Cl. 308—9 2 Claims



This invention has to do with a fluid bearing and, more particularly, to such a bearing that is provided with one element that is self-aligning.

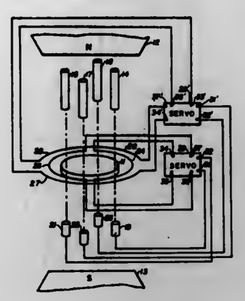
3,512,851
MAGNETIC BEARING
Robert G. Love, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Dec. 11, 1968, Ser. No. 782,800
Int. Cl. F16c *39/06*
U.S. Cl. 308—10 16 Claims



A magnetic bearing assembly for rotatably supporting an elongated magnetic rotor member having opposite ends with substantially conical tips. The rotor is supported by a magnetic field associated with the ends of the rotor and with spaced magnetic stator members. Each stator member includes a generally cup-shaped jewel that may be radially adjustable with respect to the longitudinal axis of the stator member. Each jewel provides a potential bearing surface for one of the rotor tips. The magnetic fields are longitudinally oriented, and are of such polarity that the tips of the rotor are drawn, in opposite directions, toward an adjacent jewel. The cup shape of the jewels provides lateral support for the rotor tip and aids in the centering thereof.

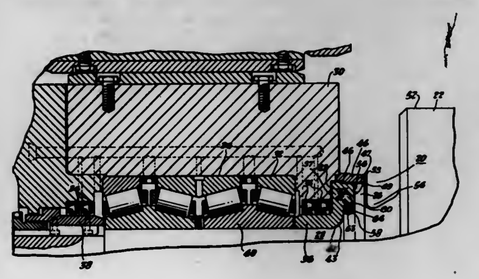
3,512,852
STABILIZED LEVITATION OF MAGNETIC ELEMENTS
George G. North, Santa Ana, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 7, 1969, Ser. No. 805,161
Int. Cl. F16c *39/06*
Int. Cl. 308—10 5 Claims

A system for stabilizing a magnetic element, such as as a magnetized disc, conductive ring having a circulatory current therein, or the like, levitated in a magnetic field, against movement out of a region of free suspension therein. The magnetic element is positioned with its magnetic field in opposition to a vertically oriented magnetic levitation field such that the fields interact to freely support the element against the forces of gravity. Any tendency of the element to slip laterally from its stable support position to unstable support positions is continuously sensed and responsively compensated by



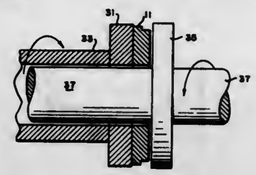
the generation of a magnetic compensating field which is effective to restore the element to, and thereby maintain the element in, its stable support position.

3,512,853
WATER AND LUBRICANT SEALING MEANS FOR MILL ROLLS
Andrew J. Petros, Pittsburgh, Pa., assignor to Mesta Machine Company, Pittsburgh, Pa.
Filed May 29, 1968, Ser. No. 733,147
Int. Cl. F16c *1/24, 33/78*
U.S. Cl. 308—36.1 12 Claims



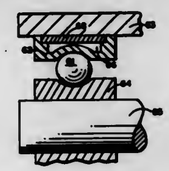
I disclose water and lubricant sealing means for a mill roll and the like, said sealing means comprising a radially projecting circumferential flange on a roll neck of said mill roll, said roll neck being closely fitted into a bearing and bearing holder arrangement, a spacer ring mounted on said roll neck adjacent said roll neck flange and said bearing, a peripheral radially projecting flange attached to said spacing ring and shaped for substantially contiguous engagement with the adjacent surfaces of said roll neck flange, wiper seal means mounted on said bearing holder for wiping engagement with said spacer ring, at least one of the apposite surfaces of said roll neck flange and said spacer ring flange being shaped to define circumferential groove means, and resilient sealing means supported in said groove means for sealing engagement with juxtaposed surfaces of said roll neck and said spacer ring flanges.

3,512,854
LOW FRICTION THRUST BEARING
Alfred B. Harbage, Jr., Annapolis, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 27, 1967, Ser. No. 693,979
Int. Cl. F16c *17/06*
U.S. Cl. 308—160 6 Claims



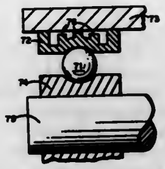
A thrust bearing employs rotating thrust pads for low friction and for counter-rotating shafts. Flow directing means including dam means are provided in the spaces between the thrust pads to insure uniform lubricant flow over the working surfaces of the thrust pads.

3,512,855
LOW STRESS BEARING
John F. Robinson, Newport Beach, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Original application Apr. 26, 1967, Ser. No. 633,926. Divided and this application Sept. 25, 1968, Ser. No. 762,447
Int. Cl. F16c *27/00*
U.S. Cl. 308—184 4 Claims



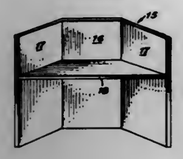
An anti-friction ball bearing assembly for reducing the level of Hertzian stresses in the raceways to thereby increase the life of the assembly in which the races are permitted to deflect to act as a beam by permitting a relief between the races and the shaft and/or the housing.

3,512,856
LOW STRESS BEARING
John F. Robinson, Newport Beach, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Original application Apr. 26, 1967, Ser. No. 633,926. Divided and this application Sept. 25, 1968, Ser. No. 762,452
Int. Cl. F16c *27/00*
U.S. Cl. 308—184 3 Claims



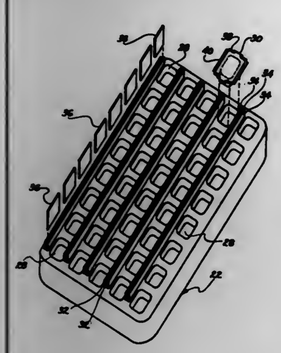
An anti-friction ball bearing assembly for reducing the level of Hertzian stresses in the raceways to thereby increase the life of the assembly in which the races are permitted to deflect to act as a beam by permitting a relief between the races and the shaft and/or the housing.

3,512,857
MODULAR FURNITURE
Joseph P. Butera, Cheektowaga, N.Y., assignor to Tycodyne Industries Corporation, Buffalo, N.Y.
Filed June 26, 1968, Ser. No. 740,245
Int. Cl. A47b *57/08, 47/00*
U.S. Cl. 312—107 6 Claims



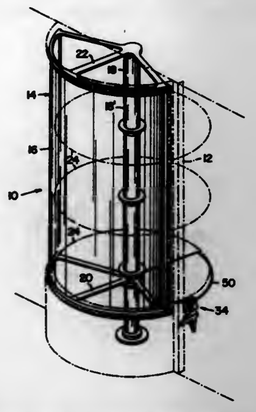
Modular interfitting furniture components comprising chiefly a seat component and a desk or cabinet component. Each has a vertical rear wall and a pair of vertical side walls flaring forwardly therefrom so that the components are trapezoidal in plan view. The desk or cabinet component is slightly larger than the seat component so that the lower or upper ends of the seat component fit within the uper or lower ends of the desk or cabinet component. A table top element is grooved at its under side to seat on either the seat or desk components whereby the latter serve as pedestals.

3,512,858
APPARATUS AND METHOD FOR PREPARING AND DISTRIBUTING INDIVIDUAL DOSAGE UNITS OF PHARMACEUTICAL MATERIALS
Kenneth D. Relyea, 3309 Hoover, Grove City, Ohio 44302
Filed July 29, 1968, Ser. No. 748,257
Int. Cl. A47b *67/00*
U.S. Cl. 312—234.5 2 Claims



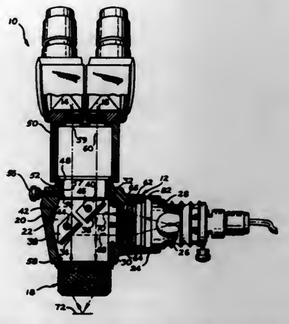
An apparatus and method for the preparation for distribution of individual dosage units of pharmaceutical materials including a portable housing provided with a plurality of distribution trays removably mounted therein. Each of the distribution trays includes a plurality of container openings adapted to receive a container carrying a unit dose of a predetermined pharmaceutical material. The trays also include a plurality of slots disposed between the container openings which are arranged in parallel rows for removably receiving a plurality of cards identifying the patients to whom the container will be delivered and which are arranged in a predetermined order to facilitate the delivery of the containers.

3,512,859
MECHANISM FOR CLOSING A DOOR
Louis F. Barroero, 1585 Daniels Drive, San Leandro, Calif. 94577
Filed Apr. 24, 1968, Ser. No. 723,773
Int. Cl. A47b *49/00*
U.S. Cl. 312—305 5 Claims



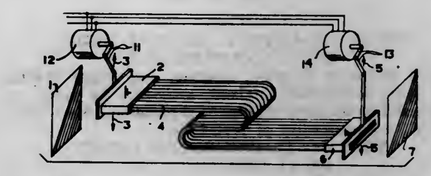
In a display case having a plurality of rotating shelves and a door, means are provided for halting the rotation of the shelves when the door is partially opened manually. The door may be then fully opened and is held open by provided means for a short period of time. Then, provided means move the door back to its closed position, the shelves again rotating when the door is so closed.

3,512,860
VERTICAL ILLUMINATOR FOR STEREOSCOPIC MICROSCOPY
Donald H. Hansen and Howard A. Maier, Williamsville, N.Y., assignors to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed Feb. 15, 1968, Ser. No. 705,684
Int. Cl. G02b *21/06*
U.S. Cl. 350—91 5 Claims



An illuminator for microscopes of the type having dual optical paths arranged to produce a pair of spaced images of a specimen for stereoscopic viewing of magnified details of the specimen. The illuminator produces two beams of ligbt which are directed independently of each other, one into each optical path of the microscope, and thence along the respective paths onto the subject specimen for microscopic vertical illumination of the specimen surface. The invention also contemplates placement of light polarizing means in each of the aforesaid optical paths for enhancing detailed inspection of the specimen surface.

3,512,861
OPTICAL FIBER SYSTEM FOR THE TRANSMISSION OF OPTICAL IMAGES
Heinz Schackert, Bad Kreuznach, Germany, assignor to Jos. Schneider & Co., Bad Kreuznach, Rhineland, Germany, a corporation of Germany
Filed Mar. 10, 1967, Ser. No. 622,256
Claims priority, application Germany, Mar. 17, 1966, Sch 38,680
Int. Cl. G02b *5/16*
U.S. Cl. 350—96 3 Claims



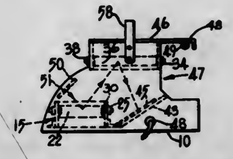
System for the transmission of optical images with the aid of a bundle of light-conductive filaments, the input and output ends of these filaments being linearly juxtaposed to form at each extremity of the bundle a single row or a limited number of rows of such ends which are synchronously displaced across an image surface and a receiving surface, respectively, to reproduce the image content of the former surface on the latter. The displacement of the bundle extremities occurs, advantageously, in reciprocating (linear, rotary or composite) strokes so that the main portion of the bundle may remain stationary; differences in stroke length or a relative phase shift therebetween may be used to change the scale of the image and/or to invert, rotate or otherwise distort it (e.g. for coding purposes) in a predetermined manner.

3,512,862
READERS FOR SCALE
Paul H. C. Yin, 305 Riverside Drive, New York, N.Y. 10025
Filed Dec. 27, 1967, Ser. No. 694,006
Int. Cl. G02b *27/02*; G01d *13/12*
U.S. Cl. 350—110 6 Claims



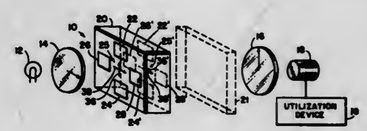
A meniscus reader for burettes and the like in the form of a rectangular plastic transparent member having thereon means to align the transparent member with a unit of the scale on the burette such as a set of horizontal parallel lines spaced apart, second markings thereon in the form of nine sawteeth, the apices of which are laterally offset and equally and vertically spaced from each other and means at the ends of the transparent member for securing the reader onto the burette.

3,512,863
REFLECTING STEREOSCOPIC VIEWER
Vincent L. Matranga, 22 Amity St., Elizabeth, N.J. 07202
Filed Feb. 26, 1969, Ser. No. 802,574
Int. Cl. G02b *27/24*
U.S. Cl. 350—137 1 Claim



A reflecting stereoscopic viewer for presenting a separate image to each eye of an observer comprising a housing. An open frame is adjustably and centrally mounted on the base of said housing and a pair of abutting mirrors, arranged at an obtuse angle with respect to each other, in horizontal alignment, are adjustably and centrally mounted in the frame with their back portions slightly depressed. A second open frame is mounted in the housing above and rearwardly of the first frame, and a pair of larger spaced mirrors is mounted therein in parallel relation to the first pair of mirrors but with their back portions slightly raised. A flat support for a pair of stereoscopic pictures is mounted behind the first frame and in tilting relation to the base. A viewing panel is angularly mounted between the housing sides above the first frame.

3,512,864
FERROELECTRIC CERAMIC OPTICAL RETARDATION DEVICES
Gene H. Haertling, Cecil E. Land, and Ira D. McKinney, Albuquerque, N. Mex., assignors to the United States of America as represented by the Atomic Energy Commission
Filed Sept. 14, 1967, Ser. No. 668,306
Int. Cl. G02f *3/00, 1/28*
U.S. Cl. 350—150 16 Claims



A plane polarized light, optical retardation device or apparatus including a hot-pressed, optically uniaxial, birefringent, ferroelectric ceramic plate having a multiplicity of grains less than about 2 microns in size wherein the plate has an initial uniform polarization parallel to the major surfaces thereof and means for varying the retardation of plane polarized light passing through selected locations of the plate by incrementally varying the orientation of the optic axis of the ceramic at the surface of the plate or by varying the thickness of the plate.

3,512,865

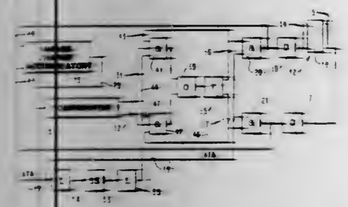
D-C FREE ELECTRO-OPTIC CRYSTAL SYSTEM

David C. Chang, Pleasant Valley, and Simon Lin, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 15, 1966, Ser. No. 697,608

Int. Cl. H03k 19/14; G02f 3/00

U.S. Cl. 350—149 8 Claims



This invention is based in part on the discovery that electrolysis of an electro-optic crystal can be caused by an accumulation of the electrical charge on the crystal that occurs when the crystal is operated predominantly in one polarity. This invention provides a circuit that varies the polarity of the voltage applied to the crystal in a direction to oppose the accumulation of charge on the crystal. The circuit includes two drivers for operating the crystal in one polarity or the other in response to data signals, a trigger circuit that is operable to select one of the two drivers and to signify which of the drivers is being selected, circuitry that responds to the driver conduction state to simulate the charge on the electro-optic crystal, and circuitry that is operable in the intervals between the times a voltage is applied to a crystal to compare the polarity of the simulated charge with the polarity of the selected driver to operate the latch to select a different driver when the simulated charge has the same polarity as the voltage being applied to the crystal by the operating driver.

3,512,866

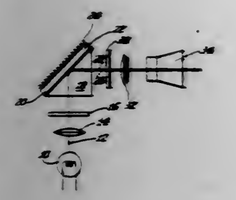
MAGNETO-OPTICAL HAND VIEWER

Henry W. Collins, Torrance, Alfred M. Nelson, Redondo Beach, Arthur W. Evanson, Torrance, and Alfred E. Gray, Culver City, Calif., assignors to The Magnavox Company, Torrance, Calif., a corporation of Delaware

Filed Dec. 3, 1965, Ser. No. 511,468

Int. Cl. G02f 1/18; G11b 11/10

U.S. Cl. 350—151 20 Claims



This invention relates to a system which provides a visual representation of the magnetic states in a magnetic medium. The system includes a light source, a polarizer, particular optical means and a thin magnetic film adjacent to the medium for rotating the polarized light from the source in accordance with the magnetic states induced in the thin film from the medium. A biasing coil is disposed in adjacent relationship to the magnetic medium to produce a substantially uniform background on the magnetic medium.

The system is disposed in a casing. First and second adjustable means respectively extend through the casing to adjust the disposition of the polarizer and the analyzer relative to the thin magnetic film. First and second resilient means are respectively disposed between the magnetic medium and the thin magnetic film and between the biasing means and the casing.

3,512,867

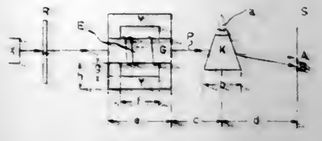
MAGNETO-OPTICAL DIGITAL LIGHT DEFLECTION DEVICE

Ronald Ferguson Pearson, Reigate, and Roger William Cooper, Sevenoaks, England, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed May 18, 1967, Ser. No. 639,521

Int. Cl. G02f 3/00, 1/22

U.S. Cl. 350—151 5 Claims



A magneto-optical switch is described, in which a beam of polarized infra-red radiation is directed through a block of YIG magnetized to rotate the plane of polarization of the beam by 45 degrees. The magnetic field is reversible. In one arrangement, a second magnetized YIG block is also arranged in the path of the beam to rotate the polarization by 45 degrees. In another arrangement, the rotated beam is directed to a birefringent prism having an optical axis normal to the beam such that the beam is deflected.

3,512,868

APPARATUS FOR FORMING A BEAM OF LIGHT

Walter Gorkiewicz, New York, N.Y., and Joseph Wilder, Princeton, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed Dec. 29, 1967, Ser. No. 694,440

Int. Cl. G02b 5/30, 27/28

U.S. Cl. 350—157 4 Claims



Two beams of light having respective orthogonally related planes of polarization are directed to a polarizing beam splitter from such directions that one beam passes through the beam splitter in a given direction and the other beam is reflected by the beam splitter in said given direction, thereby combining the two beams into a single unpolarized beam. In one embodiment, each beam of polarized light is formed from a source of unpolarized light by placing a light retarder between the source and a polarizing beam splitter and by returning light of one polarization emerging along one output path of the beam splitter back along that path. In another embodiment, a single polarizing beam splitter is used for forming both beams of polarized light and for combining them into a single unpolarized beam.

3,512,869

MATERIALS AND ARTICLES HAVING LIGHT-TRANSMISSION PROPERTIES WHICH VARY AS A FUNCTION OF INCIDENT RADIATION

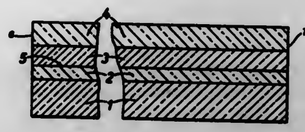
Emile Plumat, Gilly, and Lucien Leger, Montigny le Tilleul, Belgium, assignors to Glaverbel S.A., Brussels, Belgium

Filed Oct. 20, 1966, Ser. No. 588,058

Claims priority, application Luxembourg, Oct. 27, 1965, 49,724

Int. Cl. G02f 1/00

U.S. Cl. 350—160 21 Claims



Materials and articles arranged to transmit light and including at least one normally transparent layer carried on a support sheet made of a light-transmitting material and containing a first substance which reversibly dissociates under the influence of solar radiation for producing a plurality of dissociation products one of which acts to reduce the transparency of the layer and a second substance which acts as an acceptor for another one of the dissociation products only as long as the incident radiation level is maintained.

3,512,870

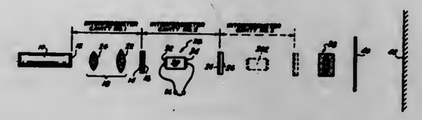
OPTICAL SCANNING APPARATUS

John Richard Wilson, Jr., and Lawrence J. Piekenbrock, Boulder, Colo., assignors, by mesne assignments, to Alexander Dawson, Inc., Mahwah, N.J., a corporation of Delaware

Continuation-in-part of application Ser. No. 636,077, May 4, 1967. This application Aug. 31, 1967, Ser. No. 664,877

Int. Cl. G02f 1/16; G01b 9/02

U.S. Cl. 350—160 12 Claims



Optical scanning apparatus and methods of operation thereof for effecting high frequency displacement of coherent monochromatic light by inducing controlled variation in the index of refraction by application of varying electric fields to a crystal disposed in one of two interferometer cavities connected in tandem. Included herein is the utilization of a second interferometer cavity formed by deposition of reflective surfaces on the faces of a crystal disposed transverse to its optical axis. Various modes of operation as effected by selected tuning of the interferometer cavities are also disclosed.

3,512,871

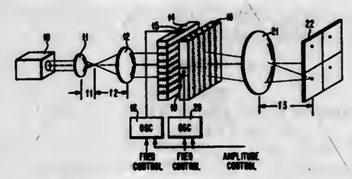
LIGHT BEAM DEFLECTION USING FOURIER OPTICS

Hans J. Zweig, Saratoga, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 22, 1965, Ser. No. 465,941

Int. Cl. G02f 1/32

U.S. Cl. 350—161 8 Claims



An optical system utilizing two cross-variable frequency periodical structures to deflect a light beam which is used to read data. The system includes a light source which generates a beam of light which is passed through two ultrasonic delay lines. The ultrasonic waves are generated in the delay lines and the delay lines are oriented so that the ultrasonic waves in one delay line are at right angles to the ultrasonic waves in the other delay line. The diffraction effects in the ultrasonic delay lines break the initial beam down into four diffracted beams. These can then be used to read out four identical memory planes. By appropriately choosing the frequencies, the spurious signals due to higher order diffraction effects can be eliminated.

3,512,872

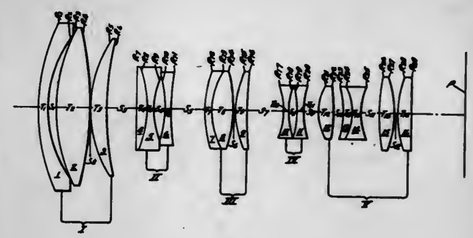
VARIABLE MAGNIFICATION LENS SYSTEM

Geraldine B. Lynch and Alexander Eugene Turula, Rochester, N.Y., assignors, by mesne assignments, to Wollensak, Inc., Rochester, N.Y., a corporation of Delaware

Filed July 16, 1968, Ser. No. 745,301

Int. Cl. G02b 15/02, 15/00, 9/00

U.S. Cl. 350—183 2 Claims



A variable focus objective lens having a range in the order of 1:11 with a constant high relative aperture throughout said range and which is corrected for residual aberration.

3,512,873

INVISIBLE SPYGLASS

Jean Charles Joseph Blosse, and Michel Jean Joseph Blosse, both of 48 Boulevard du General de Gaulle, 95 Sannois, France

Filed Dec. 15, 1966, Ser. No. 602,065

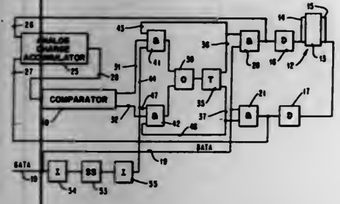
Claims priority, application France, Dec. 21, 1965, 43,082; Dec. 7, 1966, 86,434

Int. Cl. G02b 5/20, 25/04

U.S. Cl. 350—196 12 Claims

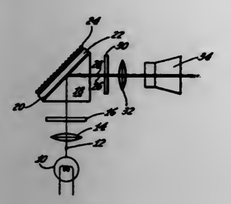
Spyglass structure for doors, walls or the like, wherein the optical device constituting the spyglass is masked off

3,512,865
D-C FREE ELECTRO-OPTIC CRYSTAL SYSTEM
David C. Chang, Pleasant Valley, and James Lipp, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,680
Int. Cl. H03k 19/14; G02f 3/00
U.S. Cl. 350—150 8 Claims



This invention is based in part on the discovery that electrolysis of an electro-optic crystal can be caused by an accumulation of the electrical charge on the crystal that occurs when the crystal is operated predominantly in one polarity. This invention provides a circuit that varies the polarity of the voltage applied to the crystal in a direction to oppose the accumulation of charge on the crystal. The circuit includes two drivers for operating the crystal in one polarity or the other in response to data signals, a trigger circuit that is operable to select one of the two drivers and to signify which of the drivers is being selected, circuitry that responds to the driver conduction state to simulate the charge on the electro-optic crystal, and circuitry that is operable in the intervals between the times a voltage is applied to a crystal to compare the polarity of the simulated charge with the polarity of the selected driver to operate the latch to select a different driver when the simulated charge has the same polarity as the voltage being applied to the crystal by the operating driver.

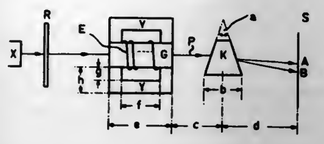
3,512,866
MAGNETO-OPTICAL HAND VIEWER
Henry W. Griffiths, Torrance, Alfred M. Nelson, Redondo Beach, Arthur W. Evansen, Torrance, and Alfred E. Gray, Culver City, Calif., assignors to The Magnavox Company, Torrance, Calif., a corporation of Delaware
Filed Dec. 3, 1965, Ser. No. 511,468
Int. Cl. G02f 1/18; G11b 11/10
U.S. Cl. 350—151 20 Claims



This invention relates to a system which provides a visual representation of the magnetic states in a magnetic medium. The system includes a light source, a polarizer, particular optical means and a thin magnetic film adjacent to the medium for rotating the polarized light from the source in accordance with the magnetic states induced in the thin film from the medium. A biasing coil is disposed in adjacent relationship to the magnetic medium to produce a substantially uniform background on the magnetic medium.

The system is disposed in a casing. First and second adjustable means respectively extend through the casing to adjust the disposition of the polarizer and the analyzer relative to the thin magnetic film. First and second resilient means are respectively disposed between the magnetic medium and the thin magnetic film and between the biasing means and the casing.

3,512,867
MAGNETO-OPTICAL DIGITAL LIGHT DEFLECTION DEVICE
Ronald Ferguson Pearson, Reigate, and Roger William Cooper, Sevenoaks, England, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 18, 1967, Ser. No. 639,572
Int. Cl. G02f 3/00, 1/22
U.S. Cl. 350—151 5 Claims



A magneto-optical switch is described, in which a beam of polarized infra-red radiation is directed through a block of YIG magnetized to rotate the plane of polarization of the beam by 45 degrees. The magnetic field is reversible. In one arrangement, a second magnetized YIG block is also arranged in the path of the beam to rotate the polarization by 45 degrees. In another arrangement, the rotated beam is directed to a birefringent prism having an optical axis normal to the beam such that the beam is deflected.

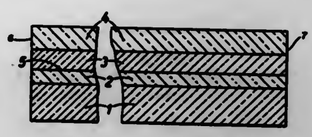
3,512,868
APPARATUS FOR FORMING A BEAM OF LIGHT
Walter Gorkiewicz, New York, N.Y., and Joseph Wilder, Princeton, N.J., assignors to RCA Corporation, a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,440
Int. Cl. G02b 5/30, 27/28
U.S. Cl. 350—157 4 Claims



Two beams of light having respective orthogonally related planes of polarization are directed to a polarizing beam splitter from such directions that one beam passes through the beam splitter in a given direction and the other beam is reflected by the beam splitter in said given direction, thereby combining the two beams into a single unpolarized beam. In one embodiment, each beam of polarized light is formed from a source of unpolarized light

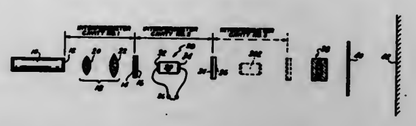
by placing a light retarder between the source and a polarizing beam splitter and by returning light of one polarization emerging along one output path of the beam splitter back along that path. In another embodiment, a single polarizing beam splitter is used for forming both beams of polarized light and for combining them into a single unpolarized beam.

3,512,869
MATERIALS AND ARTICLES HAVING LIGHT-TRANSMISSION PROPERTIES WHICH VARY AS A FUNCTION OF INCIDENT RADIATION
Emile Plumat, Gilly, and Lucien Leger, Montigny le Tilleul, Belgium, assignors to Glaverbel S.A., Brussels, Belgium
Filed Oct. 20, 1966, Ser. No. 588,058
Claims priority, application Luxembourg, Oct. 27, 1965, 49,724
Int. Cl. G02f 1/00
U.S. Cl. 350—160 21 Claims



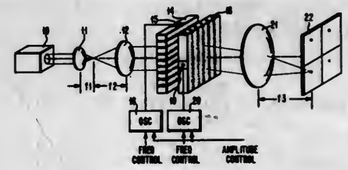
Materials and articles arranged to transmit light and including at least one normally transparent layer carried on a support sheet made of a light-transmitting material and containing a first substance which reversibly dissociates under the influence of solar radiation for producing a plurality of dissociation products one of which acts to reduce the transparency of the layer and a second substance which acts as an acceptor for another one of the dissociation products only as long as the incident radiation level is maintained.

3,512,870
OPTICAL SCANNING APPARATUS
John Richard Wilson, Jr., and Lawrence J. Piekenbrock, Boulder, Colo., assignors, by mesne assignments, to Alexander Dawson, Inc., Mahwah, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 636,077, May 4, 1967. This application Aug. 31, 1967, Ser. No. 664,877
Int. Cl. G02f 1/16; G01b 9/02
U.S. Cl. 350—160 12 Claims



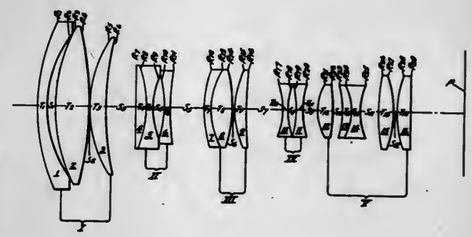
Optical scanning apparatus and methods of operation thereof for effecting high frequency displacement of coherent monochromatic light by inducing controlled variation in the index of refraction by application of varying electric fields to a crystal disposed in one of two interferometer cavities connected in tandem. Included herein is the utilization of a second interferometer cavity formed by deposition of reflective surfaces on the faces of a crystal disposed transverse to its optical axis. Various modes of operation as effected by selected tuning of the interferometer cavities are also disclosed.

3,512,871
LIGHT BEAM DEFLECTION USING FOURIER OPTICS
Hans J. Zweig, Saratoga, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 22, 1965, Ser. No. 465,941
Int. Cl. G02f 1/32
U.S. Cl. 350—161 8 Claims



An optical system utilizing two cross-variable frequency periodical structures to deflect a light beam which is used to read data. The system includes a light source which generates a beam of light which is passed through two ultrasonic delay lines. The ultrasonic waves are generated in the delay lines and the delay lines are oriented so that the ultrasonic waves in one delay line are at right angles to the ultrasonic waves in the other delay line. The diffraction effects in the ultrasonic delay lines break the initial beam down into four diffracted beams. These can then be used to read out four identical memory planes. By appropriately choosing the frequencies, the spurious signals due to higher order diffraction effects can be eliminated.

3,512,872
VARIABLE MAGNIFICATION LENS SYSTEM
Geraldine B. Lynch and Alexander Eugene Turula, Rochester, N.Y., assignors, by mesne assignments, to Wollensak, Inc., Rochester, N.Y., a corporation of Delaware
Filed July 16, 1968, Ser. No. 745,301
Int. Cl. G02b 15/02, 15/00, 9/00
U.S. Cl. 350—183 2 Claims



A variable focus objective lens having a range in the order of 1:11 with a constant high relative aperture throughout said range and which is corrected for residual aberration.

3,512,873
INVISIBLE SPYGLASS
Jean Charles Joseph Blosse, and Michel Jean Joseph Blosse, both of 48 Boulevard du General de Gaulle, 95 Sannois, France
Filed Dec. 15, 1966, Ser. No. 602,065
Claims priority, application France, Dec. 21, 1965, 43,082; Dec. 7, 1966, 86,434
Int. Cl. G02b 5/20, 25/04
U.S. Cl. 350—196 12 Claims

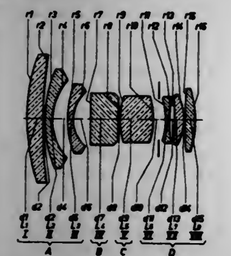
Spyglass structure for doors, walls or the like, wherein the optical device constituting the spyglass is masked off

from outside view by masking means allowing observation from the inside of the door or wall, said masking



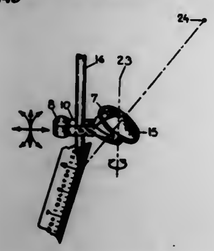
means comprising colored and transparent plates absorbing a high proportion of the light.

3,512,874
WIDE-ANGLE OBJECTIVE OF LARGE BACK-FOCAL LENGTH
Walter Wörtche, Bad Kreuznach, Germany, assignor to Jos. Schneider & Co., Bad Kreuznach, Germany, a corporation of Germany
Filed Oct. 13, 1967, Ser. No. 675,122
Claims priority, application Germany, Oct. 22, 1966, Sch 39,720
Int. Cl. G02b 27/02
U.S. Cl. 350—214 3 Claims



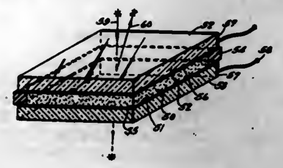
Optical objective composed of 8 lens members, the 2nd, 3rd and 6th member being negatively refracting, the 4th and 5th members each having an axial width greater than that of any other member, the 1st, 2nd, 3rd and 7th members being meniscus-shaped and concave toward a diaphragm space separating the 5th and 6th members, the 6th member being biconcave whereas the 8th member is either biconvex or planoconvex.

3,512,875
ADJUSTABLE MAGNIFIER
Gerard J. Viollet, 1619½ W. 134th St., Gardena, Calif. 90249
Filed July 2, 1968, Ser. No. 750,397
Int. Cl. G02b 7/02
U.S. Cl. 350—243 1 Claim



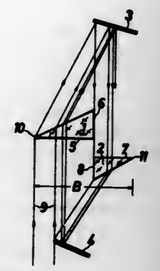
An adjustable magnifier rotating around an axis and mounted on a Y shape resilient band which has V punch marks on its edges as to grip any shank or any ball of any size and any shape, said resilient band is for easily and simply allowing the adjustment of the lens position.

3,512,876
DIPOLAR ELECTRO-OPTIC STRUCTURES
Alvin M. Marks, 153—16 10th Ave., Whitestone, N.Y. 11357
Filed June 29, 1964, Ser. No. 378,836
Int. Cl. G02f 1/18, 1/30
U.S. Cl. 350—267 16 Claims



An electro-optic light controlling device in which a suspension of minute assymetric particles having at least one dimension of the order of $\lambda/2n$ are subjected to a varying electrical field for the purpose of controlling transmitted or reflected light. Various types of assymetric particles are disclosed.

3,512,877
OPTICAL MULTIPLE-REFLECTION SYSTEMS
Joachim Mohr, Jena, Germany, assignor to VEB Carl Zeiss Jena, Jena, Germany
Filed Nov. 17, 1967, Ser. No. 684,072
Int. Cl. G02b 5/04; G01n 1/10
U.S. Cl. 350—286 7 Claims



An optical system is used for the multiple reflection of an incident beam of parallel rays, the cross-sectional area of the beam being thereby reduced without injury to the parallelism of the rays. The optical system comprises a first and a second mirror and a first and a second interposed refracting prism. Said prisms are preferably right-angled, their refracting edges and cathete surfaces being parallel to each other. The light beam enters the system through said first prism, near the refracting edge of same. The mirrors are so inclined that the light bundle refracted by said first prism is reflected parallel to its direction of incidence. In lieu of one of said prisms and its conjugate mirror, a roof-prism may be used the ridge of which is parallel to the refracting edge of the other prism.

3,512,878
FOLDING PERISCOPE
Charles Scott, 800 W. Barkley Ave., Suite N, Orange, Calif.
Filed Nov. 30, 1967, Ser. No. 687,018
Int. Cl. G02b 5/08
U.S. Cl. 350—301 1 Claim

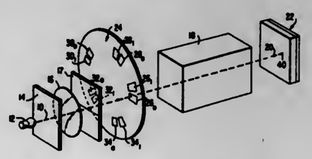
A folding periscope is disclosed which has two mirrors connected by expandable linkage means and a flexible tunnel structure. The linkage means are of such a character that they may be expanded so as to position the mirrors in an operative position for use as a periscope.

In this position the tunnel structure extends between the mirrors. The linkage means are also constructed so as to be capable of being located in a collapsed position in which the mirrors are adjacent to one another and in



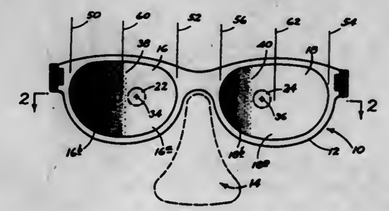
which the tunnel structure is to a degree collapsed. Preferably, the linkage means are connected to the mirrors so that in a collapsed position the entire structure can be folded so as to assume a flat type of configuration.

3,512,879
BANDWIDTH-CODED PHOTOGRAPHIC FILM MEMORY
Jerry L. Reynolds, Wappingers Falls, Redman S. Schools, Poughkeepsie, and Glenn T. Sincerbox, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 14, 1967, Ser. No. 653,573
Int. Cl. G02b 27/00; G01b 9/02; G11b 7/00
U.S. Cl. 350—321 13 Claims



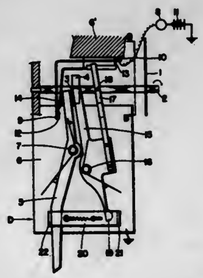
A method and means of using interference photography to store binary ones and binary zeros in a Lippmann film by exposing the film to different bandwidths of coherent light in the visible spectrum. To store a one bit, the film is exposed to narrow band light. To store a zero bit, the film is exposed to broad band light. For a multiple bit word, the exposing wavelengths are different for each bit position, and all the bits of a word are stored in the same word area or cell of the film. To read out the stored bits in a cell, the cell is interrogated by a white light beam which is passed through a multi-bandpass interference filter, such as a Fabry-Perot filter, whose passbands are detuned from the peaks of the narrow bands of the exposing light. Consequently, the broad bands of light reflected from the cell will have a greater intensity than the narrow light bands reflected from the cell. A spectroscope and suitable spaced photoelectric devices detect this difference in intensity and produce electric signals corresponding to the bits stored in each cell. A Michelson interferometer and optical spatial filter may be used in place of the spectroscope and interference filter to detect and decode the light reflected from the Lippmann film.

3,512,880
GLARE-PROTECTIVE EYEGLASSES
Thomas M. Alexander, 1145 W. 45th Ave., Chester M. Landes, 3115 E. 14th Ave., both of Albany, Oreg. 97321, and Jurgen R. Meyer-Arendt, Forest Grove, Oreg.; said Meyer-Arendt assignor of eleven and two-thirds percent each to said Alexander and Landes
Filed Jan. 2, 1968, Ser. No. 694,899
Int. Cl. G02c 7/10, 7/16
U.S. Cl. 351—45 2 Claims



Glare-protective eyeglasses with lenses featuring light-absorbent portions starting along vertical lines spaced laterally from visual axis centers in the lenses. The light-absorbent portions increase gradually in light absorbency progressing laterally from the visual axis centers of the lenses.

3,512,881
RELEASE DEVICE OF MOVIE CAMERA FOR SINGLE FRAME SHOOTING
Isamu Kubota, Sakai, Japan, assignor to Minolta Camera Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed Nov. 2, 1967, Ser. No. 680,195
Claims priority, application Japan, Nov. 2, 1966, 41/72,484
Int. Cl. G03b 17/46
U.S. Cl. 352—169 2 Claims

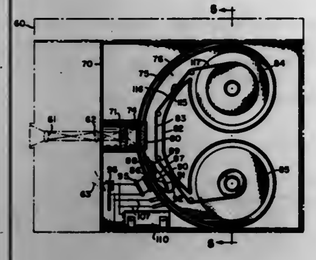


A release device of a movie camera for single frame shooting, in which an actuating circuit is adapted to be opened when or just before the main shaft of shutter blades completes a full rotation for the single frame shooting, so that electric energy will not be wasted. By the interruption of the actuating circuit upon full rotation of the main shaft during the single frame shooting, no torque is applied to the shaft after the full rotation, and hence, the magnitude of force for releasing the engagement between a stopper and a release lever is reduced.

3,512,882
ELECTRO PHOTOGRAPHY SYSTEM

Daniel Earle Speers, Radford, Va., assignor to Slaughter, Byers, Icenhour & Jackson, Bristol, Tenn., a partnership

Filed Dec. 17, 1965, Ser. No. 514,470
Int. Cl. G03b 23/02, 27/04
U.S. Cl. 352—244 4 Claims

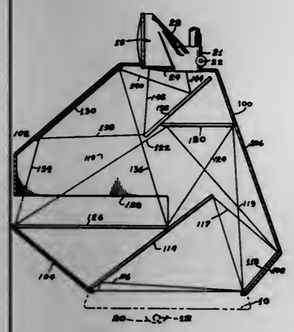


An electrical photography apparatus in which electrically charged particles are emitted from an image screen in amounts varying with the intensity of light striking the screen at various points and are attracted towards a charged surface, but strike a film mounted between the screen and the charged surface. The film has a coating consisting principally of two parts powdered metallic sodium and one part powdered sulphur suspended in paraffin such that visible images are formed when the film is struck by the charged particles. The apparatus is incorporated in a motion picture camera in which the image screen and the film are contained in a separable film cartridge, and a magnetic connection is provided between the camera drive mechanism and the cartridge.

3,512,883
PROJECTION APPARATUS FOR OPAQUE OBJECTS

William A. Noble, St. Paul, Minn.; Delores E. Noble, administratrix of the estate of said William A. Noble, deceased

Filed May 19, 1967, Ser. No. 639,730
Int. Cl. G03b 21/08, 21/28
U.S. Cl. 353—64 2 Claims

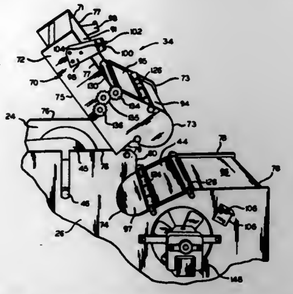


Projection apparatus for opaque objects including a housing to be used with an overhead projector such that the projection lens of the latter serves as one optical element of the projector. Illumination is either supplied by reflecting light from the overhead projector onto the opaque object or by an auxiliary light source located within the housing.

3,512,884
ORIGINAL DOCUMENT TRANSPORT SYSTEM FOR A PHOTOCOPY MACHINE

Karl M. Murgas, 7357 N. Keeler, Lincolnwood, Ill. 60645; Burton Greenberg, 6308 N. Drake, Chicago, Ill. 60645; and Otto A. Clark, 6824 N. Mendota, Chicago, Ill. 60646

Continuation-in-part of application Ser. No. 668,543, Sept. 18, 1967. This application Sept. 18, 1967, Ser. No. 668,339
Int. Cl. G03b 27/48, 27/70, 27/10
U.S. Cl. 355—51 12 Claims

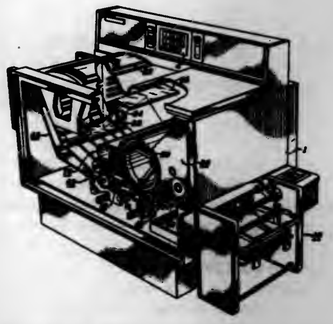


An original document transport system for a photocopy machine having a hinged guide means. The guide means is rotatable from its normal or operative position to an open position to provide access to said original document system for maintenance and retrieval of jammed documents.

3,512,885
ACCOUNTING DEVICE FOR XEROGRAPHIC REPRODUCING APPARATUS

Robert F. Osborne and John W. Melville, Webster, Rolf W. Eichler, Fairport, Karl A. Northrup, Rochester, and John F. Wirley, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 30, 1964, Ser. No. 400,363
Int. Cl. G03g 15/00
U.S. Cl. 355—14 2 Claims



1. In a reproducing apparatus having a movable imaging reproducing surface, sheet feed means to advance sheets seriatim to the reproducing surface, drive means connected to the surface to move the same through a plurality of processing steps, control means connected to the drive means and to the sheet feed means to effect operation of the sheet feed means, and, sheet sensing means to produce a pulse for each sheet advanced to the reproducing surface onto which the reproduction is made:

the combination comprising programmer means for effecting operation of said drive means and said control means;

said programmer including:

a pre-set counter connected to said sheet sensing means for counting input pulses received from said sheet sensing means for counting to a predetermined number the number of reproductions being made and upon reaching the predetermined number effecting machine time out;

a fixed programmed sequencer operatively connected to said sensing means to effect a series of output closures per input pulse from said sensing means;

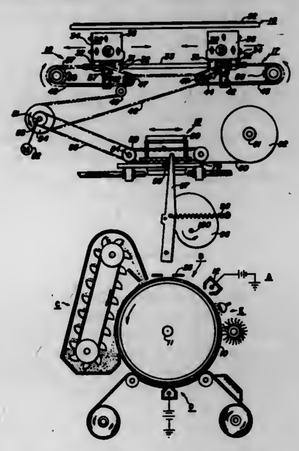
a registering mechanism connected to said sequencer for registering cumulatively said output closures;

an interlock control means operatively connected to said reproducing apparatus and to said programmer and adapted to reset said pre-set counter in the event said interlock control means are actuated, thereby resetting said fixed program sequencer.

3,512,886
DUAL CARRIAGE SCANNING SYSTEM

John F. Wirley, Webster, and Robert A. Schaeffer, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 23, 1967, Ser. No. 677,355
Int. Cl. G03b 27/54
U.S. Cl. 355—70 6 Claims



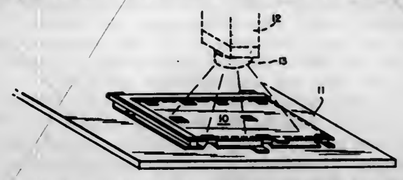
A moving optical scanning apparatus for placing a flowing light image of a stationary object on a moving photosensitive surface. Moving light sources are arranged in such a manner that the light sources begin and terminate a scanning pass at the same position thereby eliminating the need to reposition said light sources after each scanning pass.

3,512,887
PHOTOGRAPHIC ENLARGING EASEL

Julian E. Caraballo, 204 James Thurber Court, Falls Church, Va. 22046

Filed Nov. 7, 1967, Ser. No. 681,126
Int. Cl. G03b 27/58
U.S. Cl. 355—72 10 Claims

An easel adapted for use in photographic enlarging processes and permitting the production of borderless prints. A supporting plate for the sheet is provided with a plurality of spaced apertures and when the plate is placed in a predetermined position relative to a second member, an adhesive bearing pressure surface carried by the second member is disposed within each such aperture in the supporting plate substantially flush with the supporting plate so that a sheet of paper placed on the supporting plate will adhere to each pressure surface. When

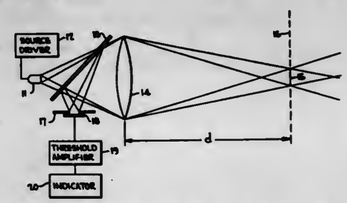


the supporting plate is moved from the predetermined position, the adhesive contact with the pressure surfaces is immediately broken so that the sheet of paper may readily be removed from the easel.

3,512,888
OPTICAL RANGING SYSTEMS

Robert G. Humphrey, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Mar. 29, 1965, Ser. No. 444,514
Int. Cl. G01c 3/08
U.S. Cl. 356—4 2 Claims

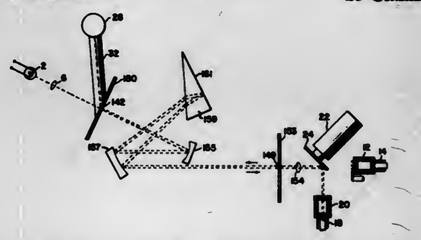


A system for ranging or remote optical detection which utilizes active optical detection apparatus that is sensitive to objects located within a narrow range about the desired detection range and insensitive to objects located at longer or shorter ranges. The apparatus includes an optical transmitter and a receiver which causes the reflected light to be highly concentrated in the region where detection is required and diffuse elsewhere. The transmitter and receiver have separate imaging systems and the two images form a common image in a detection plane at the desired range of detection.

3,512,889
SPECTROPHOTOMETER WITH PLURAL DISPERSION USING A SINGLE MONOCHROMATOR

Max D. Liston, La Habra, Calif., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

Filed Mar. 2, 1967, Ser. No. 620,170
Int. Cl. G01j 3/42
U.S. Cl. 356—94 13 Claims

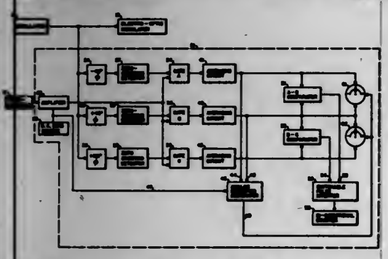


A rotating sector mirror alternately reflects a monochromatic light beam through sample and reference cells and the beam is reflected back through the monochromator to a photomultiplier.

Photoelectric switching means operates in synchronism with the rotating mirror to switch the output of an amplifier receiving the photomultiplier output alternately to measuring circuitry and to control circuitry for the photomultiplier power supply. The speed and duration of the operation of the photoelectric switching means are chosen so that the effects of alternating current in modulating the light beam and stray light are minimized.

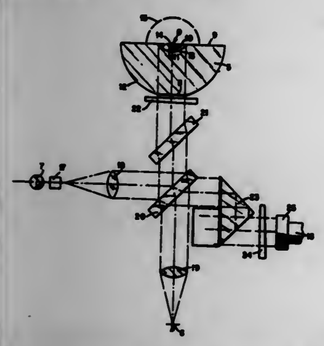
The output signal from the photomultiplier is kept within a limited range by the use of a variable light beam attenuator associated with the reference cell and cooperating elements in the circuitry controlling the operating voltage of the photomultiplier.

3,512,890
OPTICAL GYROSCOPE HAVING MEANS FOR RESOLVING AMBIGUITIES OF VELOCITY AND DIRECTION
Donald J. McLaughlin, 3730 Camden St. SE., Washington, D.C. 20020
Filed July 27, 1965, Ser. No. 475,293
Int. Cl. G01b 9/02; G01c 19/00
U.S. Cl. 356—106 12 Claims



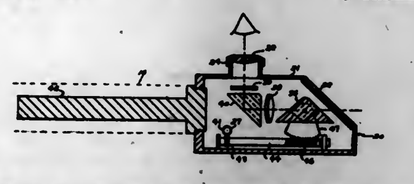
An interferometric counterrotating light beam optical gyroscope having an optical phase modulator for the light beam, coupled to and synchronized with a series of gates to allow the phase modulated light beam interference pattern to be transmitted to a comparison circuit which computes the amplitude of the detected light signals at successive gated time periods and thereby provides an unambiguous indication of both rate and direction of rotation of the gyroscope.

3,512,891
SPHERICAL INTERFEROMETER
Richard R. Baldwin, Clinton, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 18 1968, Ser. No. 722,446
Int. Cl. G03b 27/12
U.S. Cl. 356—109 4 Claims



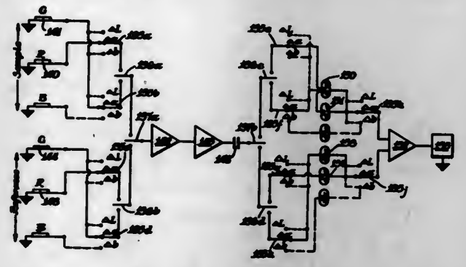
A Michelson white-light interferometer is modified to provide, as a key component thereof, a special optical objective which converts a plane wave front to a spherical wave front, reflects the latter normally off the spherical segment of a workpiece being analyzed, and re-converts the reflected spherical wave front to a plane wave front, and the latter plane wave front from the objective and the plane wave front from an adjustable reference mirror are then combined interferometrically such that the simultaneous inspection of a plurality of radii is effected.

3,512,892
METHOD AND APPARATUS FOR ALIGNING GUNS
Terry R. Jorris, Spring Valley, Minn., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 3, 1969, Ser. No. 803,898
Int. Cl. G01b 11/26
U.S. Cl. 356—153 5 Claims



An alignment instrument having a shaft adapted to be positioned in a gun barrel has an adjustable prism for changing the line of sight of the instrument. The drive means for changing the line of sight is also used to position an indicator. The instrument, with its indicator set at zero, is positioned in a cylindrical element, located near the gun to be aligned. The cylindrical element has its longitudinal axis fixed with respect to the transverse axis of the aircraft. A target is aligned with the cross hair of the instrument. The desired depression angle is then set into the instrument by changing the adjustable prism after which the instrument is placed in the gun barrel. The gun barrel is then positioned to again align the target with the cross hair and the gun is fixed in this position.

3,512,893
COLOR DIFFERENCE METER
Mark E. Faulhaber and Peter G. Witherell, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 18, 1967, Ser. No. 691,412
Int. Cl. G01j 3/46, 3/48, 3/50
U.S. Cl. 356—176 2 Claims



A colorimeter determining directly the substantially visually uniform color difference coordinate values

$$\Delta L = Q(G_{Sam.} - G_{Ref.})$$

$$\Delta a = A(R_{Sam.} - R_{Ref.}) - M\Delta L$$

and

$$\Delta b = C\Delta L - N(B_{Sam.} - B_{Ref.})$$

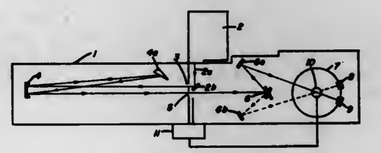
existing between a pair of specimens consisting of a Sample (Sam) and a Reference (Ref).

3,512,894
COLOR DENSITY COMPARATOR
Robert E. Wood, 2805 Shamrock Drive, Racine, Wis. 53406
Filed Sept. 27, 1965, Ser. No. 490,218
Int. Cl. G01j 3/46; G01n 21/48
U.S. Cl. 356—195 1 Claim



A color density comparator having a portable casing enclosing a photo conductor, an ammeter, a potentiometer, and a battery, all electrically connected together. The ammeter indicates the amount of light ray reflection from a piece being inspected. The photo-conductor is exposed to the opening in the casing, which opening is in one wall of the casing and feet are affixed to that wall for setting the casing on the piece being inspected. A lamp is in the casing for passing light through the opening and onto the piece, and a transistor is electrically connected to the potentiometer and the photo-conductor and the ammeter which indicates the current flowing therethrough in accordance with the light being reflected from the piece.

3,512,895
SPECTROREFLECTROMETRIC REFERENCE STANDARD AND METHOD
Franc Grum, George W. Luckey, and George P. Waugh, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 6, 1967, Ser. No. 614,151
Int. Cl. G01j 1/02
U.S. Cl. 356—243 2 Claims



A combination of high reflectance materials containing carefully prepared barium sulfate; such combination being useful for accurately measuring the reflectance of samples in the range of wavelengths from 200 to 400 nm.; such measurement being most advantageously achieved when comparing the reflectance of samples against a standard as disclosed herein in a light integrating sphere where the sample and the standard are used against a background of high reflectance materials.

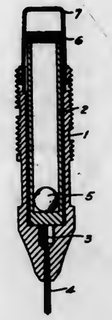
3,512,896
HOLDERS FOR PROTECTING STICKS OF PASTY MATERIALS
Ralph Gruska, Saint-Maur, Val-de-Marne, France, assignor to Ejectoret S.A., Geneva, Switzerland, a corporation of Switzerland
Filed July 10, 1968, Ser. No. 743,666
Claims priority, application France, July 12, 1967, 114,026
Int. Cl. A53 40/06, 40/12
U.S. Cl. 401—78 5 Claims

A holder for sticks of pasty materials, such as cosmetics, make-up and the like, having a pair of relatively rotatable coaxial sleeves defining slots, a stick support adapted to move axially within the inner sleeve, and lugs on said stick support projecting through said slots and



being in resilient pressure engagement with at least one of said slots.

3,512,897
WEIGHT WITH CLEANSING WIRE FOR TUBULAR PENS
Helmuth Riepe, Hamburg, Germany, assignor, by mesne assignments, to Radiograph, Inc., Bloomsbury, N.J., a corporation of New Jersey
Filed Jan. 8, 1969, Ser. No. 789,753
Claims priority, application Germany, Jan. 11, 1968, R 47,770
Int. Cl. B43k 1/06
U.S. Cl. 401—259 15 Claims



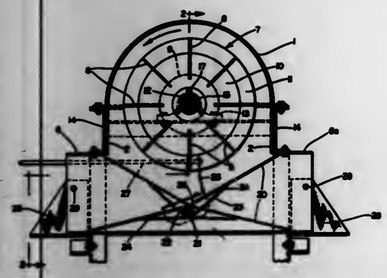
The present invention pertains to an improved tubular writing pen having a floating weight and a cleansing wire attached to the weight, wherein the improvement resides in the provision of an additional weight in conjunction with said floating weight to form a unit which by means of a shaking action causes movement of said cleansing wire between two positions independent of the position of the cleansing wire, to thereby permit said cleansing wire to be freed even from its dried-in lowermost position within the tubular pen.

3,512,898
PORTABLE POWER-DRIVEN BLOWER
Carl G. Rinker, near Atwater, Ohio, assignor to The Atwater-Strong Company, Inc., Atwater, Ohio, a corporation of Ohio
Filed Aug. 19, 1968, Ser. No. 753,595
Int. Cl. F04c 29/00; F04d 25/00
U.S. Cl. 415—94 3 Claims

A portable power-driven blower for cleaning walks, pavements, parking areas, lawns, golf courses, roofs, etc., having a fan housing with an inlet eye and two oppositely disposed outlet necks.

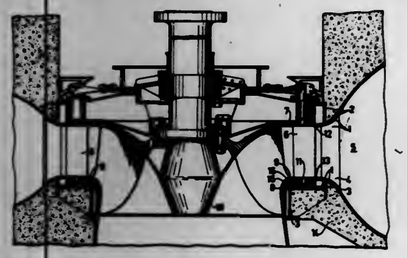
A power-driven rotary fan is located in the housing and rotated in one direction only. A damper is pivotally mounted within the housing and adapted to be selectively

operated to positions alternately cutting off communication of either outlet neck with the fan housing and direct-



ing the air blast from the fan through the other outlet neck.

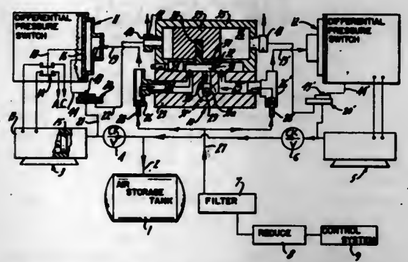
3,512,899
STAY RING FOR WATER TURBINES AND THE LIKE
Arne Herman Lindquist, Trollhattan, Sweden, assignor to Nydqvist & Holm Aktiebolag, Trollhattan, Sweden, a corporation of Sweden
Filed Feb. 6, 1968, Ser. No. 703,310
Claims priority, application Sweden, Feb. 9, 1967, 1,853/67
Int. Cl. F01d *17/14*
U.S. Cl. 415—126 2 Claims



This disclosure teaches a stay ring assembly which is particularly suitable for welded construction. A guide vane ring is built integrally with the stay ring and an array of guide vanes are operatively positioned in the assembly. Connected between the guide vanes and the guide vane ring is a bottom ring. It is desirable to limit clearances above and below the guide vanes. Toward this objective, by the present advance, the bottom ring (which controls vertical clearances on the guide vanes) is adjustable vertically by means of a number of threaded members spaced about the bottom ring and screwably engageable between the bottom ring and the guide vane ring so that the bottom ring may be raised or lowered either in toto or differentially about its circumference. By this expedient surface machining of the guide vane ring is made unnecessary.

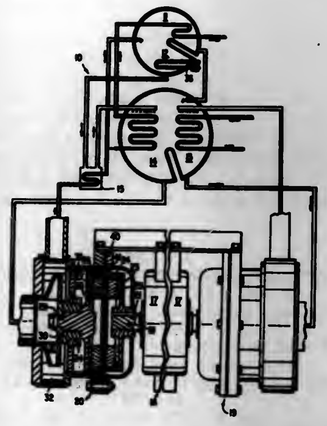
3,512,900
PNEUMATIC SEQUENCE CONTROLLER
Chester P. Surprise, Wauwatosa, Wis., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 23, 1967, Ser. No. 677,129
Int. Cl. F04b *49/02*
U.S. Cl. 417—6 15 Claims

A fluid responsive alternator alternately actuates a pair of motor driven compressors. A pair of pressure responsive differential switches is provided, one for each of the motors. The alternator includes a three way air valve having a pair of inputs each of which is connected to the storage means through a separate restrictor. Each input is also connected to a corresponding one of the differential pressure switches. The three way valve includes an output having a restrictor or the like and a valve member having a first position connecting the output to the one inlet and a second position connecting it to the second inlet. A piston freely slides in a cylinder having a pair of inputs, one to each side of the piston. Each compressor includes a normally closed unloader relief valve which unloads



the compressor for starting against no load and is actuated by the pressure responsive switch for the corresponding compressor. The unloader relief valves are connected to exhaust the pressure to the alternator cylinder and thereby shift the piston and reverse the connection of the alternator output to the pair of inputs. The alternator establishes a differential in signals to the two pressure responsive switches such that the one switch is actuated before the other. The movement of the piston reverses the interconnection of the lines and differential signals between the two switches to provide alternate compressor operation.

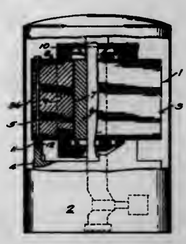
3,512,901
MAGNETICALLY COUPLED PUMP WITH SLIP DETECTION MEANS
John Law, Manlius, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Original application July 28, 1967, Ser. No. 656,851, now Patent No. 3,429,137, dated Feb. 25, 1969. Divided and this application Sept. 6, 1968, Ser. No. 757,975
Int. Cl. F04d *13/02*
U.S. Cl. 417—53 5 Claims



A magnetic drive pump for use in an absorption refrigeration system, having coil disposed intermediate rotating drive and follower magnets for sensing resulting

variation in the magnetic flux linking the coil to provide a control signal indicative of loss of magnetic coupling.

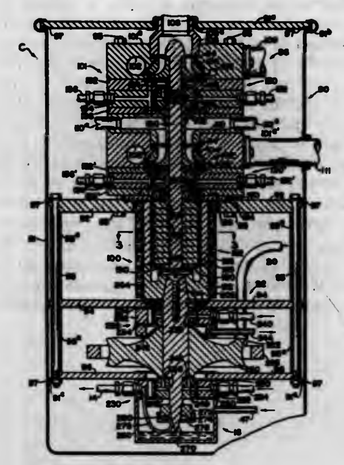
3,512,902
INDUCTIVE CORE DEVICE AND METHOD OF MAKING THE SAME
Harold L. Emmons, Tipp City, and Lewis O. Heinze, Dayton, Ohio, assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Apr. 22, 1968, Ser. No. 723,133
Int. Cl. F04b *35/04*
U.S. Cl. 417—371 11 Claims



This disclosure relates to a laminated annular stator having a resin bonding of adjacent laminations to each other and a thin resin coating to essentially hermetically seal the space between laminations and to the method of making it. The laminations are stamped from a cold rolled steel having a matted finish and annealed and steam blued. The indivdual laminations are stacked and clamped and a resin applied between the metal-to-metal point type contacts established by the roughened surface. The assembly is based to set the adhesive and before appreciable cooling of the core, is placed in a spray or fluidized resin bed unit to simultaneously apply a layer of slot insulation and an exterior peripheral sealing coat and thereafter again heated to cure the resin. The innermost peripheral surface of the teeth defining the slots is masked during the last coating and after windings are applied, the unit is dipped in varnish to coat the windings.

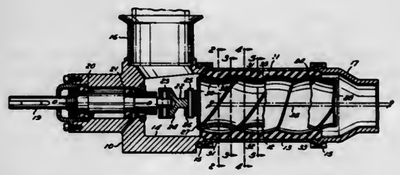
3,512,903
FUEL-FIRED HEAT PUMP SYSTEM
David D. Dennis, Wickliffe, Paul F. Swenson, Cleveland Heights, and Paul F. Swenson, Jr., Shaker Heights, Ohio, assignors to Swenson Research, Inc., South Euclid, Ohio a corporation of Ohio
Original application Mar. 17, 1967, Ser. No. 624,063. Divided and this application May 22, 1968, Ser. No. 731,075
Int. Cl. F04d *25/02*
U.S. Cl. 417—405 10 Claims

A closed-loop, reversible hermetically sealed refrigeration cycle the compressor of which is driven by a vapor turbine supplied with vapor from a once-through type vapor generator of a hermetically sealed closed-loop vapor cycle. The turbine and compressor are constructed as a unit and are drivingly interconnected through a magnetic coupling which is comprised of a pair of spaced but interfitted magnet members which are carried on the ends of the turbine and compressor shafts respectively. A fluid impervious non-magnetic barrier or partition member extends between the magnet members to seal between the turbine and compressor. A feed pump in the form of an inverted cone is carried on the lower end of the turbine shaft and extends down into a hot well or condensate receiving container and functions to pump the condensate back to the vapor generator. The system also includes an air duct arrangement which, when the system is operating on the heating mode, causes the air to be heated by both the Freon cycle and the vapor cycle apparatus. Additionally a vapor bypass line is provided



around the turbine to increase the heat available from the vapor cycle when needed.

3,512,904
PROGRESSING CAVITY HELICAL PUMP
Clifford H. Allen, 13109 Westchester Trail, Chesterland, Ohio 44026
Filed May 24, 1968, Ser. No. 731,828
Int. Cl. F04c *1/06, 5/00, 17/14*
U.S. Cl. 418—48 7 Claims

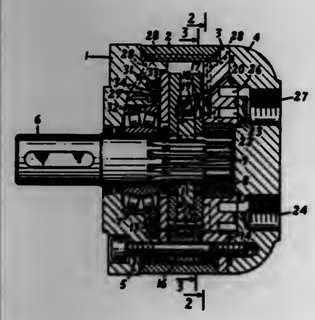


A progressing cavity, positive displacement, helical pump or motor for handling fluid or comminuted materials. The device forces material axially through helical cavities defined by a stator with a helical interior surface and an eccentric rotor with a helical exterior surface, the rotor being operatively connected through a spindle or hinged joint to a rotary drive.

3,512,905
ROTARY DEVICE
Jorgen Frederik Waldorff, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark
Filed Mar. 7, 1966, Ser. No. 532,355
Claims priority, application Germany, Mar. 5, 1965, D 46,691
Int. Cl. F04c *1/06*
U.S. Cl. 418—61 11 Claims

A rotary device for interacting with a fluid having a casing enclosing an annular element. An inner element is disposed internally and eccentrically of the annular element. The annular element has an inner surface having alternating convexities and concavities and the inner element has an outer surface having alternating convexities and concavities. The number of convexities on the annular

element exceeds the number of convexities of the inner element. A shaft, rotatably mounted in the casing, mounts one of said elements. Guide means permit the center of the outer of the elements to define a revolution of a circular path about the axis of the shaft for each fraction of a revolution of said shaft. The concavities and convexities, respectively, of said inner element are engageable with the convexities and concavities, respectively, of the annular element and the distance between a substantially opposed concavity and convexity of the annular element is at least equal to the distance between substantially opposed concavities of the inner element. Thus upon rotation of the shaft, at any given moment, only some of the concavities and convexities, respectively, of the inner element are in engagement with only some of the convexities and concavities, respectively, of the annular element. This enagement motivates one of the two elements in the circular path of the center thereof. An inlet conduit and an outlet conduit are defined through the casing. A first plate is



mounted for rotation of its center about the axis of the shaft and has a face constituting a common wall of chambers defined by spaces between the concavities and the convexities of the elements. A conduit is defined through the first plate and communicating with one of the chambers and including an opening on the other face of said first plate. A second plate is mounted in the casing and having a face contacting the other face of the first plate. A conduit is defined through this second plate and communicates with one of the conduits defined through the casing and has an opening on the face of the second plate. The opening on the first plate and the opening on the second plate are disposed so that upon rotation of the shaft they periodically come into and out of at least partial registry and thereby communication between the aforementioned one of the chambers and the prior mentioned one of the conduits defined through the casing is established when said openings are in at least partial registry and terminated when the openings are out of at least partial registry.

3,512,906
GEAR MACHINE

Hans Molly, 48 Dr. Eugen-Essig-Strasse, 7502 Malsch, Germany

Filed Apr. 17, 1968, Ser. No. 722,020
Claims priority, application Germany, Apr. 18, 1967, M 73,627; Jan. 18, 1968, M 76,960
Int. Cl. F04c 5/00, 17/06, 17/10
U.S. Cl. 418—107 5 Claims

The machine is so constructed that it may alternatively be used as a fluid pump and as a fluid motor. In one embodiment a spur gear is within and engages a ring gear. The internal opening of the casing surrounding the ring gear permits some freedom of movement of the ring gear along a line connecting the centers of the two gears, while the wall of the casing defining that opening prevents movement of the ring gear at right angles to that line. In another embodiment a pair of spur gears are employed and the casing defines an internal opening at one end of the spur gears. A plate is loosely received in this opening and has a face adapted to sealingly contact the spur gears and the casing. Symmetrically positioned passageways communicate between the internal opening and tooth chambers spaced to each side of the

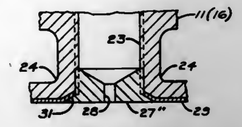


high and low pressure areas of the pump. Thereby when the machine is operating and the gears are forced against the casing wall adjacent the low pressure area and away from the casing wall at the high pressure area, high pressure fluid from the tooth chambers adjacent the high pressure area flows through the passageways into the internal opening and from the internal opening through passageways into tooth chambers adjacent the low pressure area. The high pressure fluid in the internal opening forces the plate against the gears and casing to form a seal.

3,512,907
ROTARY COMBUSTION ENGINE

Adolf Belzner, Heilbronn-Neckargartach, Germany, assignor to NSU Motorenwerke Aktiengesellschaft Neckarsulm, and Wankel G.m.b.H., Lindau. (Bodensee), Germany

Filed Apr. 25, 1968, Ser. No. 724,199
Int. Cl. F02b 53/12
U.S. Cl. 418—113 1 Claim



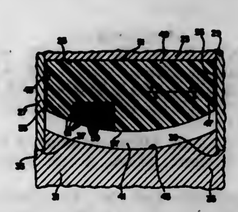
In an internal combustion engine of the trochoidal type, there is no cooling of the ignition zone by intake of fresh gas, nor is there alternate firing at other locations, as in a reciprocating engine. Therefore, the edge of the spark aperture in the housing is subject to erosion and cracking. This condition is corrected by providing an insert containing the spark aperture, formed of material of high heat conductivity and good heat resistance, and less erosible than housing materials.

3,512,908
VANE CONSTRUCTION FOR PNEUMATIC DEVICE

Stanley K. Smith, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland

Filed Sept. 16, 1968, Ser. No. 760,013
Int. Cl. F04c 1/00; F01c 1/00; F04h 21/08
U.S. Cl. 418—179 1 Claim

The device disclosed herein is a portable, rotary-type fluid handling device, such as a pump, motor or the like, which includes a generally cylindrical casing having a rotor rotatably supported therein. One or more vanes are slidably carried by the rotor and during rotation of the latter slide around the inner surface of the casing. Fluid inlet

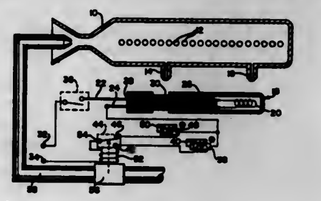


and outlet openings are formed in the casing for fluid entry and discharge during use of the device.

3,512,909
ELECTRIC IGNITION SYSTEM

Charles H. Perkins, Richmond, Va., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Nov. 15, 1967, Ser. No. 683,321
Int. Cl. F23n 1/00, 5/02
U.S. Cl. 431—66 16 Claims

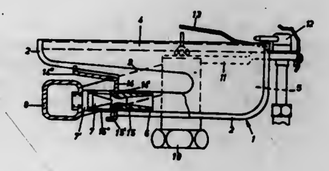


Electric ignition systems utilizing an igniter having a glow-wire and a negative temperature coefficient resistor in parallel therein and a fuel valve adapted to control a flow of fuel to a burner wherein the igniter controls the operation of the fuel valve via the varying resistance of the parallel combination of the glow-wire and the negative temperature coefficient resistor.

3,512,910
BURNER ASSEMBLY, MORE PARTICULARLY FOR GAS WATER HEATERS

George Hein, Huckeswagen, Germany, assignor to Joh. Vaillant KG, Remscheid, Germany

Filed Apr. 26, 1968, Ser. No. 724,412
Claims priority, application Germany, Apr. 28, 1967, V 33,547
Int. Cl. F23d 13/00
U.S. Cl. 431—154 4 Claims

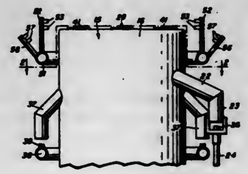


A burner assembly having a plurality of individual burners, in particular for gas water heaters, in which each individual burner comprises two embossed sheet metal cups, joined to each other and forming a horizontally disposed mixing chamber and having a strip-shaped burner insert, provided with gas discharge openings and forming the upper boundary of the mixing chamber and in which the individual burners are adjacently allocated to one gas discharge nozzle of a common T-shaped distributor pipe which extends laterally and is fixedly connected to a central connecting member screwmounted to the gas supply line, characterised in that the individual burners are joined to form one grid each by means of a rail having an opening disposed in front of the nozzles and being detachably screwmounted by means of said rail on that part of the distributor pipe which supports the nozzles.

3,512,911
FLARE STACK BURNER

Robert D. Reed and John S. Zink, Tulsa, Okla., assignors to John Zink Company, Tulsa, Okla., a corporation of Delaware

Filed Sept. 30, 1968, Ser. No. 763,846
Int. Cl. F23b 5/00; F23c 9/00
U.S. Cl. 431—202 7 Claims



A burner assembly for the combustion of flared gases at the upper end of a stack wherein steam and air is mixed with the gas in the combustion zone and turbulence is developed promoting mixing of the steam and air with the gases to provide substantially smokeless burning.

3,512,912
GAS TORCH

Richard E. Linch, Chilton, Wis., assignor to Western Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 25, 1968, Ser. No. 700,505
Int. Cl. F23d 13/04
U.S. Cl. 431—344 3 Claims



A portable torch utilizing pressurized gas fuel and provided with a replacable orifice member having a self-contained filter element.

3,512,913

DYEING POLYETHYLENE TEREPHTHALATE FILM

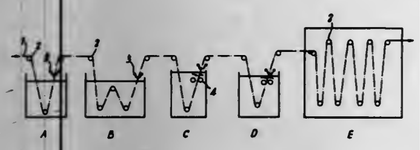
Michael Curtis Day, Patrick Terence McGrail, and Basil R. Shepherd, Manningtree, England, assignors to Bexford Limited, Essex, England, a British company

Filed July 18, 1966, Ser. No. 565,935

Claims priority, application Great Britain, July 26, 1965, 31,844/65

Int. Cl. D06p *3/34*

U.S. Cl. 8—4 7 Claims



A process for the continuous dyeing of polyethylene terephthalate film which comprises the steps of applying to a traveling web of the film a pre-treatment liquid containing dye-carrier and then applying to the travelling web of film a hot aqueous dye-bath containing dye for the polyethylene terephthalate.

3,512,914

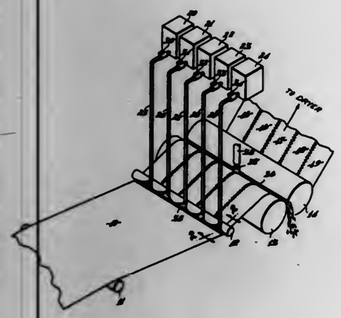
VARIEGATED TISSUE PAPER COLORING

Leo Fleischer, Cincinnati, Ohio, assignor to Crystal Tissue Company, Middletown, Ohio, a corporation of Ohio

Continuation of application Ser. No. 422,838, Dec. 31, 1964, which is a continuation of application Ser. No. 257,189, Feb. 8, 1963. This application Feb. 17, 1969, Ser. No. 810,900

Int. Cl. D21h *1/46*

U.S. Cl. 8—7 2 Claims



A method of and apparatus for dyeing a web of paper, particularly tissue paper, into primary bands of different, brilliant, discrete colors extending longitudinally of the web which are separated by secondary bands also extending longitudinally of the web in which adjacent primary band colors are softly blended one with the other.

3,512,915

DYEING TEXTILE WITH A DYE SOLUTION CONTAINING A COPOLYMER OF AN ALKYL SILOXANE AND A POLYAMINOALKYLSILOXANE HAVING AT LEAST 3 CARBONS IN THE ALKYL CHAIN

John L. Speier, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of applications Ser. No. 753,115 and Ser. No. 753,153, both filed Aug. 4, 1958. This application May 13, 1960, Ser. No. 28,851

Int. Cl. D06p *5/08*

U.S. Cl. 8—8 8 Claims

Cotton, linen, wood, wool, silk, and glass, acrylic, polyester, nylon, Vinyon, polyolefin, metallic, plastic coated metallic and metallic coated plastic yarns are dyed with any dye in a dyebath containing a copolymer of a polyaminopropylsiloxane and an alkylsiloxane.

3,512,916

TWO STEP REACTION OF TEXTILE FIBERS WITH 2-VINYLSULFONYLETHANOL

Harlan B. Freyermuth, Easton, Pa., and David I. Randall, New Vernon, N.J., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Oct. 6, 1961, Ser. No. 143,304

Int. Cl. D06p *5/00;* D06m *9/14, 13/30*

U.S. Cl. 8—17 8 Claims

Modification of fibrous materials containing reactive groups with 2-vinylsulfonylethanol. The materials may be mechanically deformed, dyed and/or treated with discoloration inhibiting boron containing compounds during the modification.

3,512,917

VAT DYESTUFF PREPARATIONS OF IMPROVED VATTING PROPERTIES

Konrad Mix and Eberhard Hebestreit, Frankfurt am Main-Fechenheim, and Peter Klinke, Oberursel, Taunus, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany, a corporation of Germany

No Drawing. Filed Sept. 26, 1966, Ser. No. 581,699

Claims priority, application Germany, Sept. 28, 1965, C 36,989

Int. Cl. C09b *9/00;* D06p *1/22*

U.S. Cl. 8—34 10 Claims

Dyestuff preparations containing a vat dye, sodium dithionite as reducing agent and, as an assistant, aminoanthraquinone sulfonic acid, aminoanthraquinone sulfonamide, aminoanthraquinone sulfonic acid ester or a salt of aminoanthraquinone sulfonic acid and their use in the dyeing of cellulosic materials.

3,512,918

TANNING PROCESS

Horst Endres, Lampertheim, Franz Leppmeier, Ludwigshafen (Rhine), and Hans Erdmann, Heidelberg, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed June 29, 1966, Ser. No. 561,388

Claims priority, application Germany, July 2, 1965, 1,274,785

Int. Cl. C14c *3/18*

U.S. Cl. 8—94.24 5 Claims

Tanning process in which the material to be tanned is drummed with an aqueous solution containing a methylol derivative of a mononuclear or binuclear phenol containing in its nucleus not more than one phenolic hydroxyl group and being free from anionic groups and from condensed rings. The process produces soft, nonbrittle leathers and fur skins having a substantial resistance to alkalies, a high shrinking temperature, and good light fastness.

3,512,919

DIGLYCIDYL GLYCOL TREATMENT OF POLYACRYLONITRILE OR POLYVINYL CHLORIDE WITH POLYALKYLENEIMINE DISPERSED THEREIN

Vittorio Cappuccio, Terni, and Ubaldo Riboni, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Continuation-in-part of application Ser. No. 401,670, Oct. 5, 1964, which is a continuation of application Ser. No. 23,129, Apr. 19, 1960. This application Sept. 28, 1966, Ser. No. 582,530

Claims priority, application Italy, Apr. 21, 1959, 6,635/59, Patent 628,251

Int. Cl. C09b *65/00*

U.S. Cl. 8—100 1 Claim

Fibers made from polymers or copolymers of acrylonitrile, vinylchloride, or methyl methacrylate and cellulose acetate, with polyalkyleneimines dispersed in these resin are treated, before or after stretching, with diepoxides such as diepoxy butane, diglycidyl -methane, -ethane, or -propane, diglycidyl ethers of methylene, ethylene or propylene glycol and the diglycidyl ethers of 1,4-dihydroxy-benzene or di-hydroxy-diphenyl-dimethyl methane. The receptivity to acid, metallized, chromium, vat and acetate dyes such as C.I. No. 2364 and C.I. No. 1248 is increased. The hand of the fabric is also improved.

3,512,920

WRINKLE RESISTANT FABRIC

Robert Kirby Dunlap, Charlotte, N.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 29, 1967, Ser. No. 671,605

Int. Cl. D06n *9/00*

U.S. Cl. 8—115.7 4 Claims

Wrinkle resistant, cellulosic-polyester fabrics having improved soiling resistance and hand are prepared by the application to the fabric of a resin treating bath comprising a textile resin, a solvent, a starch or cellulose derivative and a lower alkylene glycol/polyalkylene glycol terephthalate acid/polyester followed by heat curing the treated fabric.

3,512,921

TREATMENT OF CELLULOSIC TEXTILES WITH 1 - SUBSTITUTED - 3,5 - DIMETHYLOL-2,6-DIHYDROTRIAZIN-4-ONE

Herman B. Goldstein, Cranston, R.I., assignor to Sun Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 24, 1966, Ser. No. 536,987

Int. Cl. D06m *13/38*

U.S. Cl. 8—116.2 9 Claims

Crease-resistance is imparted to cellulose textiles by (1) impregnating them with an aqueous bath containing (a) a triazin-4-one and (b) sufficient mineral acid to give a pH of 2–3.5; (2) drying and curing the impregnated fabric at 200–300° F. to a moisture content of 1–20 percent; and (3) removing residual acid.

3,512,922

NOVEL CYCLIC COMPOSITIONS

Giuliana C. Tesoro, Dobbs Ferry, N.Y., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 8, 1967, Ser. No. 644,546

Int. Cl. D06m *15/54, 13/38*

U.S. Cl. 8—116.2 3 Claims

This invention concerns the preparation of novel cyclic N,N'-substituted sulfamide derivatives and to their application to hydroxyl-containing polymeric substrates as modifying agents.

3,512,923

DRY CLEANING PROCESS

Peter R. Dixon, Whittier, and Alden D. Coppock, Hacienda Heights, Calif. (both of 617 W. Olympic Blvd., Montebello, Calif. 90640)

Continuation-in-part of application Ser. No. 545,544, Apr. 27, 1966. This application Feb. 17, 1969, Ser. No. 799,764

The portion of the term of the patent subsequent to Mar. 11, 1986, has been disclaimed

Int. Cl. D06l *1/02;* D06f *46/00*

U.S. Cl. 8—142 6 Claims

A dry cleaning process wherein soiled articles are placed in an air-impermeable chamber together with a quantity of a substantially dry cleaning agent which comprises a pulverized carrier impregnated with a liquid cleanser; next, the soiled articles are agitated together with a cleaning agent for a period of time sufficient for cleaning; and, thereafter, the cleaning agent is separated from the cleaned articles. Apparatus for practicing the process includes a circumferentially perforated cylindrical drum, open at one end and rotatable about a substantially horizontal axis, mounted within a vacuum chamber; means for maintaining the dry cleaning agent within the drum during the cleaning step; a fan having an inlet into the vacuum chamber for evacuating the dry cleaning agent from the drum during the separation step; and, a filter for collecting the evacuated dry cleaning agent.

3,512,924

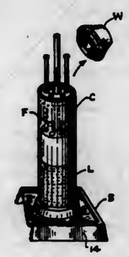
THERMOMETER HOLDER

Carleton R. Good, 341 Factory Road, Addison, Ill. 60101

Filed Jan. 26, 1968, Ser. No. 700,767

Int. Cl. A61l *3/00;* B65d *81/22, 85/20*

U.S. Cl. 21—87 10 Claims



A thermometer holder in which a container having an open top is adapted to hold a sterilizing or antiseptic liquid, and in which a float is placed to hold a plurality of thermometers or the like so that the thermometers may be accessible when the float rises in the liquid. The float is made of a material having a specific gravity lower than the specific gravity of the sterilizing or antiseptic liquid selected for inclusion in the container. The float has support portions on which the bulbs of a plurality of thermometers are seated, and in which the thermometers are held upright. A stem on the float extends to the top of the containers, where it may be restrained from upward travel by hold-down means at the open top of the container. Two containers may be removably seated in sockets on a base member, and thermometers may be withdrawn from the first container for use, and then deposited in the second container following such use for a time sufficient to attain desired sterilization.

3,512,925

SELECTIVE REMOVAL OF NITROGEN DIOXIDE AND/OR OXYGEN FROM GAS MIXTURES CONTAINING NITRIC OXIDE

Guenter Boechler, Heidelberg, Heinz Engelbach, Limburgerhof, Pfalz, and Heinz Theobald, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 12, 1967, Ser. No. 652,737
Claims priority, application Germany, July 21, 1966, 1,542,628; May 5, 1967, 1,667,387
Int. Cl. B01d 53/00; C01b 21/20
U.S. Cl. 23—2 8 Claims

Process for selectively removing at least one of oxygen and nitrogen dioxide as impurities from nitric oxide comprising contacting a gas consisting essentially of nitric oxide and at least one of said inpurities in admixture with hydrogen with a catalyst containing oxidic compound of silver, and which optionally additionally may contain iron oxide and/or manganese oxide, at a temperature from about 100° C. to about 700° C.

3,512,926

PROCESS FOR PURIFICATION OF SODIUM ALUMINATE LIQUORS

Henri Antoine Mercier and Joseph Cohen, Gardanne, France, assignors to Pechiney-Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France

No Drawing. Filed May 19, 1967, Ser. No. 639,662
Claims priority, application France, June 1, 1966, 63,620
Int. Cl. C01f 7/02
U.S. Cl. 23—52 1 Claim

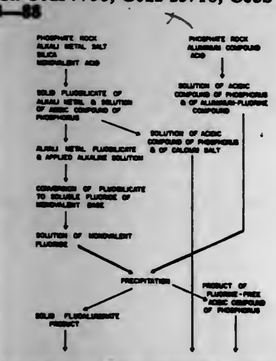
The invention comprises the treatment of sodium aluminate liquors, as from the extraction of aluminum from bauxite, by precipitation of impurities in the presence of a freshly prepared manganese dioxide, with or without calcium carbonate, in which the manganese dioxide is present in the ratio of 0.03 to 0.15 gram of the tetravalent manganese per liter of liquor and in which the carbonate, when present, is present in an amount within the range of 0.1 to 0.3 gram per liter and in which the content of aluminum oxide equivalent per liter is about ⅛ to ¼ kg. and in which the amount of iron impurity may be within the range of 6 to 50 mg. and the amount of titanium impurity may be within the range of 2 to 6 mg. per liter.

3,512,927

CHEMICALLY TREATING PHOSPHORITE AND OBTAINING SEPARATE PRODUCTS OF FLUORINE AND OF PHOSPHORUS

Anson G. Betts, Plainfield, Mass.
(West Cummington, Mass. 01026)

Filed July 26, 1965, Ser. No. 475,009
Int. Cl. C01f 7/50; C01b 25/18; C05b 11/04
U.S. Cl. 23—88 14 Claims



The herein-described improvements comprise recovering part of the fluorine of acid-treated phosphate rock, etc. in combination with silicon in fluosilicate form and subsequently and separately converting the fluorine in fluosilicate form to fluorine in soluble fluoride form, and recovering another part of the fluorine of the acid-treated rock in the form of a soluble compound of aluminum and fluorine. The two forms are then united in a solution containing sodium, potassium or ammonium, which results in precipitation of aluminum and fluorine in the form of a precipitated fluoaluminate recovered as a separate product. By recovering the fluorine of the acid-treated phosphate rock in a separate product, the quality of the phosphate product is benefited in purity and quality.

3,512,928

PURIFICATION OF MAGNESIUM CHLORIDE SALTS FOR ELECTROLYTIC MAGNESIUM PRODUCTION

Leland R. Lyons, Boulder City, and Walter R. McCormick, Jr., Las Vegas, Nev., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 29, 1967, Ser. No. 649,824
Int. Cl. C01f 5/26, 5/30; C22d 3/08
U.S. Cl. 23—91 3 Claims

Method of purifying metal chloride salts with respect to soluble and reactive oxygen containing compounds, comprising fusing said salts in the presence of a carbonaceous dispersion of a member of the group consisting of activated carbon, colloidal carbon and combinations thereof in amount sufficient to react with oxygen values of said compounds which are evolved in gaseous form from said bath.

3,512,929

FLOWABLE AMMONIUM THIOSULFATE AND METHOD FOR ITS MANUFACTURE

Ernst Mack, Mannheim-Rheinau, Germany, assignor to Th. Goldschmidt A.G., Essen, Germany

No Drawing. Filed Jan. 3, 1967, Ser. No. 606,566
Claims priority, application Germany, Feb. 1, 1966, G 45,882
Int. Cl. C01b 17/64
U.S. Cl. 23—115 5 Claims

The invention discloses a procedure for preventing ammonium thiosulfate from caking. For this purpose, dry crystalline ammonium thiosulfate is admixed with minor amounts, to wit, up to 2 percent by weight, of sodium thiosulfate. It has been found that such a mixture, if stored under the exclusion of moisture, can be retained in freely flowable condition for long periods of time.

3,512,930

STABILIZED FERROMAGNETIC CHROMIUM DIOXIDE

William George Bottjer, Wilmington, and Henry Gilbert Ingersoll, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del.

No Drawing. Continuation-in-part of application Ser. No. 732,109, May 27, 1968. This application May 7, 1969, Ser. No. 822,683
Int. Cl. C01g 37/02
U.S. Cl. 23—145 13 Claims

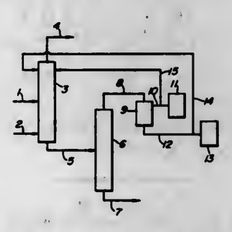
Ferromagnetic chromium dioxide particles stabilized against degradation of magnetic properties by a protective phase on the surface of the particles is prepared by treating preformed ferromagnetic chromium dioxide with a reducing agent in the gaseous, liquid, or solution phase until a more stable phase is formed, characterized in that it does not oxidize benzhydrol, the preferred particles being further characterized in that the X-ray diffraction pattern has a line corresponding to an interplanar spacing of 3.151±0.006 A.

3,512,931

PROCESS FOR RECOVERING HYDROGEN FLUORIDE AND BORON FLUORIDE

Tamotsu Ueno and Takashi Nakano, Niigata-shi, Japan, assignors to Japan Gas-Chemical Company, Inc., Tokyo, Japan, a corporation of Japan

Filed Aug. 2, 1967, Ser. No. 657,939
Claims priority, application Japan, Aug. 12, 1966, 41/53,012
Int. Cl. C01b 7/22, 9/08
U.S. Cl. 23—153 2 Claims



A process for recovering hydrogen fluoride and boron fluoride from a xylene-hydrogen fluoride-boron fluoride complex by the thermal decomposition thereof, which is carried out in a modified fractionator in the presence of one or more of the decomposing mediums selected from the group consisting of hydrocarbons from C_3 to C_7 and CCl_4 under a pressure between 1 and 8 atm. at a temperature between 40 and 200° C., in order to prevent disproportionation reactions and/or isomerization reactions of xylenes and to circulate the recovered hydrogen fluoride and boron flouride directly to an extraction step without using a compressor.

3,512,932

COORDINATION COMPOUNDS CONTAINING TRIVALENT PHOSPHORUS COMPOUNDS AND CERTAIN METAL COMPOUNDS

Charles J. Stern, Jr., Westfield, and Edward G. Budnick, Scotch Plains, N.J., assignors to Plains Chemical Development Company, Garwood, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 47,904, Aug. 8, 1960. This application Oct. 3, 1962, Ser. No. 228,009
Int. Cl. C01c 1/00
U.S. Cl. 23—190 21 Claims

1. A coordination compound composed of a trivalent phosphorus compound as an electron donor compound and an electron acceptor compound selected from the group consisting of a metal hydride and a corresponding borohydride and organo metallic constituent of said metal wherein the metal is selected from the group consisting of beryllium, lithium, magnesium, sodium, calcium, aluminum and potassium.

9. The coordination compound lithium aluminum hydride-hydrazine.

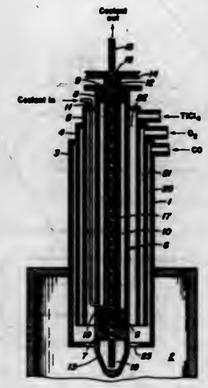
3,512,933

PROCESS FOR PRODUCING PYROGENIC TITANIUM DIOXIDE PIGMENT

Giovanni Hilgers, Hau Post Bechen, Gerhard Hitzemann, Post Dierdorf, and Achim Kulling, Opladen, Germany, assignors to Titangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany

Filed Feb. 12, 1968, Ser. No. 704,895
Claims priority, application Germany, Mar. 6, 1967, T 33,354
Int. Cl. C01g 23/04
U.S. Cl. 23—202 5 Claims

The present invention relates to improved process for producing pyrogenic titanium dioxide by reaction of gaseous titanium tetrachloride and oxygen in the presence of hot combustion gases produced by the combustion of carbon monoxide the reaction of the several gases being initiated by feeding the several gases from a tubular burner assembly into contact with a relatively cold body



rotating within the reaction chamber at speeds at least 50 times terrestrial acceleration whereby the several gases are thoroughly mixed at reaction and the TiO_2 reaction product precluded from adhering to surfaces of the burner assembly.

3,512,934

PRODUCTION OF CARBON BLACK

Morris E. Speck, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 421,188, Dec. 28, 1964. This application July 1, 1968, Ser. No. 741,354
Int. Cl. C09c 1/50
U.S. Cl. 23—209.4 18 Claims

Carbon black having a reduced structure is produced by introducing into the reaction zone of a carbon black furnace an additive comprising a metal selected from the group consisting of nickel, vanadium, iron, cobalt, and mixtures thereof, in an amount within the range of from 1 to 80 parts by weight per million parts by weight of the hydrocarbon feedstock to said furnace. In one preferred embodiment said additive is incorporated into said feedstock at a point upstream from the feedstock preheater so as to also prevent and/or remove deposits of coke or other carbonaceous material in said preheater.

3,512,935

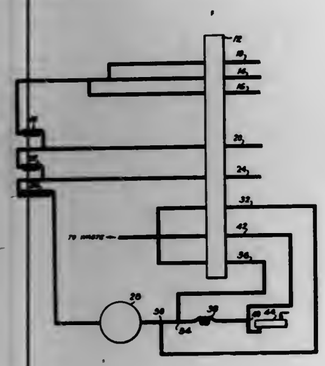
METHOD FOR PRODUCING NONSTAINING FURNACE CARBON BLACK

Andries Voet and Charles Ronald Price, Borger, Tex., assignors to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey

No Drawing. Filed July 31, 1967, Ser. No. 657,079
Int. Cl. C01b 31/32
U.S. Cl. 23—209.9 5 Claims

A method of eliminating color bodies from furnace carbon black by oxidation. The black is mixed with an aqueous solution containing from 0.125 to 0.75 weight percent of ammonium nitrate based on the weight of the carbon black followed by heating the mixture through from 150° C. to 300° C. for from 10 minutes to 12 hours so that the carbon black itself is substantially unoxidized.

3,512,936
LIQUID ANALYSIS METHOD AND APPARATUS THEREFOR
John A. Clements, Frankfurt am Main, Germany, assignor to Technicon Corporation, Ardsley, N.Y., a corporation of New York
Filed Sept. 6, 1967, Ser. No. 665,770
Int. Cl. G01n 1/18
U.S. Cl. 23—230 9 Claims



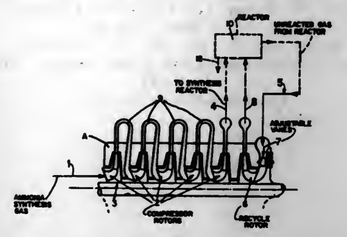
An automatic analysis system utilizing a flowing stream of sample liquid segments interspersed with gas segments is provided with means for blending together and reducing the volume of groups of sequential liquid segments. In a first T-fitting a large fraction of the volume of each liquid segment is withdrawn from the stream. In a second T-fitting pluralities of successive gas segments are intermittently withdrawn from the stream. Finally the remaining gas segments are withdrawn and the stream is passed through a flow cell of colorimetric examination.

3,512,937
PROCEDURE FOR CONTINUOUS NITROGEN DIOXIDE ANALYSIS
Ferdinand Schulze, 3205 Fordham Road, Wilmington, Del. 19807
Filed June 6, 1967, Ser. No. 643,927
Int. Cl. G01n 21/06
U.S. Cl. 23—232 10 Claims

Use of 1-amino-2,5-benzenedisulfonic acid as the diazotizable compound together with N-(1-naphthyl)ethylenediamine dihydrochloride as the coupling compound makes possible a highly improved system for continuously analyzing air for nitrogen dioxide which, in turn, makes possible the employment of more compact and more efficient conventional apparatus.

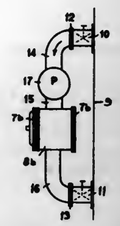
3,512,938
SYSTEM FOR ADJUSTING THE RECYCLE RATE OF FLOW IN AMMONIA SYNTHESIZING PROCESSES
Francesco Franchetti, Firenze, Italy, assignor to Nuovo Pignone S.p.A., Firenze, Italy, a Italian company
Filed July 7, 1966, Ser. No. 563,446
Claims priority, application Italy, July 14, 1965, 6,876
Int. Cl. C01b 2/02; C01c 1/04
U.S. Cl. 23—252 1 Claim

In this system for synthesizing ammonia, the gas mixture is fed to a compressor having a plurality of rotors all mounted on the compressor shaft, and it is circulated from one rotor to another successively. The gas compressed to synthesis pressure is sent to the synthesis reactor by the last rotor; and the unreacted gas is pumped to a recycling rotor keyed to the same shaft as the other rotors and is recycled from this recycling rotor to the reactor. A series of adjustable vanes in the inlet duct, which connects the reactor with the recycling rotor, adjusts the rate of flow of



gas to the recycling rotor and thus the rate of flow of gas, that is recycled, to the reactor.

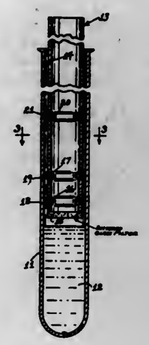
3,512,939
DEVICE FOR USE IN CONJUNCTION WITH TESTING ELECTRICAL APPARATUS CONTAINING A GASEOUS FILLING INCLUDING SULFUR HEXAFLUORIDE
Litty Hugi, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Oct. 2, 1967, Ser. No. 672,262
Claims priority, application Switzerland, Oct. 10, 1966, 14,577/66
Int. Cl. G01n 31/32
U.S. Cl. 23—254 21 Claims



A device for determining the presence of harmful gaseous decomposition products of a sulphur hexafluoride (SF_6) filling for electrical apparatus such as transformers, encapsulated switchgear and gas-filled cables comprises a receptacle arranged to be placed in communication with the sulphur hexafluoride filling, the receptacle containing a granular material containing OH ions such as activated alumina or magnesia which is dyed with a dyestuff which changes its colour or colour saturation with the pH value. The material exhibits a permanent and irreversible change in colour or colour saturation with the partial pressure of the gaseous contaminants as a result of their initial contact with the material.

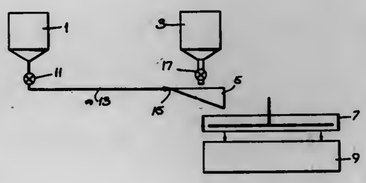
3,512,940
TEST TUBE FILTER DEVICE
Justin J. Shapiro, % Labindustries, 1802 2nd St., Berkeley, Calif. 94710
Continuation-in-part of application Ser. No. 629,302, Apr. 7, 1967. This application Dec. 30, 1968, Ser. No. 797,314
Int. Cl. B01d 33/00; B67d 5/58
U.S. Cl. 23—259 20 Claims

A pressure or vacuum filter device to be used in a test tube. The device consists of a hollow plunger acting as a piston. The plunger has a porous bottom portion serving as a filter. When a precipitate is formed in a test tube, the plunger is inserted and forced down. The filtrate is forced into the hollow plunger, from which it can be removed for further tests. In a reverse procedure



liquid in the plunger can be filtered into the test tube by vacuum action induced by raising the plunger in the test tube.

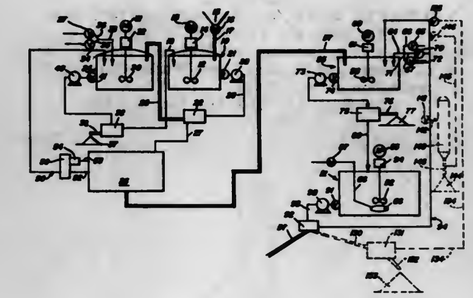
3,512,941
APPARATUS FOR PRODUCING NORMAL SUPERPHOSPHATE
Theodore B. Simpson, New Bern, N.C., assignor to Texas Gulf Sulphur Company, New York, N.Y., a corporation of Texas
Filed Nov. 16, 1967, Ser. No. 683,551
Int. Cl. C05b 1/10
U.S. Cl. 23—259.2 8 Claims



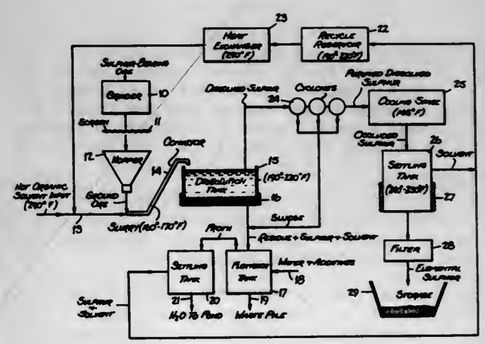
The den process for producing normal superphosphate is modified by premixing acid and phosphate rock by discharging rock onto a rectilinear, downwardly-flowing stream of acid flowing at an inclination to the horizontal prior to charging acid and rock to the pan mixer. The premixing improves the quality of the product by reducing the citrate insoluble content thereof and facilitates control of the process by minimizing reactions of explosive violence.

3,512,942
APPARATUS FOR MINING AND REFINING PHOSPHORUS
Robert B. Fosner, Laurel, Maria G. Dunseth, Baltimore, Casimer C. Legal, Jr., Elkridge, and Lionel P. Schindler, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed May 26, 1967, Ser. No. 641,840
Int. Cl. B03b 7/00, 9/00; C01b 25/28
U.S. Cl. 23—260 10 Claims

Apparatus for mining and refining phosphorus including means for extracting insoluble phosphorus from mineral phosphorus with SO_2 and water; a precipitator-separator for removing SO_2 vapor from the liquid, a reactor for treating solids from the precipitator-separator with water, CO_2 and NH_3; a reactor-precipitator for treating liquid from the reactor and means for lowering the N to P ratio of the precipitate coming from the reactor-precipitator and adjuvant elements and apparatus including a U-shaped flash precipitation chamber that includes an upwardly extending section, a bight section, a downwardly extending section and a nozzle and demister in the upwardly extending section.



3,512,943
SULFUR EXTRACTION APPARATUS INCLUDING RESIDUE TREATING FLOTATION MEANS
Jerome Dubow, Port Washington, N.Y., assignor to Dubow Chemical Corporation, Valley Stream, N.Y., a corporation of New York
Filed June 13, 1967, Ser. No. 645,728
Int. Cl. B01d 9/02, 11/02
U.S. Cl. 23—267 7 Claims



A technique for extracting sulphur in elemental form from sulphur-bearing ore and the like, wherein the sulphur-bearing material is first treated in a dissolution zone with an organic solvent at an intermediate temperature dissolving the sulphur to produce a pregnant liquor as well as a solid residue, which pregnant liquor is transferred to a sub-dissolution zone for treatment at a low temperature at which occluded sulphur is produced, the occluded sulphur being transferred to a phase-separation zone for treatment at a high temperature at which elemental sulphur is recovered.

ERRATA

For Class 23—277 see:
Patent No. 3,512,219

For Class 23—288 see:
Patent No. 3,512,220

3,512,944
BURETTE WITH REMOVABLE STOPCOCK FORMED OF SYNTHETIC RESIN
Michael A. Craig, Corning, and Walter L. Holmes, Elmira, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 13, 1967, Ser. No. 667,460
Int. Cl. B01l *3/02*; F16k *5/04*
U.S. Cl. 23—292 4 Claims



A burette comprising a glass graduated cylinder, a polytetrafluoroethylene stopcock and a glass delivery tip. The stopcock is held in removable interference-fitted engagement with the graduated cylinder by means of a male portion projecting into the interior of the cylinder, and the delivery tip of the burette is held in removable interference-fitted engagement in a cylindrical female portion of the stopcock.

3,512,945
DISSOLUTION OF POTASSIUM CHLORIDE ORES
John Bryan Taylor, Ottawa, Ontario, Canada, and Michael Ralph Hunt, Surrey, England, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada
No Drawing. Filed Sept. 12, 1967, Ser. No. 667,072
Int. Cl. B01d *11/02*; C01d *3/08*
U.S. Cl. 23—312 4 Claims

When leaching or solution mining potassium salts including the chloride, manganese ion in at least about 100 p.p.m. is added to the leach solution to prevent obstructive sodium chloride recrystallization.

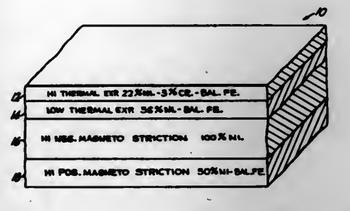
ERRATUM

For Class 29—183.5 see:
Patent No. 3,512,221

3,512,946
COMPOSITE MATERIAL FOR SHIELDING ELECTRICAL AND MAGNETIC ENERGY
Irving J. Hutkin, San Diego, Calif., assignor to Lash Manufacturing, Inc., San Diego, Calif., a corporation of California
No Drawing. Filed Apr. 17, 1967, Ser. No. 631,187
Int. Cl. B32b *15/08*
U.S. Cl. 29—195 10 Claims

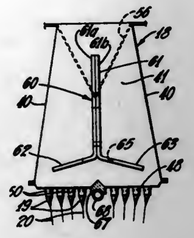
This invention relates to a composite material for use as shield material and for making printed circuits in which thin metal layers of conductive material are plated on a high temperature resistant material and more particularly to a composite shielding material for shielding magnetic and electrical fields in which thin metal layers of low and high permeability are plated on a thin plastic sheet.

3,512,947
COMBINED THERMOFLEXURAL AND MAGNETOFLEXURAL MATERIAL
Clarence F. Alban, Detroit, Mich., assignor to W. M. Chace Company, Detroit, Mich., a corporation of Delaware
Filed July 11, 1967, Ser. No. 652,436
Int. Cl. B22b *15/00*
U.S. Cl. 29—195.5 3 Claims



A laminated material for use in making elements which are responsive to temperature changes and to the presence of a magnetic field, the material consisting of at least four laminations, two of which have widely different coefficients of thermal expansion so that an element formed from the composite material will deflect in response to a temperature change, and a second two of which have widely different coefficients of magnetostriction so that in response to an ambient magnetic field an element formed from the material will deflect laterally.

3,512,948
APPARATUS FOR PROCESSING HEAT-SOFTENED MINERAL MATERIAL
Hellmut I. Glaser, Newark, Ohio, Walter L. Martin, Anderson, S.C., and Michael S. Mitcham, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Mar. 23, 1967, Ser. No. 625,337
Int. Cl. C03b *37/08*, *5/02*
U.S. Cl. 65—11 18 Claims

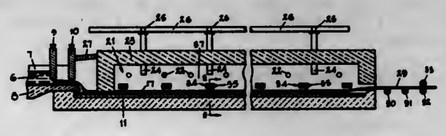


Apparatus for attaining and maintaining a uniformity of temperature of streams of glass being delivered by a stream feeder for attenuation into filaments or fibers. Novel terminals effect a uniform distribution of electrical energy along a bottom wall of a feeder by establishing an equipotential line parallel to a line defined by the junction of the end and bottom walls. Further distribution control for desired heating may be obtained by the combination of a particular structural configuration

of a stream feeder having converging side walls and an inverted Y-shaped terminal. This feeder may have a heater conditioner disposed in the upper portion thereof.

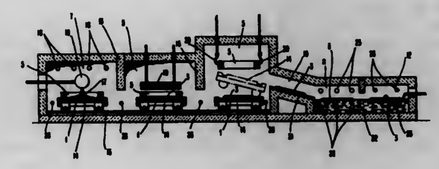
Several methods have heretofore been employed in processing glass for forming attenuated filaments or fibers. One method involves the steps of melting glass in a comparatively large furnace, refining the glass in a refining chamber, and forming the glass into spherical bodies or marbles. The glass marbles are subsequently delivered into a stream feeder or bushing which is electrically heated to remelt the glass to a viscosity at which the streams of glass are flowed through orifices in the bushing and the glass of the streams attenuated into filaments by winding a strand of the filament on a rotating collector. This method is costly as it involves special apparatus for handling and feeding the glass marbles and requires large amounts of electrical energy in remelting the marbles.

3,512,949
PROTECTIVE CLOSURE FOR WINDOWS IN A FLOAT GLASS CHAMBER
Francis L. Swillinger, Perrysburg, Ohio, and Eldwin C. Montgomery, Modesto, Calif., assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Jan. 30, 1967, Ser. No. 612,678
Int. Cl. C03b *18/02*
U.S. Cl. 65—159 8 Claims



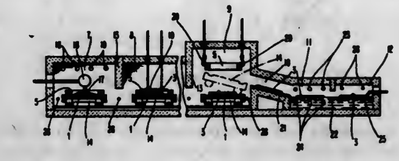
An open ended box in the wall of a float glass forming machine, glazed with a pane of glass through which the glass ribbon on the float bath can be viewed and having a damper, on the bath or inboard side of the pane, that is movable into and out of shielding position relative thereto.

3,512,950
APPARATUS FOR MAKING FLAT GLASS SHEETS
Bernard Long, Paris, France, assignor to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio
Original application Oct. 28, 1964, Ser. No. 407,023, now Patent No. 3,414,454, dated Dec. 3, 1968. Divided and this application Aug. 12, 1968, Ser. No. 802,697
Claims priority, application France, Nov. 7, 1963, 952,993
Int. Cl. C03b *18/02*, *19/02*
U.S. Cl. 65—182 4 Claims



Appara us for making glass sheets wherein a measured quantity of glass in a fluid state is spread and shaped by gravity and surface tension in a traveling mold and then surface leveled, fire polished and cooled on a bath of molten metal in a series of compartments or zones under controlled temperatures.

3,512,951
APPARATUS FOR MANUFACTURE OF FLAT GLASS
Bernard Long, Paris, France, assignor to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio
Original application Dec. 3, 1964, Ser. No. 416,710, now Patent No. 3,414,464, dated Dec. 3, 1968. Divided and this application Aug. 12, 1968, Ser. No. 802,698
Claims priority, application France, Dec. 13, 1963, 957,200; Oct. 27, 1964, 992,898
Int. Cl. C03b *29/04*, *19/00*
U.S. Cl. 65—252 3 Claims



Apparatus comprising thermal tunnel means divided into a series of temperature controlled compartments or zones and enclosing traveling mold means to which glass is supplied in a fluid state, pressed therein while in a plastic state and then floated on a bath of molten metal for fire polishing and smoothing.

3,512,952
APPARATUS FOR SEALING VITREOUS COMPONENTS OF AIRTIGHT VESSELS
Hidehiko Yoshida, Chigasaki-shi, Masahiko Enomoto, Yokohama-shi, and Kojiro Sumi, Tokyo, Japan, assignors to Tokyo-Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Sept. 21, 1967, Ser. No. 669,526
Claims priority, application Japan, Oct. 8, 1966, 41/66,221
Int. Cl. C03b *29/00*
U.S. Cl. 65—271 2 Claims

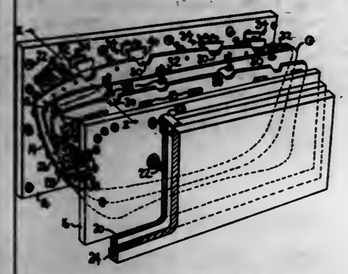


An apparatus for sealing the vitreous components of an airtight vessel wherein a pair of rigid members are arranged opposite to each other with marginal portions of the vitreous components to be sealed lying between them and also in a manner to come close to and go away from each other, at least one of these rigid members is hollow and has a plurality of nozzle holes to eject burner flames from the hollow space of the rigid members toward the marginal portions of the vitreous components and a suitable number of auxiliary nozzle holes adapted to eject fluid fuel to receive a flame from said burner flame and to keep a pilot flame burning during at least the sealing operation by said rigid members.

3,512,953
GLASS SHEET PRESS SHAPING MOLD WITH TENSION MEANS FOR SUPPORTING TONGS
Michael P. Roseman, Tyrone, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 21, 1967, Ser. No. 669,601
Int. Cl. C03b *23/02*
U.S. Cl. 65—287 5 Claims

In combination with a mold for press bending glass sheets having a shaping surface and a notch in said shaping surface providing clearance to receive glass gripping

tongs, a spring loaded member having a tong facing surface in the notch, means to position said member to locate



said tong facing surface a predetermined distance behind said shaping surface and indepedent means to adjust the tension on said spring.

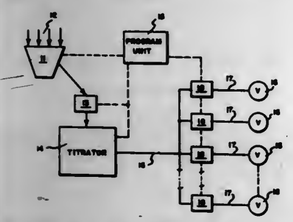
3,512,954
AQUATIC HERBICIDES
Obren Kocksmet, Tacoma, Wash., assignor to Pennwalt Corporation, a corporation of Pennsylvania
No Drawing. Filed Aug. 3, 1967, Ser. No. 658,962
Int. Cl. A01n 9/00
U.S. Cl. 71—66 6 Claims

Control of plant life in ponds, lakes, and other bodies of water by use of certain long chain amine salts of hexafluoroarsenic or hexafluorophosphoric acids.

3,512,955
METHOD OF PROTECTING PLANT GROWTH
John A. Stephens, St. Louis County, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 256,841, Feb. 7, 1963. This application Nov. 6, 1967, Ser. No. 680,996
Int. Cl. A01n 9/14
U.S. Cl. 71—103 11 Claims

Method for protecting plant growth which comprises applying to an area a pesticidal amount of certain N-(aralkylsulfonyl)carbamate esters, sufficient to cause herbicidal, insecticidal or fungicidal activity.

3,512,956
COPPER ORE PROCESS CONTROL
Francis L. Holderreed, William Lucy, and Lautaros Diaz, Anaconda, Mont., assignors to The Anaconda Company, New York, N.Y., a corporation of Montana
Continuation-in-part of application Ser. No. 455,890, May 14, 1965. This application Sept. 26, 1967, Ser. No. 675,739
Int. Cl. C22b 15/12, 15/14
U.S. Cl. 75—1 12 Claims



Method and apparatus for automatically controlling any multi-flow stream copper ore processing operation. A plurality of ore process flow stream are periodically sampled and the samples are presented in sequence to an automatic analyzer capable of generating an electric signal proportional to the concentration of a substance in a sample. The electric signal is sequentially transmitted to a series of electrically operated control valves to regulate the addition of process reagent to the flow streams.

3,512,957
STEELMAKING PROCESSES
Karl Brotzmann, Westhofen-Buchholz, near Schwerte (Ruhr), Germany, and Eric R. Morgan, Pittsburgh, Pa., assignors to Dortmund-Horder Huttenunion Aktiengesellschaft, Dortmund, Germany
Filed June 19, 1964, Ser. No. 376,420
Claims priority, application Germany, Aug. 10, 1963, D 42,212
Int. Cl. C21c 7/06, 7/10, 33/00
U.S. Cl. 75—49 7 Claims

4. The method of producing non-aging steels comprising the steps of subjecting a molten steel bath to a vacuum sufficient to cause removal of oxygen from the bath, maintaining the bath under vacuum until the oxygen level in the bath is reduced to about 0.005% to about 0.01%, adding aluminium to the steel in an amount sufficient to react with the remaining oxygen to reduce the oxygen level below about 0.003% and adding 0.005% to 0.010% boron to the molten bath following the aluminum addition.

3,512,958
PREPARATION OF HIGH PURITY ARSENIC
Masumi Yokozawa, Takatsuki-shi, and Shigetoshi Takayanagi, Kyoto, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan
Filed May 1, 1967, Ser. No. 635,218
Claims priority, application Japan, May 4, 1966, 41/28,661
Int. Cl. C22b 33/00
U.S. Cl. 75—84 4 Claims

Elemental arsenic to be purified is melted with high purity elemental bismuth and the resulting alloy is distilled under vacuum. The arsenic vapors are condensed and the bismuth and impurities with residual arsenic remain in the still. Arsenic having a purity of 99.999+ is produced substantially free of electrically active impurities and especially suitable for preparation of semiconductors is recovered.

3,512,959
METHOD OF PREPARING MELTS OF ZINC BASE ALLOYS AND IMPROVED FLUX THEREFOR
William F. Joseph, Rocky River, and John F. Wallace, Cleveland, Ohio, assignors to Rossborough Supply Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 27, 1967, Ser. No. 671,114
Int. Cl. C22b 19/30, 19/32
U.S. Cl. 75—87 7 Claims

More efficient recovery of usable metal is obtained without objectionable smoke and fumes, iron pick up or loss of magnesium from the alloy by adding to the dross layer on the surface of a zinc base alloy bath a flux comprising essentially 20 to 60 percent by weight of magnesium chloride (calculated as anhydrous) and at least 40 percent by weight total of sodium and potassium chlorides, the temperature to which the flux is heated being above the melting point of the flux. The sodium chloride may be present in amounts of 0 to 45 percent by weight and the potassium chloride may be present in amounts of 0 to 60 percent by weight although a superior flux results when sodium and potassium chlorides are each present in amounts of 20 to 40 percent of the total. When the zinc alloy contains aluminum, the improved flux preferably contains a small amount, up to 20 or 25%, of the total of said chlorides of an inorganic fluoride selected from sodium and potassium cryolites and silicofluorides and mixtures of one or more thereof.

3,512,960
STAINLESS STEEL RESISTANT TO STRESS-CORROSION CRACKING
Richard R. Brady, Butler, and Kenneth G. Brickner, Wilkinsburg, Pa., assignors to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed Jan 28, 1963, Ser. No. 254,493
Int. Cl. C22c 39/20
U.S. Cl. 75—128 4 Claims

1. A martensitic precipitation-hardenable stainless steel with resistance to stress-corrosion cracking, comprising

	Percent
Carbon	0.06–0.12
Manganese	0.50–0.80
Silicon	0.40–0.60
Nickel	5.5–6.5
Chromium	14.5–16.0
Molybdenum	2.25–2.75
Titanium	0.85–1.15
Aluminum (maximum)	0.05
Nitrogen (maximum)	0.015

with the balance iron and residual amounts of other elements which do not adversely affect the properties.

3,512,961
FINE GRAINED WHITE GOLD ALLOY
George H. Sistare and Ernest S. Chamer, Fairfield, Conn., assignors to Handy & Harman, Fairfield, Conn., a corporation of New York
No Drawing. Filed Apr. 19, 1968, Ser. No. 722,548
Int. Cl. C22c 5/00
U.S. Cl. 75—165 5 Claims

A 9½ to 18 karat white gold alloy is made to have an exceptionally fine grain structure in as-cast condition by the addition of 0.005% to 0.05% by weight rhenium. The rhenium may be added in the form of a master alloy of rhenium and nickel (e.g. a 10% rhenium-nickel alloy). The alloy exhibits a fine grain structure in the cast condition and as annealed after working.

3,512,962
COBALT-TUNGSTEN CARBIDE ALLOY AND PROCESS
Frederick C. Holtz, Jr., Evanston, Ill., assignor to IIT Research Institute, Chicago, Ill., a not-for-profit corporation of Illinois
Continuation-in-part of application Ser. No. 435,733, Feb. 26, 1965. This application Jan. 3, 1966, Ser. No. 518,098
Int. Cl. C22c 19/00; B22f 9/06; B22d 23/08
U.S. Cl. 75—170 7 Claims



Fully dense cobalt-tungsten carbide alloys characterized by a microstructure exhibiting a substantialy uniformly dispersed tungsten-carbide phase substantially all of which has a grain size less than 5 microns, are produced from prealloyed powders by rapidly quenching an atomized molten alloy charge consisting essentially of from 40 to 70 percent by weight of tungsten carbide, balance cobalt, and subjecting the solidified particles in a suitable container to the step of hot consolidation to produce a wrought alloy directly from prealloyed powder.

3,512,963
PROCESS FOR IMPROVING ELEVATED TEMPERATURE STRENGTH AND DUCTILITY OF NICKEL-BASE ALLOYS
Jacob Schramm, Ringwood, and John H. Olson, Franklin Lakes, N.J., and Clarence G. Bieber, Suffern, N.Y., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed July 25, 1966, Ser. No. 567,400
Int. Cl. C22c 19/00, 1/02
U.S. Cl. 75—171 6 Claims

The elevated temperature properties and hot workability of nickel-base alloys such as nickel-chromium alloys is markedly improved by a melting practice involving vacuum treatment followed by an addition of magnesium under a non-reactive gas atmosphere.

3,512,964
METHOD OF PRODUCING A FERROUS SINTERED ARTICLE
Charles H. Fuchsman, Cleveland Heights, Ohio, assignor to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 329,230, Dec. 9, 1963. This application July 22, 1965, Ser. No. 474,185
Int. Cl. C22c 33/02
U.S. Cl. 75—201 5 Claims

1. The method of producing a sintered ferrous article comprising the steps of:

(a) thoroughly admixing from about 0.1% to about 0.5% elemental sulfur and about 0.1% to about 0.7% copper, with powdered iron particles, said percentages of sulfur and copper based on the weight of said iron, prior to sintering,

(b) compacting said admixture into a coherent shape at at least 50,000 p.s.i., and sintering, in a substantially nonoxidizing atmosphere, said compacted shape,

to provide a ferrous article having improved strength.

3,512,965
ELECTROPRINTING METHOD
Josef Matkan, Malvern, South Australia, Australia, assignor to Research Laboratories of Australia Pty., Limited, North Adelaide, South Australia, Australia
No Drawing. Filed July 9, 1964, Ser. No. 381,541
Claims priority, application Australia, July 12, 1963, 32,965/63
Int. Cl. G03g 13/10
U.S. Cl. 96—1 6 Claims

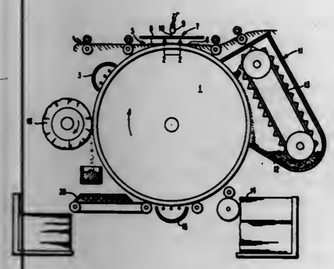
Improved electrostatic images are achieved by treating the photoconductor or insulating layer with a barrier substance prior to the development of any visible image using a liquid developer. The barrier substance prevents the liquid developer from depositing on or contaminating the background or non-image areas when the developer is applied to the electrically defined (invisible) image; or in other words, the barrier substance restricts the toner liquid to the image and repels it from the background area.

3,512,966
PROCESS OF ELECTROPHOTOGRAPHIC RECORDING EMPLOYING PERSISTENT ORGANIC PHOTOCONDUCTIVE COMPOSITIONS
Meredith David Shattuck and Ulo Vahtra, San Jose, and Daniel Andrew Nepela, Saratoga, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
No Drawing. Filed July 26, 1965, Ser. No. 474,977
Int. Cl. G03g *13/22, 5/06*
U.S. Cl. 96—1 2 Claims

Photoconductive members containing an organic photoconductor, dyestuff sensitizer, and an activator selected from the group consisting of organic carboxylic acids, nitrophenols, nitroanilines, and carboxylic acid anhydrides, require only extremely short exposure times, have relatively long persistent conductivity and the persistent conductivity can rapidly be erased by heat.

These photoconductive members are highly useful in electrophotographic processes requiring persistent photoconductivity.

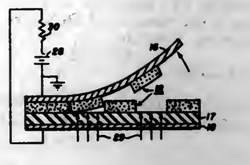
3,512,967
ELECTROPHOTOGRAPHIC METHOD AND MEMBER FOR CONTACT PRINTING OF RELATIVELY OPAQUE DOCUMENTS
Clifford E. Herrick, Jr., Los Gatos, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 9, 1966, Ser. No. 593,051
Int. Cl. G03g *13/22*
U.S. Cl. 96—1 5 Claims



A contact printing electrophotographic method in which an opaque document such as bond paper is brought into face-to-face contact with a photoconductive layer on a highly light reflective backing, followed by uniformly exposing the photoconductive member through the back of the document. The exposing light is reflected back and forth between the highly light reflecting backing of the photoconductive member and the nonimage face surface of said document with only a portion of the light being absorbed by the photoconductive layer during each passage of light, thereby enhancing the image contrast of the resultant copy of the document.

3,512,968
METHOD OF PROOFING AND SCREENING COLOR SEPARATIONS USING THE MANIFOLD IMAGING PROCESS
Vsevolod Tsingin, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed July 1, 1965, Ser. No. 468,683
Int. Cl. G03g *13/22*
U.S. Cl. 96—1.2 12 Claims

A method of proofing and screening color separations and providing either positive or negative images of said color separations wherein the blue, green and red separations are imaged respectively on yellow, magenta and cyan



manifold sets. The positive images obtained from the manifold sets are superimposed to subtractively synthesize a proof of the image.

3,512,969
PHOTOGRAPHIC PROCESS BASED ON THE QUENCHING OF COLOR CENTERS
Jean J. A. Robillard, 381 Elliot St., Newton, Mass. 02740
Filed Sept. 22, 1964, Ser. No. 406,207
Int. Cl. G03c *5/04, 1/00*
U.S. Cl. 96—27 16 Claims

A photographic process based on the selective quenching of color centers is described which comprises projecting an image on a recording medium having a surface sensitized with high energy penetrating radiation and impressing an electric field through the sensitized surface to cause the color centers formed upon the recording medium by the penetrating radiation to become stable and yield a stable image. A photo-sensitive recording medium used in the photographic process is also described.

3,512,970
PHOTOPOLYMERIZATION
Frederick W. Millard, Montrose, Pa., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed June 21, 1966, Ser. No. 559,204
Int. Cl. G03c *5/00, 5/24*
U.S. Cl. 96—35.1 8 Claims

Production of a photographic image by image-wise irradiation of a photographic element having as its light-sensitive layer a hydrophilic colloid having therein a normally liquid to solid polymerizable monomer containing a $CH_2{=}C<$ group and a photoinitiating catalyst therefor, and developing by contacting the element with water vapor at 70–100° C. and a relative humidity of at least 70%.

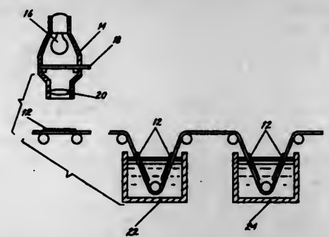
3,512,971
PRODUCTION OF PRINTING PLATES
Josef Georg Floss, Ludwigshafen (Rhine), Friedrich Bayerlein, Muenchen-Obermenzing, Rudolf Brodt, Weinheim/Bergstrasse, Herbert Henkler, Darmstadt, and Hugo Strehler, Hans Wilhelm, and Robert Gehm, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Aug. 29, 1967, Ser. No. 663,991
Claims priority, application Germany, Sept. 2, 1966, 1,522,469
Int. Cl. G03c *1/68*
U.S. Cl. 96—35.1 2 Claims

Production of printing plates by exposing plates or sheets made of mixtures of polyamides, m-xylylenebisacrylamide or m-xylene-bismethacrylamide and photoinitiators and/or polymerization inhibitors to light through a negative or positive and removing the unexposed areas.

3,512,972
PHOTOGRAPHIC DEVELOPER SYSTEMS
Laura K. Case, Winchester, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
No Drawing. Filed Apr. 5, 1965, Ser. No. 445,743
Int. Cl. G03c *5/24*
U.S. Cl. 96—48 20 Claims

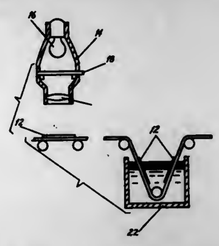
This disclosure relates to an improved photographic process, developer solution, and developed copy medium. The process comprises contacting a copy medium comprising an image-pattern of a free metal with a developer solution comprising ascorbic acid and cupric ion to selectively deposit metallic cooper in the image areas of the copy medium. In a preferred system the copy medium is exposed and contacted with a reducible metal ion to form a latent metal image in the exposed portions of the copy medium, and then contacted with a developer comprising ascorbic acid and capric ion. The preferred system contains an acid acceptor such as an amine.

3,512,973
DATA STORAGE SYSTEMS
Jean-Paul Archambault and John Richard Manhardt, Nashua, N.H., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,176
Int. Cl. G03c *5/24, 5/30*
U.S. Cl. 96—48 19 Claims



A process for recording information comprising exposing image-wise a photosensitive copy medium, contacting the medium with a developer comprising a solution of metal ions which are at least as strong oxidizing agents as ionic copper, and then contacting the copy medium with a reducing agent for the metal ions and wherein at least the solution of metal ions or the reducing agent solution contains a sulfur containing nonionic surfactant such as a thioether surfactant. The invention also relates to the improved developer system used in the above process.

3,512,974
DATA STORAGE SYSTEMS
John Richard Manhardt and Jean-Paul Archambault, Nashua, N.H., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Dec. 16, 1965, Ser. No. 514,200
Int. Cl. G03c *15/24, 5/30*
U.S. Cl. 96—48 12 Claims



An improved photographic developer system comprising a solution of metal ions which are at least as strong oxidizing agents as ionic copper, a reducing agent which can reduce these metal ions and a non-ionic sulphur containing surface active agent such as thioethers.

3,512,975
PROCESS FOR THE PREPARATION OF POSITIVE COPIES AND MATERIAL FOR PERFORMING THE PROCESS
Johannes Munder, Roland Moraw, and Ernst-August Hackmann, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
No Drawing. Filed Dec. 27, 1965, Ser. No. 516,709
Claims priority, application Germany, Dec. 30, 1964, K 54,908
Int. Cl. G03c *5/24, 1/52*
U.S. Cl. 96—48 12 Claims

This invention relates to a light-sensitive reproduction material, and to a process for the production of a positive copy using the material, the material comprising a hydrophilic support and a light-sensitive layer thereon, the latter comprising at least one vinyl compound, at least one organic halogen compound which splits off halogen when exposed to light, and at least one polymerization inhibiting agent.

3,512,976
AMMONIUM AND METAL SULFITES AS STABILIZERS OF LIGHT SENSITIVE SYSTEMS
Yoshikazu Yamada, Sierra Madre, and Thomas H. Garland, El Monte, Calif., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed July 21, 1966, Ser. No. 566,728
Int. Cl. G03c *5/24*
U.S. Cl. 96—48 12 Claims

A process for stabilizing a photographic image formed by image-wise exposure to actinic light of a photosensitive combination of an organic halogen compound and an aromatic nitrogen atom-containing compound, whereby the background and image areas are stabilized by the application of a compound having the formula

$$M_{3-v-w}(H)_wS_{1+x}O_{3+2x}$$

wherein x is selected from 0 and 1, M is a cation selected from ammonium, alkali metals and alkaline earth metals, v is the valence of said selected cation, and w is 0 when v is 2 and is selected from 0 and 1 when v is 1.

3,512,977
CARBONYL-BISULFITE COMPLEX STABILIZATION OF LIGHT SENSITIVE SYSTEMS
Peter Bruck, Los Angeles, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed July 21, 1966, Ser. No. 566,754
Int. Cl. G03c *5/24, 1/52*
U.S. Cl. 96—48 15 Claims

A process for stabilizing a photographic image formed by image-wise exposure to actinic light of a photosensitive combination of an organic halogen compound and an aromatic nitrogen atom-containing compound, whereby the background and image areas are stabilized by the application of a carbonyl-bisulfite complex.

3,512,978
DIAZOSULFONATE COMPOSITION, COPYING MATERIAL, AND METHOD OF USE
Michael J. Lubar, Parsippany, N.J., assignor to Keuffel & Esser Company, a corporation of New Jersey
No Drawing. Filed Mar. 21, 1966, Ser. No. 535,681
Int. Cl. G03c *1/56, 5/34*
U.S. Cl. 96—49 3 Claims

Diazotype material is provided which comprises a diazo sulfonate compound and an azo dye coupler intimately combined in a composition which is stabilized in an alka-

line medium. Imagewise exposure of such diazotype material to actinic radiation immediately produces a corresponding dye image without further processing. The application of a reducing agent to unexposed areas of the composition precludes further dye formation, thereby fixing the print-out image.

3,512,979
PROCESS FOR DEVELOPMENT OF PHOTOGRAPHIC SILVER HALIDE COLOR MATERIALS
Tadashi Nagae, Haruhiko Iwano, and Isao Shimamura, Kanagawa, Japan, assignors to Fuji Photo Film Co., Ltd., Kanagawa, Japan
No Drawing. Filed June 14, 1967, Ser. No. 645,900
Claims priority, application Japan, June 17, 1966, 41/39,231
Int. Cl. G03c 7/30
U.S. Cl. 96—55 6 Claims

In the case of developing a photographic silver halide light-sensitive color film in a developer containing p-phenylenediamine or a derivative of it, the formation of fogs can be reduced without lowering the developed color density by incorporating in the developer a mercapto aliphatic acid or derivative thereof represented by the formula: HS—R—COOM, wherein R is a divalent alkyl group having from 1 to 5 carbon atoms, inclusive, in the chain, M is —H, or an alkali metal, or a monovalent positive group such as $—NH_4^+$. Preferably used in coupler developer solutions.

3,512,980
MONOBATHS FOR PHOTOGRAPHIC PROCESSING
Christopher Lucas, Eatontown, N.J., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Nov. 17, 1966, Ser. No. 595,272
Int. Cl. G03c 5/38
U.S. Cl. 96—61 2 Claims

An aqueous monobath containing thioglycollic acid, potassium hydroxide and hydroquinone in particular amounts is used to process a photographic emulsion in four to five seconds at about 120° F.

3,512,981
STABLE PHOTOGRAPHIC DEVELOPERS CONTAINING ASCORBIC ACID
Gordon L. Prchal and Richard W. Kulus, Minneapolis, Minn., assignors to Pako Corporation, Minneapolis, Minn., a corporation of Minnesota
No Drawing. Continuation-in-part of application Ser. No. 499,043, Oct. 20, 1965. This application Feb. 5, 1968, Ser. No. 702,797
Int. Cl. G03c 5/30
U.S. Cl. 96—66.4 8 Claims

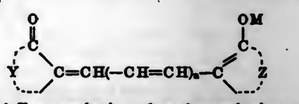
An improved photographic developer particularly adapted to develop latent images present in photosensitive silver halide emulsions, the developer including a p-dihydroxybenzene such as hydroquinone, as an active developer ingredient, and further including dissociated sulfite, preferably derived from sodium sulfite as well as sodium formaldehyde bisulfite, the dissociated sulfite being present in an amount of between about 1 and 5 grams per liter of sodium sulfite, and further including from between about 0.02 and up to about 10 grams per liter of ascorbic acid.

3,512,982
NUCLEIC ACIDS AS FOG STABILIZERS FOR PHOTOGRAPHIC EMULSIONS
Robert C. Taber, William H. Russell, and Charles A. Goffe, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Apr. 6, 1967, Ser. No. 628,830
Int. Cl. G03c 5/30, 1/34
U.S. Cl. 96—66.5 12 Claims

A photographic silver halide emulsion or photographic element containing a fog-stabilizing amount of a nucleic acid, e.g., ribonucleic acid or deoxyribonucleic acid. Developing photographic elements in the presence of a nucleic acid is also described.

3,512,983
PHOTOGRAPHIC LIGHT-SENSITIVE MATERIALS CONTAINING MORDANTED OXONOL DYES
Shigeru Watanabe, Teruo Kobayashi, and Kikuo Kubotera, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan
Filed Feb. 11, 1966, Ser. No. 526,859
Claims priority, application Japan, Feb. 12, 1965, 40/7,675
Int. Cl. G03c 1/84
U.S. Cl. 96—84 19 Claims

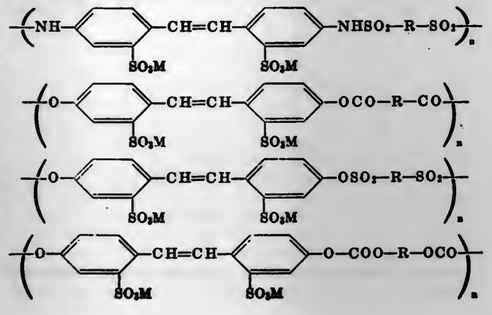
A photographic light-sensitive material is disclosed, which contains a film base, and at least one layer having (a) an oxonol dye having no acid groups represented by the formula



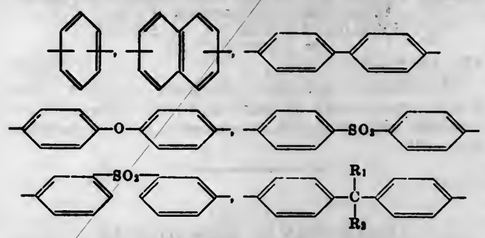
where Y and Z are substituted and unsubstituted carbon-ring forming groups and substituted and unsubstituted heterocyclic ring forming groups, M is H or $NHR_1R_2R_3$, where R_1, R_2 and R_3 are H, lower alkyl and lower hydroxyalkyl, and n is 0, 1 or 2, and (b) a mordant of poly - N - vinyl-2-pyrrolidone and/or N-vinyl-2-pyrrolidone.

3,512,984
PHOTOGRAPHIC COLOR ELEMENTS CONTAINING UV ABSORBERS
Hiroyuki Amano, Nobuo Tsuji, and Kazuo Shirasu, Ashigara-Kamigun, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan
No Drawing. Filed Jan. 16, 1967, Ser. No. 609,359
Int. Cl. G03c 1/84, 1/92
U.S. Cl. 96—84 9 Claims

A photographic light-sensitive color element having incorporated in at least one layer selected from the group consisting of a silver halide emulsion layer, an intermediate layer between silver halide emulsion layers and a protective layer on the surface of a silver halide emulsion layer, as an agent to minimize the undesired effects of ultraviolet radiation, at least one compound selected from the following group



wherein M is an alkali metal; R is a bivalent organic radical selected from the group consisting of



wherein R_1 and R_2 are selected from the group consisting of a hydrogen atom, an alkyl radical containing up to 5 carbon atoms, $+CH_2+_p$ wherein p is an integer of from 1 to 10, and

$$+CH_2CH_2=O+_q—CH_2CH_2—$$

wherein q is an integer of from 1 to 3, and n indicates the degree of polymerization, and wherein said polymerization degree is such that the intrinsic viscosity of the polymer in formamide at 30° C. is from about 0.05 to about 2.0.

3,512,985
DIRECT POSITIVE PHOTOGRAPHIC SILVER HALIDE EMULSIONS AND ELEMENTS CONTAINING WATER INSOLUBLE POLYMERS
Robert C. Harvey, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 8, 1965, Ser. No. 506,862
Int. Cl. G03c 1/04
U.S. Cl. 96—114 16 Claims

Fogged direct-positive photographic silver halide emulsions having a binding agent comprising a hydrophilic colloid and an aqueous dispersion of a water-insoluble polymerized vinyl compound exhibit improved photographic properties. Elements comprising said emulsions are disclosed.

3,512,986
RUMINANT FEED SUPPLEMENT
Frank M. Snyder, Omaha, Nebr., Harvey J. Stangel, Highland Park, N.J., and Thomas E. Freese, Indianapolis, Ind., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Continuation of application Ser. No. 479,324, Aug. 12, 1965. This application June 20, 1969, Ser. No. 838,029
Int. Cl. A23k 1/22
U.S. Cl. 99—2 6 Claims

An improved ruminant feed and process of making same wherein ammoniated superphosphoric acid derived from wet process phosphoric acid is utilized. The ammoniated superphosphoric acid provides the desired nutrients nitrogen and phosphorus together with solubilized trace minerals for the ruminant.

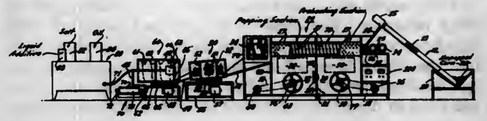
3,512,987
CHILLPROOFING OF BEER
Ralph A. Messing, Horseheads, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed Apr. 24, 1967, Ser. No. 632,903
Int. Cl. C12h 1/02
U.S. Cl. 99—48 7 Claims

The chill stability of beer is enhanced by the addition thereto of a porous glass chillproofing agent.

3,512,988
STABILIZING BEER
Harugoro Yomo, 35 Kitagosho-cho, Okazaki, Sakyo-ku, and Hironobu Iinuma, 1 Hirookadani, Gokasho, Uji, both of Kyoto, Japan
No Drawing. Filed July 11, 1967, Ser. No. 652,403
Claims priority, application Japan, July 15, 1966, 41/46,492
Int. Cl. C12h 1/14
U.S. Cl. 99—48 8 Claims

A method of stabilizing beer through the utilization of a compound prepared by adding polyoxethylene to a condensation product of alkylphenol and formaldehyde thereby overcoming formation of a non-biological haze.

3,512,989
CONTINUOUS POPPING APPARATUS AND METHOD
Donald P. Smith, 4530 Woodfin Drive, Dallas, Tex. 75220
Filed Dec. 28, 1965, Ser. No. 516,838
Int. Cl. A23l 1/18
U.S. Cl. 99—81 20 Claims



A continuous popping apparatus including two successive heating stages including a pre-heating section, in which the material to be popped is heated to a temperature just below the temperature required for popping, and a popping section, in which the food to be popped is heated to a temperature above that required for popping. The material to be popped is continuously and positively moved through the pre-heating and the popping sections while hot gas is applied thereto to assure uniform heating.

3,512,990
PRODUCTION OF SNACK PRODUCT
Lyle Slaybaugh, Battle Creek, Mich., assignor to Kellogg Company, Battle Creek, Mich., a corporation of Delaware
Filed Feb. 3, 1967, Ser. No. 613,930
Int. Cl. A21c 3/10; A23l 1/10
U.S. Cl. 99—81 4 Claims

Production of a fried snack food product by sheeting a dough, severing it into strips, folding the strips lengthwise, trasversely cutting and sealing the cut edges to form small biscuits closed on three sides, and then deep fat frying and thereby expanding them to cup-like form.

3,512,991
PROCESS FOR PREPARING COMPRESSED, DEHYDRATED CELLULAR BAKERY PRODUCTS
John J. Mancuso, Astoria, Anthony G. Bonagura, West Nyack, and Richard M. Sorge, Yonkers, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 7, 1965, Ser. No. 493,915
Int. Cl. A21d 13/00, 13/08
U.S. Cl. 99—86 10 Claims

Compressed, dehydrated bread is prepared by conditioning the bread at a reduced temperature, compressing the bread to about one-half to one-third its original volume, freezing the compressed bread and freeze-drying the frozen, compressed bread. The resulting product retains its compressed state and rehydrates rapidly, reverting to its original size and state of freshness.

3,512,992
BAKING ADDITIVE AND METHOD FOR PRODUCING BAKED GOODS
Alfred Cooke and Harold Johannson, Montreal, Quebec, Canada, assignors to Delmar Chemicals Limited, Montreal, Quebec, Canada
No Drawing. Continuation-in-part of application Ser. No. 627,872, Apr. 3, 1967. This application Apr. 2, 1968, Ser. No. 718,237
Int. Cl. A21d *8/04*
U.S. Cl. 99—91 15 Claims

Enzyme preparations having pentosanase activity are used in bread making processes. The baked bread exhibits improved original softness and improved resistance to staling. An enhanced whitening effect is obtained when the enzyme preparation additionally has catalase activity.

3,512,993
PROCESS FOR MAKING A MEAT CHIP
Frank Conley and Hung Piao Mak, both of 1343 W. Foster Ave., Chicago, Ill. 60640
No Drawing. Filed Apr. 12, 1965, Ser. No. 447,572
Int. Cl. B02c *18/00*; A23l *1/325*
U.S. Cl. 99—108 3 Claims

This specification describes a process for making edible chips or crisps. The base of the product is mixed with equal proportions of potato starch and corn starch formed into the shape of a roll and steamed. After steaming, the roll is dried and sliced. After further drying, the slices are fried in deep fat to produce the finished food product.

3,512,994
METHOD FOR THE PREPARATION OF CONFECTIONERS' FATS
Carl F. Brown and Chester M. Gooding, Westfield, and Stiling F. Knight, Forest Hills, N.J., assignors to CPC International Inc., a corporation of Delaware
No Drawing. Filed July 8, 1966, Ser. No. 563,690
Int. Cl. C11c *3/10*
U.S. Cl. 99—118 18 Claims

Confectioners' fats are prepared by interesterifying, in the presence of a catalyst, a lauric fat with one or more alkyl esters of fatty acids having 12, 14, or 16 carbon atoms. The interesterification reaction is permitted to reach a state of equilibrium, after which the mixture is brought to an unreactive state, as by removal or destruction of the catalyst. The new alkyl esters resulting from the reaction are removed from the final mixture, and the resultant new triglycerides, which comprise the confectioners' fat, are recovered.

3,512,995
METHODS FOR MAKING INSTANT FUDGE CANDY
Charles M. D. Reed, Rowayton, and Harry Velander, Norwalk, Conn., assignors to The Taylor-Reed Corporation, Glenbrook, Conn., a corporation of Connecticut
No Drawing. Filed Aug. 5, 1966, Ser. No. 570,399
Int. Cl. A23g *3/00*
U.S. Cl. 99—134 7 Claims

Compositions of dry ingredients to be mixed with water to form a self-solidified "instant" fudge-type candy without requiring heating above room temperature, and processes for formulating these compositions. Mixtures of powdered sugar, finely divided shortening, cocoa or vanilla flavoring and a solidifying agent comprising about 1.5 to 10.0 percent by weight of the mixture are prepared, to be mixed with small amounts of water and blended, producing solidified fudge-type candy without heating or cooking.

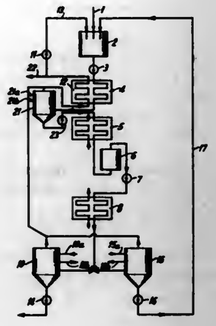
3,512,996
PACKAGING MILK
Sheldon F. Roe, Jr., Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 27, 1966, Ser. No. 560,649
Int. Cl. B29c *25/00*
U.S. Cl. 99—171 7 Claims

Thermoplastic containers are cooled to below room temperature causing an increase in the stiffness of the container side wall. The containers are vacuum filled with milk.

3,512,997
EXTRUSION OF MICROPOROUS COLLAGEN ARTICLES
Mauj A. Cohly and James W. Sanner, Danville, Ill., assignors to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 29, 1966, Ser. No. 583,052
Int. Cl. A23l *3/00*; A22c *13/00*
U.S. Cl. 99—175 3 Claims

A method of producing collagen articles such as casings, films or sheets whereby after extrusion, coagulation and tanning, the article is contacted with a carbonate or bicarbonate solution which reacts with the residual acid in the coagulated and tanned article to impart microporosity to it.

3,512,998
METHOD AND APPARATUS FOR CONTINUOUS STERILIZATION OF LIQUIDS
Reginald Thomas Clark, Staines Middlesex, England, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Continuation-in-part of applications Ser. No. 497,223, Oct. 18, 1965, and Ser. No. 640,740, May 23, 1967. This application Sept. 26, 1967, Ser. No. 670,632
Claims priority, application Great Britain, Sept. 27, 1966, 43,106/66
Int. Cl. A23c *3/00*, *9/00*; A23l *3/00*
U.S. Cl. 99—212 4 Claims



The liquid to be sterilized is first preheated by indirect heating and is then rapidly heated under pressure to sterilization temperature, also by indirect heating. After at least partial preheating or after heating to sterilization temperature, the liquid is passed to a chamber at a pressure such that the liquid is cooled by evolution of vapor therefrom and is at least partially degassed, the evolved vapor then being condensed and returned to the liquid. The pressure in the aforesaid chamber is at least equal to atmospheric pressure but is lower than the pressure at which the liquid arrives at the chamber.

3,512,999
PROCESS FOR COLORING VARNISHES, LACQUERS, PRINTING INKS OR PLASTIC MATERIALS WITH PIGMENTS DERIVED FROM α,β-DIKETOBUTYRIC ACID DERIVATIVES
Peter Dimroth, Ludwigshafen, Rhineland, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed May 29, 1967, Ser. No. 642,228
Claims priority, application Germany, June 14, 1966, B 87,545
Int. Cl. C09d *11/00*, *11/02*, *11/16*
U.S. Cl. 106—20 4 Claims

Process for coloring varnishes, lacquers, printing inks or plastic materials with nickel complexes of butyric acid derivatives as pigments. These pigments exhibit very good fastness properties, especially light fastness.

3,513,000
PROCESS FOR REVERSED PLANOGRAPHIC PRINTING
Marcel Nicolas Vrancken, Hove, and Daniel Alois Claeys, Mortsel-Antwerp, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company
No Drawing. Filed Feb. 18, 1966, Ser. No. 537,600
Claims priority, application Great Britain, Feb. 23, 1965, 7,800/65
Int. Cl. C09d *11/12*
U.S. Cl. 106—31 4 Claims

1. An improved reversed planographic printing process wherein the improvement comprises inking the planographic printing form with an oil-in-water emulsion ink composition consisting essentially of a relatively uncolored lipophilic liquid dispersed phase emulsified in a hydrophilic aqueous liquid continuous phase, said continuous phase consisting essentially of water, a dispersing agent and a pigment insoluble in said lipophilic phase, said lipophilic phase consisting essentially of a natural or synthetic hydrophobic material selected from the group consisting of oils, waxes, and resins dissolved in at least one organic water-immiscible liquid solvent selected from the group consisting of aliphatic hydrocarbons, cycloaliphatic hydrocarbons, aliphatically substituted aromatic hydrocarbons and aliphatic esters, said solvent having a vapor pressure lower than n-hexane and a boiling point above 100° C., the weight ratio of said hydrophilic phase to said lipophilic phase being from 4:1 to 1:1, said lipophilic phase remaining stably dispersed in said hydrophilic continuous phase until the ink composition is contacted with the printing form and then separating therefrom.

3,513,001
THERMOSETTING COMPOSITIONS AND METHODS OF MAKING THEM
John Edward Worthington, Tonbridge, and James Seward Woodhead, Tunbridge Wells, England, assignors to Polygram Casting Co. Limited, Kent, England, a British company
No Drawing. Continuation of application Ser. No. 420,802, Dec. 23, 1964. This application Sept. 19, 1966, Ser. No. 580,510
Claims priority, application Great Britain, Jan. 14, 1960, 1,466/60; May 23, 1960, 18,146/60; Nov. 10, 1960, 38,712/60
The portion of the term of the patent subsequent to July 24, 1979, has been disclaimed
Int. Cl. B28b *7/00*; C08b *25/00*
U.S. Cl. 106—38.5 12 Claims

A thermosetting composition suitable for use as a binder in a shell moulding process comprising a carbohydrate, an acid or salt of sulphuric, phosphoric or hydrochloric acid, tannins, hexamethylenetetramine, melamine and dicyandiamide.

3,513,002
CHEMICAL RESISTANT GLASS COMPOSITION FOR FIBERIZATION
Dominick Labino, Grand Rapids, Ohio, assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 29, 1966, Ser. No. 546,178
Int. Cl. C03c *13/00*, *3/08*
U.S. Cl. 106—50 7 Claims

A glass composition of a specific combination of glass forming oxides providing improved chemical resistance and of working properties amenable for fiberization into glass fibers of improved durability and suitable for use in reinforced resin products, consisting essentially of: SiO_2; B_2O_3; Al_2O_3; Na_2O; CaO; MgO; and, F_2, and optionally K_2O; BaO; and ZnO.

3,513,003
HEAT REACTIVE COLORED GLASS AND PROCESS
Friedrich W. Hammer and John Jasinski, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Sept. 7, 1965, Ser. No. 485,605
Int. Cl. C03b; C03c *3/04*, *15/00*
U.S. Cl. 106—52 7 Claims

New colored glasses are prepared from sulfur or sulfide containing amber glass compositions to which have been added nickel oxide, or copper oxide, or a metal oxide selected from the group of metal oxides of arsenic, antimony, lead, manganese, cerium and molybdenum by first forming an amber colored glass from such compositions which is capable of being heat treated to "strike" or convert the glass to a different color. The different color is produced by subjecting the amber glass to a temperature in the range of from about 1050–1200° F. to convert the nickel or copper or other named metal oxide from an oxide to a colored sulfide.

3,513,004
La_2O_3-TiO_2-Ta_2O_5-ZrO_2-BaO-B_2O_3-SiO_2 OPTICAL GLASS
Jaroslaw Kohut and Lawrence V. Pfaender, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Apr. 11, 1966, Ser. No. 541,490
Int. Cl. C03c *3/08*
U.S. Cl. 106—54 10 Claims

An optical glass composition which is productive of a glass exhibiting high resistance to thermal crystallization and which is tailored to provide in conjunction therewith such additional physical properties as chemical durability, a coefficient of thermal expansion of from 80 to 100×10^{-7} in the temperature range of 0–425° C., and an index of refraction (n_d) of from 1.77 to 1.90. The glass composition consists of at least seven essential oxides which together constitute not less than 64% by weight of the total composition. The seven essential oxides on a theoretical oxide basis are La_2O_3, TiO_2, BaO, B_2O_3, SiO_2, Ta_2O_5 and ZrO_2, which with other specific beneficial, but non-essential, oxide constituents are present together in the following relative ranges of percents by weight:

Constituent oxide	Percent by weight
La_2O_3	18–29
TiO_2	8–14
BaO	22–30
B_2O_3	7–15
SiO_2	5–15
Ta_2O_5	2–5
ZrO_2	2–9
K_2O	0–4
Na_2O	0–4
Al_2O_3	0–4
Li_2O	0–1
Nb_2O_5	0–5
WO_3	0–10

3,513,005
COATING WITH EMULSIONS

Leonard Charles Bradshaw and William James Machan Durst, Slough, England, assignors to I.B.E. Limited, Slough, Buckinghamshire, England, a British company

No Drawing. Filed Oct. 5, 1966, Ser. No. 584,381
Int. Cl. C08h 13/00; C08k 1/62; C09d 3/24
U.S. Cl. 106—277 21 Claims

A process of particular value in the formation of surfaces of bonded particulate material, in which particulate material is coated by mixing together particulate material to be coated, an aqueous alkaline non-clay stabilized bituminous emulsion, and a demulsifying agent, the bituminous emulsion comprising a surface active material comprising an organic sulphonate surface active agent having an ether linkage, the sulphonate being such, and the amounts of surface active agent and water being such, that the emulsion breaks quickly on mixing to individually substantially uniformly coat the particles of particulate material with adherent bituminous material, while the particles remain within the aqueous medium of the emulsion, and bituminous emulsions especially suitable for use in such process.

3,513,006
PROCESS FOR THE PREPARATION OF A MIXED PIGMENT

Walter Breckheimer, Bensberg, and Wilhelm Kunz, Cologne-Mulheim, Germany, assignors to Firma Oskar Neynaber & Co., A.G., Lorstedt, near Bremerhaven, Germany

No Drawing. Filed Apr. 3, 1967, Ser. No. 627,675
Claims priority, application Germany, Apr. 6, 1966, N 28,354
Int. Cl. C09c 1/14
U.S. Cl. 106—297 13 Claims

A mixed lead carbonate-lead sulfate pigment is prepared by adding sulfuric acid and carbon monoxide in amounts less than those stoichiometrically required to a slurry of lead monoxide in water, separating a coprecipitate of lead carbonate and sulfate, washing and drying the coprecipitate and then subjecting it to a thermal treatment at a temperature in the range of 150° to 300° C., preferably 200° to 230° C., and preferably in the presence of a decomposition catalyst such as a lead salt of acetic or propionic acid.

3,513,007
MIXED COATING PROCESS

Gerald Lederer, Stockton-on-Tees, England, assignor to British Titan Products Company Limited, Billingham, County Durham, England, a corporation of the United Kingdom

No Drawing. Filed July 14, 1966, Ser. No. 565,077
Claims priority, application Great Britain, July 21, 1965, 30,917/65
Int. Cl. C09c 1/36, 3/00
U.S. Cl. 106—300 6 Claims

An improved multiple step process for coating titanium dioxide pigment particles is disclosed comprising forming an aqueous dispersion of the particles, adding to the dispersion a water-soluble hydrolysable compound of silicon, titanium and/or zirconium and/or phosphate or phosphoric acid, adjusting the pH of the dispersion to a value in the range of about 3 to 7.5 and thereafter adding simultaneously to the suspension a water-soluble hydrolysable compound of aluminum, cerium and/or calcium and an alkali in such a manner as to maintain the pH value of the suspension in the range 6 to 10 throughout the addition.

3,513,008
COATED TITANIUM DIOXIDE PARTICLES AND PRODUCTION THEREOF

Leslie John Lawrence, Middlesbrough, England, assignor to British Titan Products Company Limited, Billingham, County Durham, England, a corporation of the United Kingdom

No Drawing. Filed Apr. 4, 1967, Ser. No. 628,286
Claims priority, application Great Britain, Apr. 12, 1966, 15,885/66
Int. Cl. C09c 1/36, 3/02
U.S. Cl. 106—300 6 Claims

Titanium dioxide particles, preferably of pigmentary size, coated with triethanolamine oxide, and which may also be coated with a metal oxide and/or a phosphate. A process for the production of the particles is also claimed wherein the particles are subjected to fluid energy milling during or after coating with triethanolamine oxide.

3,513,009
METHOD OF FORMING FISSURED ACOUSTICAL PANEL

Gale E. Sauer, Williamsville, and Arthur C. Austin, Kenmore, N.Y., assignors to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

Filed Dec. 27, 1965, Ser. No. 516,554
Int. Cl. B44c 1/02; B05c; D21f 11/00
U.S. Cl. 117—10 6 Claims

A building panel is formed by combining a face layer of a relatively low density mineral fiber and binder composition with a relatively dense gypsum board back layer.

3,513,010
CONVERSION FOIL

Norman T. Notley, New Orleans, La., assignor to Kalvar Corporation, New Orleans, La., a corporation of Louisiana

No Drawing. Filed July 11, 1966, Ser. No. 563,995
Int. Cl. B32b 9/06; G03c 5/22
U.S. Cl. 117—11 7 Claims

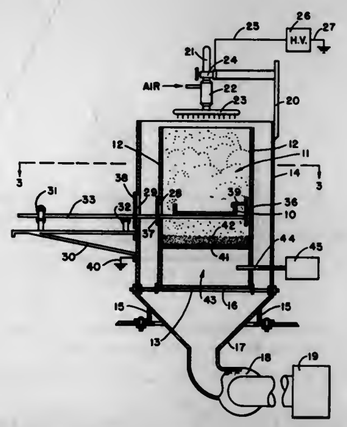
A method of making a transparency having light transmitting and opaque areas by pressing against selected areas of an opaque sheet material. The opaque sheet material is a vesicular photographic material which has been exposed overall to light and developed, the developing film having been degassed.

3,513,011
ELECTROSTATIC COATING METHOD

Emery P. Miller, Indianapolis, Ind., assignor to Ransburg Electro-Coating Corp., Indianapolis, Ind., a corporation of Indiana

Filed Apr. 22, 1966, Ser. No. 544,594
Int. Cl. B05b 5/02; B44d 1/095, 1/50
U.S. Cl. 117—17 6 Claims

An adhesive binder is applied to a surface to be coated, such as a television picture tube. A cloud of powder particles is formed. The surface to be coated is introduced into the cloud with its binder-coated surface facing upwardly. An electrostatic field is established between the binder-coated surface and an electrode above the surface. The powder particles are electrostatically charged and deposited downwardly onto the surface. In coating picture tubes the binder can contain a sensitizing agent



and be made conductive to serve as an electrode in the electrostatic field. The sensitizing agent can be activated to affix deposited phosphor powders in a dotted array.

3,513,012
MULTILAYER COATING PROCESS

Marcel A. R. Point, Grenoble, France, assignor to SAMES, Societe Anonyme de Machines Electrostatiques, Grenoble, France, a French joint-stock company

No Drawing. Continuation-in-part of application Ser. No. 355,906, Mar. 30, 1964, which is a continuation-in-part of application Ser. No. 299,786, Aug. 5, 1963. This application Dec. 19, 1968, Ser. No. 785,352
Claims priority, application France, Mar. 28, 1963, 929,621
Int. Cl. B05b 5/02; B44d 1/16, 1/08
U.S. Cl. 117—17 10 Claims

A process for coating an article with substances which are convertible by heat treatment into two or more continuous but separate solid layers. The substance forming the second layer comprises electrically charged powder particles which are electrostatically deposited on the article while the substance forming the first layer is in an unconverted condition, the electrostatic attraction between the particles preventing substantial interpenetration between the layers. The coated article is exposed to a heat treating step for simultaneously converting both substances, including the fusing of the particles into a continuous solid layer.

3,513,013
BRAZING TAPE AND METHOD OF MAKING THE SAME

William Willis and Gordon Bradley, Burnley, England, assignors to Burnley Engineering Products Limited, Burnley, England, a British company

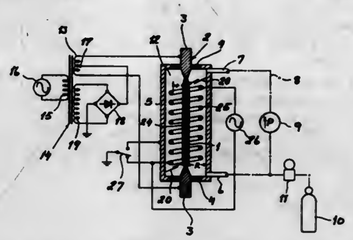
No Drawing. Filed Apr. 19, 1967, Ser. No. 631,919
Claims priority, application Great Britain, June 23, 1966, 28,125/66; Dec. 24, 1966, 57,860/66
Int. Cl. B44d 1/10, 1/12, 1/14
U.S. Cl. 117—31 10 Claims

A brazing tape including a base of a hard flexible nonporous plastic material, a coating of a powdered brazing alloy applied to the base, and an air-hardening binding agent which fixes the coating to the base and which is immiscible and unreactive with the base and completely vaporizes on heating. A method of making the brazing tape includes the steps of coating a regulated thickness of a powdered brazing alloy on a base of flexible nonporous plastic material, such as cellulose acetate, and fixing the powdered alloy to the base by spraying onto the coating an air-hardening binding agent, such as an acrylic resin, which is immiscible and unreactive with the base and completely vaporizes on heating.

3,513,014
METHOD OF AND APPARATUS FOR MAKING PYROLYTIC GRAPHITE

Kiyoshi Inoue, 100 Sakato, Kawasaki, Kanagawa, Tokyo, Japan

Filed Mar. 1, 1967, Ser. No. 619,678
Claims priority, application Japan, Mar. 7, 1966, 41/13,905
Int. Cl. C01b 31/04; F16c 33/16; C23c 13/04
U.S. Cl. 117—46 15 Claims



Method of making pyrolytic graphite by depositing same under nonoxidizing conditions and at temperatures sufficient to decompose a fluid organic vehicle wherein electric discharge promotes the uniform deposition of a layer of the graphite. A bearing produced in situ by the pyrolytic electrically-induced decomposition of lubricating oil.

3,513,015
PREVENTION OF SKIP PLATING IN AN ELECTROLESS NICKEL BATH

James E. Fitzpatrick, New Castle, Del., and Wassily Poppe, Springfield, Pa. (both % Avisun Corporation, P.O. Box 426, Marcus Hook, Pa. 19061)

No Drawing. Filed May 3, 1967, Ser. No. 635,694
Int. Cl. C23c 3/02
U.S. Cl. 117—47 8 Claims

In the art of nickel plating non-conductive articles, skip plating with an electroless nickel plating solution is minimized by contacting the article, after sensitizing with an oxidizable metal salt and nucleating with a noble metal salt, with a hydrogen peroxide solution prior to contact with the electroless nickel plating solution.

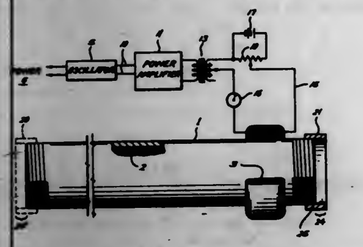
3,513,016
VIBRATIONAL BONDING

Fenton M. Wood, Sugarland, and Noel B. Proctor, Houston, Tex., assignors to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey

Filed May 5, 1967, Ser. No. 636,450
Int. Cl. B44d 1/44
U.S. Cl. 117—62 12 Claims

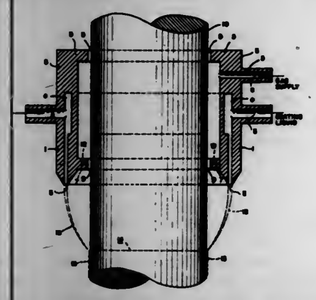
Bonding of a coating to a substrate, e.g., bonding a plastic coating to the surface of a pipe is effected by subjecting the substrate to a vibrational influence of kilocycle frequency in the sonic or in the ultrasonic range to create an amplitude of vibration at all points along the substrate. Since vibration of a substrate such as a pipe establishes standing waves in the pipe, there inevitably occur null points at which the pipe is not subjected to an amplitude of vibration. Vibration at all points along the substrate is accomplished by vibrating the pipe at different frequencies

or by alternately affixing a stub having a length corresponding in length for example to one-quarter wavelength



of the vibratory wave induced in the pipe, alternately to opposite ends of the pipe.

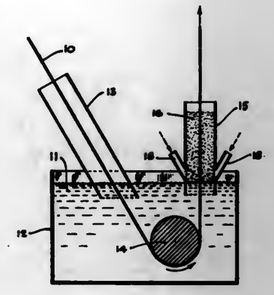
3,513,017
COATING METHOD AND APPARATUS FOR COATING LAYERS OF LIQUID MATERIAL ONTO A SUPPORT
Walter George Waters and David Robert Wight, Harrow, England, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 1, 1965, Ser. No. 460,019
Claims priority, application Great Britain, June 5, 1964, 23,340/64
Int. Cl. B44d *1/09*
U.S. Cl. 117—94 5 Claims



A method and apparatus for coating a rod-like support with a layer of liquid which comprises continuously feeding the liquid in a manner to form a uniformly thick annular curtain having the same cross-sectional profile as the support to be coated and which curtain falls freely in a vertical direction. The support to be coated is continuously moved downwardly concentrically within the annular curtain of liquid and becomes coated therewith as the curtain contracts into contact with the periphery of the support. Two or more layers of the same or different liquid can be applied to a support in this manner by forming a free falling annular curtain from each liquid, and concentrically arranging them so that they will all contract upon the surface of a support moved downwardly in concentric relation within the innermost annular curtain.

3,513,018
METHOD FOR PRODUCING WIPED METAL COATINGS
Harold L. Taylor, Hammond, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 27, 1967, Ser. No. 618,874
Int. Cl. B05c *11/10*; C23c *1/00*
U.S. Cl. 117—102 3 Claims

A process and apparatus for "wiping" the surface of a strip, such as a ferrous metal strip, to remove a portion of a fluid coating, such as a molten protective metal coating, wherein the strip with the coating in a molten state is passed through an expanded or fluidized bed to

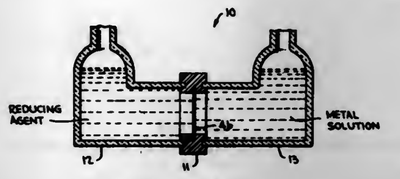


provide a residual thin coating of uniform thickness which is free of longitudinal streaks or wipe marks.

3,513,019
COATED BETA-SILICON CARBIDE WHISKERS AND PROCESS FOR THEIR PRODUCTION
William A. Miller and Alton C. Skeggs, Jamestown, N.Y., assignors, by mesne assignments, to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Filed Jan. 3, 1967, Ser. No. 606,645
Int. Cl. C04b *41/06*
U.S. Cl. 117—123 6 Claims

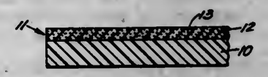
Beta-silicon carbide whiskers coated with a glassy material consisting essentially of silica and alumina are produced by surrounding a substantial portion of a permeable vessel in which a carbonaceous material, silica and alumina are incorporated, with a siliceous, aluminous melt containing a glass-forming oxidic material, thereby producing a temperature of at least about 1400° C. within the vessel, the coated whiskers being formed therein.

3,513,020
METHOD OF IMPREGNATING MEMBRANES
Hiry B. West, New York, N.Y., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Oct. 12, 1964, Ser. No. 403,021
Int. Cl. C23c *3/02*
U.S. Cl. 117—138.8 4 Claims



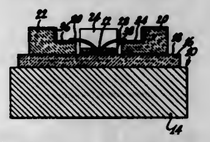
A method of fabricating a conductive catalytically active electrode for use in an electrochemical cell wherein the catalytically active metal is uniformly distributed throughout a porous plastic membrane is described. The improved method comprises simultaneously flooding one major surface of the membrane with a solution of a metal salt while flooding the second major surface with a reducing agent for the metal salt and causing the metal salt and reducing agent to react to form the catalytic metal.

3,513,021
ELECTROMAGNETIC-SENSITIVE RECORDING MEDIUM
Norman P. Sweeny, North Oaks, and Joseph A. Wiese, Jr., St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 24, 1966, Ser. No. 574,792
Int. Cl. H01f *10/02*, *10/06*
U.S. Cl. 117—201 16 Claims



A sheetlike storage medium sensitive to electromagnetic energy comprising an electrically conductive backing coated with an imaging layer comprising a binder, which releases atomic halogen upon exposure to said energy, and at least one formic acid salt of a divalent first row transition metal ion.

3,513,022
METHOD OF FABRICATING SEMICONDUCTOR DEVICES
Edgar T. Casterline, Bound Brook, N.J., and Ronald Rosenzweig, New York, N.Y., assignors to RCA Corporation, a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,835
Int. Cl. H01l *7/66*, *1/14*
U.S. Cl. 117—212 5 Claims

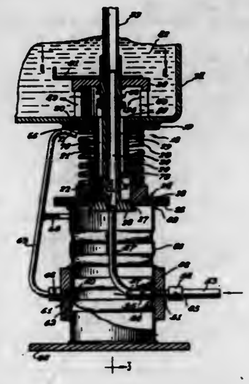


A method of fabricating pellets having leads integral therewith for mounting the pellets in semiconductor device enclosures is disclosed. The method comprises providing a plurality of semiconductor devices on a semiconductor wafer, each device having a conductive contact to which an electrical connection from a terminal of the device enclosure is to be made. The wafer is coated with a layer of insulating material, and openings are made through the layer to uncover the device contacts. A layer of metal is then deposited onto the insulating material layer, the metal layer extending through the openings and into engagement with the contacts. Using photolithographic and etching processes, a plurality of leads are defined in the metal layer. The leads are preferably interdigitated, with the leads from each device extending beyond the edges of its device and over an adjacent device. The insulating material layer underlying the leads is then removed, and the wafer is segmented into individual pellets each having leads extending beyond the edges of the pellet.

3,513,023
PROCESS FOR THE PRODUCTION OF CRYSTALLINE FRUCTOSE
Theodor Kusch, Werner Gosewinkel, and Georg Stoeck, Mannheim-Waldhof, Germany, assignors to Boehringer Mannheim Gesellschaft mit beschrankter Haftung, a corporation of Germany
No Drawing. Filed Mar. 3, 1967, Ser. No. 620,240
Claims priority, application Germany, Apr. 29, 1966, B 86,884
Int. Cl. C13f *1/02*; C13k *9/00*
U.S. Cl. 127—58 12 Claims

Crystalline, anhydrous fructose in a stable and storable form can be recovered from aqueous fructose solutions having a pH of 3.5 to 8.0 and a fructose content of at least 95 percent referred to the dry material by a process in which such fructose solution is concentrated in vacuo so that the water content of the concentrate amounts to between 2 and 5 percent and the solutions cooled to a temperature of 60–85° C. seeded with crystalline fructose and stirred vigorously while the temperature is maintained at 60–85° C. In a comparatively short period of time, there is obtained a kneadable crystalline mass which after slow cooling, solidifies completely. The solid product following grinding and further drying at a temperature below 65° C. consists of anhydrous crystalline fructose.

3,513,024
METHOD FOR CLEANING AUTOMATIC LIQUID FILLING MACHINE VALVES
Lawrence M. Cullifton, Modesto, Calif., assignor to The Diversey Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 19, 1968, Ser. No. 699,188
Int. Cl. B08b *9/00*
U.S. Cl. 134—22 7 Claims

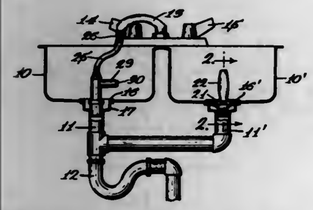


A method for in-place cleaning of valve mechanisms and related equipment used on liquid filling machines in the canning industries: i.e. canning, dairy, beverage, juices, bases, concentrates of all types and flavors etc. whether the filling be in metal, glass, plastic, paper or any other type of container. Cleaning is effected by filling the machine with a cleaning liquid, placing containers essentially of the same size as are filled by the machine in filling position, filling the containers with cleaning liquid by opening the valves and, while the valves are open, supplying gas under pressure into the cleaning liquid in the containers thereby causing a turbulent scrubbing action which removes soil.

3,513,025
PROCESS AND APPARATUS FOR CLEANING DRAINS
Robert J. Gutrich, 10950 S. Homan Ave., Chicago, Ill. 60655
Filed Jan. 22, 1968, Ser. No. 699,734
Int. Cl. B08b *9/06*
U.S. Cl. 134—24 8 Claims

Process and apparatus for cleaning drains and particularly a kit and components thereof for unplugging the common outlet conduit of a dual sink, comprising a closure plug for frictional engagement within the mouth of the drain opening of one of said sinks, a tubular plug for frictional engagement within the mouth of the drain opening

of the second one of said sinks, and conduit means for engagement with said tubular plug and with the sink spigot



for directing water under pressure from said spigot to said outlet conduit.

3,513,026
METHOD OF WASHING ANIMAL CAGES AND OTHER SIMILAR DEVICES IN A WASHER
Richard B. Kennedy, Ridgefield, Conn., assignor to Better Built Machinery Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 4, 1968, Ser. No. 709,929
Int. Cl. B08b *3/08*
U.S. Cl. 134—27 12 Claims

Washing articles contaminated with animal wastes, using a sequence of acid wash followed by caustic wash or washes. The acid wash descales urine etc. scales; the caustic neutralizes, besides its detergent effect, and is employed before draining or dumping, to avoid acid-damage to drain pipes. One or more rinses may follow the dumping. For economy of water, the caustic wash may be effected by adding caustic directly to the used acid wash bath in situ to neutralize the acid therein and to raise the pH to caustic wash value.

3,513,027
SOLID ELECTROLYTE AND SOLID ELECTROLYTE BATTERY SYSTEM
Charles Chi Liang, Andover, and James Epstein, Sharon, Mass., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Mar. 27, 1969, Ser. No. 811,119
Int. Cl. H01m
U.S. Cl. 136—83 4 Claims

A solid electrolyte battery is provided with a separator having the composition $4LH\text{-}NH_4I$, having a high conductivity. It is particularly useful with a cathode of composition MAg_4I_5, where M may be either NH_4 or K or Rb; and with an anode of active metal, such as lithium.

3,513,028
FUEL CELL COMPRISING AN ELECTRODE CONTAINING A TRANSITION METAL BORIDE AND A METHOD OF MAKING A FUEL CELL ELECTRODE CONTAINING A COATING OF TRANSITION METAL BLACK
Mark Salomon, Ottawa, Ontario, Canada, assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
No Drawing. Filed Apr. 20, 1964, Ser. No. 361,293
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 9 Claims

1. In a fuel cell comprising a housing, an electrolyte, a fuel electrode, and an oxidizing electrode, the improvement wherein at least one electrode contains at least catalytic amounts of a metal boride, said metal being a transition metal selected from Groups III–VIII of the Mendelyeev's Periodic Table.

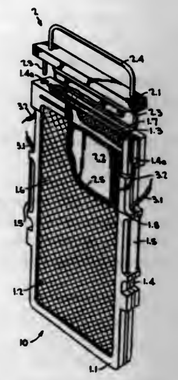
2. The method for forming an electrode for use in a fuel cell comprising the steps of applying a uniform surface of metal black to a porous structure comprising impregnating a porous structure with a solution of a Group VIII transition metal salt and, thereafter, impregnating said porous structure with an alkali borohydride, whereby a coating of said transition metal black is formed in the internal pores of said structure.

3,513,029
FUEL CELL AND ELECTRODES THEREFOR
Jose D. Giner, Glastonbury, and John H. Sizer, Jr., Vernon, Conn., assignors, by mesne assignments, to Leesona Corporation, Cranston, R.I., a corporation of Massachusetts
Filed Sept. 10, 1964, Ser. No. 395,441
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 11 Claims



An improved fuel cell comprising a bi-porous electrode structure in which the fine pore layer of the bi-porous structure is covered with a distinct third layer is described. In disposing of the aforesaid electrode in the fuel cell the third layer is in contact with the electrolyte of the cell.

3,513,030
METAL/AIR BATTERIES
Martin G. Rosansky, Forest Hills, and Bruce Jagid, Whitestone, N.Y., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Feb. 8, 1967, Ser. No. 614,685
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 10 Claims

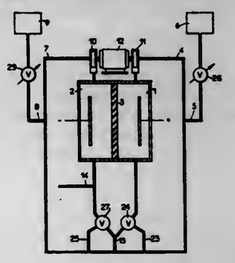


A lightweight metal/air or metal/oxygen battery is described comprising a non-consumable envelope cathode comprising a hydrophobic membrane and a conductive catalytic coating on the inner surface of said membrane, a consumable replaceable metal anode positioned within the cathode and an electrolyte between the anode and cathode. The replaceable, consumable anode and non-consumable cathode are constructed and arranged to permit the anode to be plugged into the cathode. A redundant wiring system is set forth. By means of a screw mechanism and pressure plate, the pressure on the individual cells can be quickly applied and released, again facilitating the replacement of the anodes.

3,513,031
GAS-DEPOLARIZED CELL WITH ALUMINUM ANODE
Solomon Zaromb, 376 Monroe St., Passaic, N.J. 07055
Continuation of application Ser. No. 354,084, Mar. 23, 1964. This application July 27, 1967, Ser. No. 656,595
Int. Cl. H01m *27/00, 27/12*
U.S. Cl. 136—86 2 Claims

An alkaline aluminum-air power source is disclosed comprising an electrolyte reservoir; electrolyte circulation means, means for removing the reaction product and for replacing the anodes, and means of inhibiting corrosion of said anodes through provisions for withdrawal of electrolyte from battery cells on shut-off and for maintaining a current density in excess of 10 milliamperes/cm.^{2} during operating periods.

3,513,032
ELECTROLYTIC CYCLE FOR A FUEL CELL HAVING A SEMI-PERMEABLE MEMBRANE
Bernard Warszawski, Paris, France, assignor to Societe Generale de Constructions Electriques et Mecaniques (Alsthom), Paris, France, a corporation of France
Filed Feb. 26, 1968, Ser. No. 708,034
Claims priority, application France, Feb. 24, 1967, 2,736
Int. Cl. H01m *27/26*
U.S. Cl. 136—86 4 Claims

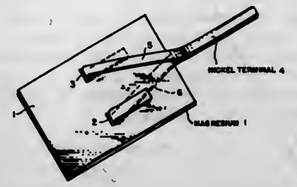


Two loops, an anodic and a cathodic loop of an electrolytic cycle for a fuel cell are joined at a common trunk line, so that anodic and cathodic electrolyte is mixed together, and imbalance of reagents in the anodic and cathodic branches is overcome; by adjustment of addition of reagents, for full consumption during passage through the cell, undesired mixing of anodic and cathodic reagents can be avoided. Additionally, bypasses can be provided so that only a portion of the anodic and cathodic electrolyte is mixed.

3,513,033
DRY CELL
Jun Watanabe, Kobe, Susumu Hosoi, Osaka, Masahiro Kuwazaki, Moriguchi-shi, Tadashi Sawai, Kyoto, and Hiroto Ueno, Hirakata-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Apr. 29, 1968, Ser. No. 724,689
Claims priority, application Japan, May 6, 1967, 42/29,291, 42/29,294, 42/29,295
Int. Cl. H01m *21/00*
U.S. Cl. 136—107 13 Claims

A dry cell comprising a zinc casing serving as the negative electrode, a cathodic mixture disposed in said zinc casing, a separator interposed between said zinc casing and said cathodic mixture, and an electrolyte retained in said separator, said separator being composed of a paste powder and a thermoplastic resin powder which will form, upon being fused with heat, a net structure capable of retaining said paste powder therein, and said electrolyte being retained by said paste powder gelatinized within said net structure.

3,513,034
TERMINAL FOR THERMAL CELLS
Adolph Fischbach, Elberon Park, and John E. Teti, West Long Branch, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 6, 1956, Ser. No. 577,908
Int. Cl. H01n *13/10*
U.S. Cl. 136—134 2 Claims



1. A negative electrode for thermal cells comprising a thin, flat electrode plate and a terminal, said terminal consisting of a metal tab, one end of said metal tab being bifurcated, the two legs of said bifurcated end being placed over said metal plate one on each side with the end of each leg folded over a free edge of the metal plate.

3,513,035
SEMICONDUCTOR DEVICE PROCESS FOR REDUCING SURFACE RECOMBINATION VELOCITY
Desmond J. Fitzgerald and Andrew S. Grove, Palo Alto, and Edward H. Snow, Mountain View, Calif., assignors to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Nov. 1, 1967, Ser. No. 679,761
Int. Cl. H01l *7/54*
U.S. Cl. 148—1.5 11 Claims

A semiconductor device process for reducing surface recombination velocity, particularly in bipolar transistors, in order to provide increased current gain at low collector current. The process comprises irradiating the oxidized silicon surface of the device with ionizing radiation in order to increase the surface recombination velocity therein from an initial value to a high value, and then annealing the surface in order to reduce said velocity down to a low final value that is less than the initial value.

3,513,036
PROCESS FOR PRODUCING COILED, HOT-ROLLED, PICKLED STEEL STRIP
William H. McFarland, Hobart, and Henry M. Tietz, Gary, Ind., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed May 2, 1967, Ser. No. 635,371
Int. Cl. C21f
U.S. Cl. 148—12 14 Claims

Coiled, hot-rolled, pickled steel strip containing 0.02–0.25 wt. percent carbon and 0.04–0.60 wt. percent manganese. Surface and interior grain size no greater than 5 ASTM. Hardness no greater than 55 Rockwell B. Drawable without orange peel. Thickness between 0.060 and 0.25 inch, all widths.

Process includes heating slab above A_3, hot-rolling, lubricating hot-rolled strip and finishing at no greater than 1450° F., coiling at no greater than 950° F., cooling,

uncoiling, pickling without avoiding cold-working, abrading to remove scale, recoiling, annealing without avoiding recrystallization, temper rolling before or after anneal.

3,513,037
METHOD OF REFINING THE STRUCTURE OF SUPERPLASTIC ZINC BASE ALLOYS

Cedric Charles Edward Colley, Wheatley, England, assignor to Pressed Steel Fisher Limited, Cowley, Oxford, England, a corporation of Great Britain

No Drawing. Filed Jan. 19, 1968, Ser. No. 699,041
Claims priority, application Great Britain, Feb. 1, 1967, 4,796/67
Int. Cl. C22f 1/16
U.S. Cl. 148—13 2 Claims

Superplastic metal alloys, such as the eutectoid alloy or near eutectoid alloys of zinc and aluminum, are treated to refine the grain structure and thereby increase the superplasticity by maintaining the alloy at sub-ambient temperature whilst it is in a high temperature solid phase state and then warming the alloy to at least ambient temperature before the transformation to a lower temperature solid phase state is complete.

3,513,038
METHOD FOR PRODUCING FRAGMENTING STEEL

Rolf Weil, Hoboken, N.J., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Nov. 18, 1965, Ser. No. 508,606
Int. Cl. C21d 9/16
U.S. Cl. 148—19 4 Claims

A method for producing forged steel ordnance device exhibiting improved fragmentation properties attributable to the formation of a brittle and continuous grain boundary network in a steel of hypereutectoid composition or in a hypoeutectoid steel carburized in the hypereutectoid, and methods for making such a device. The device is first heated to the austenite-iron carbide region of the iron-iron carbide equilibrium diagram until carbide precipitation occurs on the austenite grain boundaries, and thereafter the article is quenched to form martensite, and then tempered.

3,513,039
PROCESS FOR REDUCTION OF CORE LOSSES IN CUBE TEXTURED IRON-SILICON ALLOYS

Dietrich Ganz, Hanau, Germany, assignor to Vacuumschmelze G.m.b.H., Hanau, Germany, a corporation of Germany

No Drawing. Filed May 12, 1967, Ser. No. 637,914
Claims priority, application Germany, Sept. 14, 1966, V 31,935
Int. Cl. C21d 1/26, 7/02; H01f 1/04
U.S. Cl. 148—111 9 Claims

The eddy current losses for a cube textured iron-silicon alloy sheet material are reduced by a cold reduction of from 0.5 to 2% in thickness followed by an anneal at a temperature of from 750 to 1100° C. A reduction in total losses is effected at frequencies above 50 c.p.s.

3,513,040
RADIATION RESISTANT SOLAR CELL

Stephen Kaye, Pasadena, Louis Garasi, Los Angeles, and Geza P. Rolik, La Canada, Calif., assignors, by mesne assignments, to Xerox Corporation, a corporation of New York

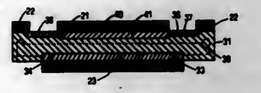
Original application Mar. 23, 1964, Ser. No. 354,077, Divided and this application Apr. 12, 1967, Ser. No. 634,425
Int. Cl. H01l 7/46
U.S. Cl. 148—178 3 Claims

Method for fabricating radiation resistant solar cell by alloying a graded base region to a low resistivity substrate of semiconductor material of the same conductivity type, the graded base region being substantially thinner than the substrate and increasing in resistivity away from the substrate, and providing a thin region of the opposite conductivity type atop the graded base region.

3,513,041
FABRICATION OF A GERMANIUM DIFFUSED BASE POWER TRANSISTOR

Daniel J. Sullivan, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Original application June 19, 1967, Ser. No. 647,008. Divided and this application Dec. 16, 1968, Ser. No. 803,506
Int. Cl. H01l 7/46
U.S. Cl. 148—178 7 Claims

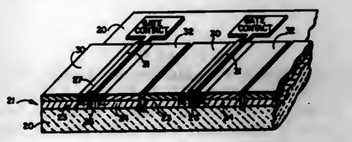


A germanium PNP alloy-diffused base power transistor is made by a critical sequence of steps beginning with the formation of a gallium doped collector junction in a high resistivity N-type germanium die. The alloy-diffused base region and base contact layer are then formed by alloying an antimony-doped lead preform to the opposite surface of the germanium die. The alloy layer is formed at a peak temperature of about 830° C., followed by an extended post-alloy-diffusion period of about four hours at 825° C., thereby producing a deep diffusion gradient in the base region, needed for a high voltage, high frequency, power transistor. The entire lead-antimony preform is removed, followed by the formation of an alloyed indium-aluminum emitter region penetrating the antimony alloyed base contact layer to form an emitter-base junction at a depth slightly greater than the antimony-doped alloy region. The indium-aluminum emitter produces high current gains, and the resulting wide base-width enables the transistor to endure high voltage and high current operating conditions, without failing, due to the secondary breakdown effect. The base contact is made by fusing a lead-tin-antimony ring in contact with the alloyed layer of the base region.

3,513,042
METHOD OF MAKING A SEMICONDUCTOR DEVICE BY DIFFUSION

Peter J. Hagon, Corona Del Mar, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Continuation of application Ser. No. 425,694, Jan. 15, 1965. This application May 20, 1968, Ser. No. 755,474
Int. Cl. H01l 7/44
U.S. Cl. 148—187 7 Claims



A process for producing semiconductor devices on a thin layer of semiconductor material which is bonded to an electrically insulating substrate. A protective coating is provided on a portion of the layer and conductivity determining dopants are diffused into the semiconductor to an effective diffusion depth greater than the thickness of the layer. This dopes through its entire thickness a

region of the semiconductor extending beneath the coating. The interface between the doped and undoped regions forms a semiconductor junction which is essentially perpendicular to the substrate. A second semiconductor region may be simultaneously or subsequently diffused thereby producing in the layer a channel of unchanged conductivity type semiconductor material, the channel having adjacent regions of different resistivity.

3,513,043
COMPOSITE SOLID PROPELLANTS CONTAINING A PERFLUOROETHYLENE RESIN, METAL AND A FLUOROELASTOMER

Charles H. Burnside, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

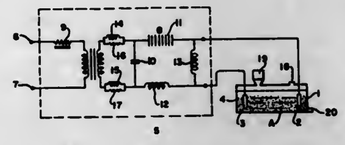
Filed Nov. 4, 1958, Ser. No. 771,925
Int. Cl. C06d 5/00
U.S. Cl. 149—19 15 Claims

5. A solid propellant composition comprising 30 to 45 weight percent of an inorganic oxidizing agent selected from the group consisting of the ammonium, alkali metal, and alkaline earth metal salts of nitric, chloric, and perchloric acids, 30 to 40 weight percent of polytetrafluoroethylene resin, 13 to 28 weight percent of a copolymer of vinylidene fluoride and hexafluoropropylene, and 2 to 14 weight percent of a powdered material selected from the group consisting of silicon, boron and a metal having a molecular weight up to 30.

3,513,044
METHOD FOR THE PRODUCTION OF A HIGH ENERGY FUEL EMPLOYING ELECTRIC SPARK DISCHARGE

Wataru Ishibashi, Nosu, Japan, assignor to Iwatani & Co. Ltd., Osaka, Japan

Filed Sept. 27, 1967, Ser. No. 670,872
Int. Cl. C06b 15/00
U.S. Cl. 149—87 12 Claims



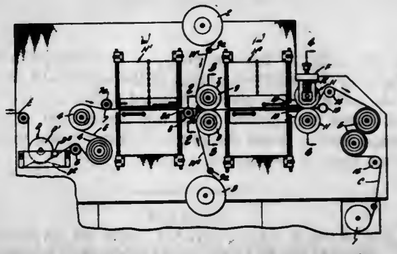
A method for the production of jet and rocket engine fuels, which comprises the steps of comminuting metals, alloys thereof or carbon into particles or pellets preferably of uniform sizes, and simultaneously dispersing them in liquid hydrocarbon into a mixture. Electric spark discharges are induced by pairs of electrodes in the mixture among the pellets, whereby the pellets are cracked into gases and carbon particles until dispersions occur.

3,513,045
METHOD OF MAKING FLAT ELECTRICAL CONDUCTOR CABLE

Leroy L. Emmel, Inglewood, and William Alvarez, Placentia, Calif., assignors to Haveg Industries, Inc., Wilmington, Del., a corporation of Delaware

Filed Nov. 14, 1966, Ser. No. 594,099
Int. Cl. H01b 13/06
U.S. Cl. 156—55 11 Claims

A method for making flat electrical conductor cable having a plurality of conductor elements encased in an insulating sheath. First and second plastic webs of material are fed toward a tacking station. Simultaneous with the feeding of the first and second plastic webs, at least one electrical conductor is fed to the tacking station. The webs, before reaching the tacking station, are heated so that the confronting surfaces are raised above their melting temperature and so that these surfaces become tacky. The electrical conductor is then sandwiched between the plastic webs, the confronting surfaces of the webs being joined together. The sandwiched assembly is then heated and finally fed to a pair of rolls maintained at a tempera-



ture below that at which the plastic material is tacky. The cool rolls exert a laminating pressure on the sandwiched assembly and thereby serve the dual and simultaneous functions of shaping the sandwiched assembly into the desired final shape and solidifying the assembly in its final shape.

3,513,046
MANUFACTURE OF DOUBLE-BACKED TUFTED CARPETS

Donald Westfield, Sarnia, Ontario, Canada, assignor to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate

No Drawing. Filed June 30, 1967, Ser. No. 650,241
Claims priority, application Canada, Aug. 9, 1966, 967,437
Int. Cl. D05c 15/04
U.S. Cl. 156—72 7 Claims

In the manufacture of double-backed tufted carpets, anchoring of the tufts and adherence of the scrim backing material to the base are accomplished by applying a layer of foamed latex compound to the underside of the base and pressing the scrim backing onto the foamed layer and against the base so as to destroy the foam structure.

3,513,047
PROCESS FOR PRODUCING CUSHIONLESS RETREADED TIRES

Frederick D. Campbell, Harbor City, and Robert L. Torian, South San Gabriel, Calif., assignors to Tread Rubber Corporation, Los Angeles, Calif., a corporation of California

No Drawing. Continuation-in-part of application Ser. No. 502,562, Oct. 22, 1965. This application Sept. 26, 1968, Ser. No. 763,016
Int. Cl. B29h 5/04, 17/02
U.S. Cl. 156—96 1 Claim

The invention is a tire retreading process in which uncured tread rubber is applied to the periphery of the tire carcass by an adhesive solution comprising rubber, zinc oxide, stearic acid, mercaptobenzothiazole and phenylbeta naphthyl amine, together with an accelerator or accelerator activator, and finally vulcanizing the assemblage.

3,513,048
METHOD FOR MAKING A PATCH STRUCTURE FOR FABRICS

Benjamin L. Snyder, Union, N.J., assignor to Pentapco, Inc., Elizabeth, N.J., a corporation of New Jersey

Filed July 28, 1966, Ser. No. 568,650
Int. Cl. B32b 35/00
U.S. Cl. 156—98 4 Claims

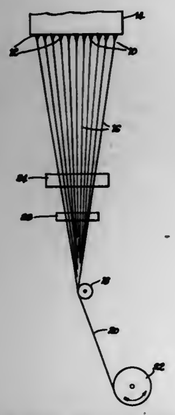
A thermoplastic film piece is bonded onto the back of the damaged fabric to cover the hole, and another is bonded

onto the back of a fabric piece which is to be used to repair the hole. A round hole is made in the plastic backed area of the torn member so the damage hole is in the cut-out. A round disc is cut out of the plastic-backed repair piece, for insertion as a plug into said round hole.



On the back of the assembly, a thermoplastic film is bonded to the plastic backings of the assembled parts and a thin cotton fabric piece is bonded to the last-mentioned film. Since the plastic films are applied to cover the damage and to cover the patch, before cutting the fabric pieces, there is no fraying.

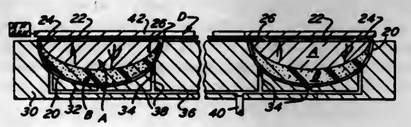
3,513,049
GLASS FIBER TREATMENT FOR ELASTOMERIC REINFORCEMENT AND COMPOSITIONS
Alfred Marzocchi, Cumberland, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Oct. 28, 1965, Ser. No. 505,564
Int. Cl. B29h *9/02*; D04h *3/08*; C03c *25/02*
U.S. Cl. 156—180 **8 Claims**



In the treatment of glass fibers to enhance their bonding relationship when used as a reinforcement for elastomeric materials in the manufacture of glass fiber-elastomeric products, wherein the individual glass fibers are treated in forming with a size composition containing an elastomeric component, the treatment of the sized glass fibers with a coagulant to set the elastomeric material on the glass fiber surfaces or with a non-solvent to prevent seizure of the glass fibers during processing to the form desired for use as a reinforcement.

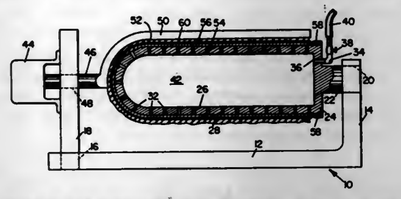
3,513,050
CUSHIONED TOILET SEAT AND METHOD FOR MAKING SAME
Stanley J. Samuels, 2031 Locust St. 19102, and Samuel Samuels, 1801 John F. Kennedy Blvd. 19103, both of Philadelphia, Pa.
Filed July 20, 1967, Ser. No. 654,883
Int. Cl. B32b *3/00*
U.S. Cl. 156—196 **3 Claims**

This invention comprises a cushioned toilet seat in which a foam rubber cushion element is superimposed upon a rigid base member of annular configuration, and a plastic skin is vacuum formed thereabout with lapped over heat sealed joints at the marginal edges of the base member. Apertures in the bottom of the plastic sole sheet communicate with channels extending through the base member to permit air entrapped within the cushion



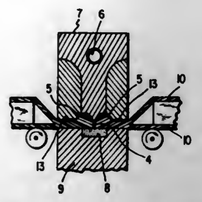
to be expelled when the skin is compressed against the cushion.

3,513,051
METHOD OF APPLYING LINERS WITH A PROTECTIVE COVER, TO ROCKET MOTOR CASINGS
William H. Lichfield, Corinne, Utah, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 14, 1966, Ser. No. 533,893
Int. Cl. B29c *17/08*; B32b *31/04, 31/12*
U.S. Cl. 156—242 **11 Claims**



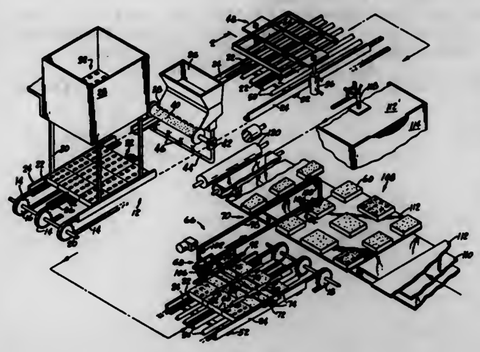
A method for forming and applying a liner having a protective cover to a rocket motor casing wherein a mold is employed where the outer surface of which conforms to and in a spaced interfit to the surface of a rocket motor casing, such mold surface encased with a bleeder cloth and covered with an impervious flexible sheet which is sealed to the mold surface and the air is evacuated from the space between the flexible sheet and mold surface through an air passage whereupon the uncured liner material is spread over the sheet in a plastic condition, shaped and cured to a thickness to interfit, and positioned adjacent to, the surface of the rocket motor casing, after which the liner and the flexible sheet is pressurized against said casing, whereupon the seal is then broken and the mold surface and bleeder cloth are then removed.

3,513,052
METHOD OF FORMING A FILM PACKAGE
Kenji Ariyasu and Akira Tsuji, Kanagawa, Japan, assignors to Fuji Photo Film Co., Ltd., Nakanuma, Minami-Ashigara Machi, Ashigara-Kamigun, Kanagawa, Japan
Filed Apr. 10, 1968, Ser. No. 720,260
Claims priority, application Japan, Apr. 12, 1967, 42/30,656
Int. Cl. B32b *31/20*; B65d *33/22*
U.S. Cl. 156—251 **1 Claim**



A packagebag made of plastic film for packaging an article having enlarged beads formed in the periphery of the bag by melting the edge of the package film and sealed portions being formed in the inner edge of the beads.
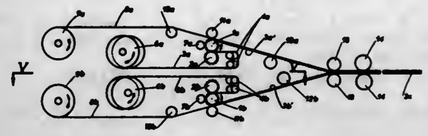
3,513,053
PALLET MAKING APPARATUS AND METHOD
Matthew A. Sullivan, Elkins Park, Pa., assignor to Sullifoam, Inc., Willow Grove, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 622,808, Mar. 13, 1967. This application Apr. 29, 1968, Ser. No. 724,952
Int. Cl. B32b *31/18*
U.S. Cl. 156—264 **10 Claims**



Apparatus and a method for making pallets of composite construction, with a plastic polymeric core and outer elements of fibrous sheet material such as corrugated board. The apparatus comprises a conveyor, hopper means for feeding the core to the conveyor, means associated with the conveyor for applying adhesive to the core, severing means associated with the conveyor for dividing the core into a plurality of discrete core elements, moving support means for supporting sheet elements and conveying the elements to a location adjacent the conveyor, transport means for engaging the discrete core elements and transporting the elements in predetermined relation to each other to a sheet element on the conveyor, and means associated with the conveyor for transporting another sheet element into vertical juxtaposition with the discrete core elements and the first-mentioned sheet elements and placing the sheet elements over the discrete elements in contact with the respective faces of the discrete elements. The method comprises the steps of providing a core of plastic polymeric material having a plurality of interconnected discrete segments, severing the core to disconnect the segments, applying adhesive to the respective opposite faces of the segments, spacing the segments by a predetermined distance, placing the segments in spaced relation on a sheet element of predetermined dimensions, and placing a second sheet member of predetermined dimensions in contact with opposite faces of the discrete segments.

3,513,054
PROCESS FOR CONTINUOUS MANUFACTURE OF RIGID CORRUGATED CARDBOARD WITH CROSSED CORRUGATIONS
René Carrel, Lyon, France, assignor to Societe des Forges et Ateliers du Creusot, Paris, France, a company of France
Filed July 28, 1967, Ser. No. 656,889
Claims priority, application France, July 29, 1966, 71,360
Int. Cl. B31f *1/22*
U.S. Cl. 156—292 **2 Claims**

A process for continuous manufacture of rigid corrugated cardboard with crossed corrugations, characterised in that two webs of corrugated cardboard with oblique corrugations are made, each by passages of a cardboard web between two co-operating corrugating cylinders wtih helical grooving, this web being introduced between these two cylinders in a direction forming with the generatrices of the two cylinders a given angle such that deformation of the web in the grooves in the cylin-



ders imposes on the corrugated web a movement in a direction perpendicular to these generatrices, and the two corrugated webs are each provided with a covering web before they are joined by gluing the crests of the oblique corrugations which cross each other. Apparatus for carrying out this process.

3,513,055
METHOD OF PREPARING HEAT-SEALABLE COMPOSITE SHEETS
Wilbur T. Brader, Jr., Swarthmore, and Charles M. Rosser, Wallingford, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 12, 1964, Ser. No. 410,768
Int. Cl. C09j *5/00, 5/02*
U.S. Cl. 156—307 **6 Claims**

A method of preparing heat-sealable composite sheets wherein a flexible cellulosic base sheet is treated with a combination of polyalkylenimine and an inorganic, water-soluble oxidizing agent, and the resulting sheet laminated or coated with a resinous material, is disclosed herein.

3,513,056
STRUCTURAL BONDING USING BRANCHED BLOCK COPOLYMERS
Terence C. Middlebrook, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 13, 1966, Ser. No. 520,364
Int. Cl. C09j *5/06*; B32b *15/04*
U.S. Cl. 156—309 **3 Claims**

Branched block rubbery copolymers produced from a conjugated diene and a vinyl-substituted aromatic compound wherein the terminal blocks of the branches of the polymer contain polyvinyl-substituted aromatic compound are employed for bonding structural materials together.

3,513,057
METHOD OF ADHERING OLEFIN COPOLYMERS TO NATURAL AND SYNTHETIC MATERIALS
Luigi Falcone, Como, and Mario Milano, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
No Drawing. Filed Nov. 10, 1964, Ser. No. 410,278
Claims priority, application Italy, Nov. 11, 1963, 23,418/63
Int. Cl. C09j *3/12*; C08d *13/24*
U.S. Cl. 156—333 **1 Claim**

Improved process for bonding textile fiber to elastomeric ethylene/higher alpha-olefin copolymer comprising coating fiber with a single aqueous dispersion of phenol/aldehyde resin and latex of chlorosulfonated ethylene/higher alpha-olefin copolymer containing from about 0.1 to 5% by weight thereof of sulfur and from about 1 to 40% by weight thereof of chlorine and a surface active agent consisting of a mixture of a nonionic surfactant and an anionic surfactant, the aqueous dispersion having been allowed to stand from 40 to 80 hours and having a pH from about 7 to 8; after coating fiber with aqueous dispersion, coated fiber is dried and elastomeric ethylene/

higher alpha-olefin copolymer composition containing vulcanizing agents is contacted therewith and vulcanized in the usual manner.

3,513,058
CONTINUOUS EQUIPMENT FOR LABELING MEAT PACKAGES

Paul R. Pruick, Casa Grande, Ariz., assignor to The Sugardale Provision Company, Canton, Ohio, a corporation of Ohio

Filed Nov. 16, 1966, Ser. No. 594,811
Int. Cl. B32b
U.S. Cl. 156—388 10 Claims

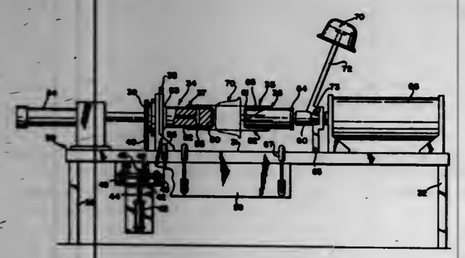


Continuous labeling equipment for labeling meat products packages, each having a package edge flange, with a folded pressure-sensitive label adhering to the surfaces of the flange. A main conveyor belt supports the moving packages. A pair of secondary endless belts are adjacent the edges of the main belt and a pair of outer belts are adjacent the edges of the secondary belts. All of the belts are moved in one direction with synchronized movement. The package edge flanges overlie one secondary belt, and label applying means for applying one edge zone of a pressure-sensitive label to the upper surface of each flange overlies the same secondary belt. Means for printing indicia on the label overlies the secondary and outer belts. There is means for folding the label to U-shape to locate an outer label edge zone beneath the package flanges and means for pressure-sealing the edges of the label to both sides of the flange.

3,513,059
APPARATUS FOR MAKING REINFORCED FLEXIBLE DIAPHRAGMS

John O. Prohaska, San Clemente, Calif., assignor to The Mansfield Tire and Rubber Company, Mansfield, Ohio, a corporation of Ohio

Original application Jan. 24, 1967, Ser. No. 630,478, now Patent No. 3,408,439, dated Oct. 29, 1968. Divided and this application Aug. 2, 1968, Ser. No. 803,492
Int. Cl. B29c *17/06*
U.S. Cl. 156—446 2 Claims

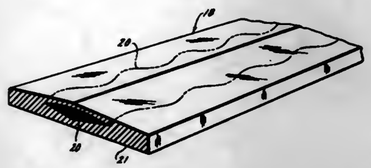


Apparatus for making a flexible diaphragm by rotating a mandrel relative to another mandrel so that one end of a sleeve mounted on the mandrel is rotated relative to the other end of the sleeve on the mandrel to constrict their portion between the mandrels. Subsequently, one end of the sleeve is folded over the other to form a double-walled cup. Heat and pressure is applied to mold the shaped cup to its final form.

3,513,060
EXTRUDED SHEET MATERIAL HAVING DIFFERENTIALLY COLORED BANDS AND METHOD FOR MAKING SAME

Joseph P. Krystof, Kensington, Conn., assignor to Rowland Products, Incorporated, Kensington, Conn., a corporation of Connecticut

Original application May 13, 1963, Ser. No. 279,919, now Patent No. 3,274,646, dated Sept. 27, 1966. Divided and this application Feb. 25, 1966, Ser. No. 547,097
Int. Cl. B44f *1/00*; B29f *3/10*
U.S. Cl. 161—5 11 Claims



Synthetic thermoplastic sheet material having a differentially colored undulating band is formed by injecting continuously into the mainstream of fluid plastic material a second mainstream of differentially colored fluid thermoplastic material. The second stream is of lesser depth and width and the point of injection is reciprocated substantially rectlinearly transversely of the mainstream. The band portion has at least a substantial portion of its length extending at an oblique angle to the longitudinal axis in the form of an undulation and the margins are relatively sharply defined.

3,513,061
SYNTHETIC TURF SURFACE

John Vlaicki, Decatur, Ala., assignor to Monsanto Company, a corporation of Delaware

Filed Jan. 2, 1968, Ser. No. 695,189
Int. Cl. D03d *27/00*
U.S. Cl. 161—21 5 Claims



A synthetic turf is disclosed which is particularly useful as a golf green. The turf is a woven fabric having cut thermoplastic monofilament ribbons extending from a base. A portion of the ribbons are of one length and the remainder are at least twice as long. The longer ribbons have a curved portion which simulates natural grass. The ribbons have a denier of 300–1200, a width of 0.01"–0.3" and a thickness of 0.001" to 0.003".

The method of making the same comprises fabricating a carpet structure having a backing from which extends a plurality of courses of loops of a synthetic filament, the loops being positioned in rows extending transverse to the courses. A first row of loops is severed near the tips thereof and a second row of loops adjacent to the first row is pulled to remove from the backing that portion of each filament extending to the point of severing in the first row. The severing and pulling steps are repeated sequentially along the carpet to transform it from a loop to a cut pile carpet.

3,513,062
SYNTHETIC TURF SURFACE

John Vlaicki, Decatur, Ala., assignor to Monsanto Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 695,189, Jan. 2, 1968. This application May 14, 1968, Ser. No. 728,983
Int. Cl. D03d *27/00*
U.S. Cl. 161—21 9 Claims



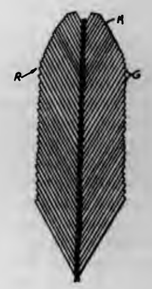
A synthetic turf is disclosed which is particularly useful as a golf green. The turf is a woven fabric having cut thermoplastic monofilament ribbons extending from a base. At least 20% of the ribbons are of one length and at least 20% of the ribbons are at least twice as long. The longer ribbons have a curved portion and intermingle with each other over a substantial surface area of the turf to give the appearance and feel of natural grass.

The method of making the same comprises fabricating a carpet structure having a backing from which extends a plurality of courses of loops of a synthetic filament, the loops being positioned in rows extending transverse to the courses. A first row of loops is severed near the tips thereof and a second row of loops adjacent to the first row is pulled to remove from the backing that portion of each filament extending to the point of severing in the first row. The severing and pulling steps are repeated sequentially along the carpet to transform it from a loop to a cut pile carpet.

3,513,063
ARTIFICIAL CHRISTMAS TREE CONSTRUCTION

Jack Sloane, Richmond Hill, N.Y.
(90—02 Atlantic Ave., Ozone Park, N.Y. 11416)

Filed Mar. 31, 1967, Ser. No. 627,356
Int. Cl. A47g *33/06*
U.S. Cl. 161—22 8 Claims



The disclosure sets forth a novel artificial Christmas tree made of sheet plastic which has been imprinted by an engraved cylinder and/or by an intaglio process to give a mottled appearance, consisting of a combination of blue and green which realistically presents the color and surface effect of a blue spruce Christmas tree. The subject matter is designed for application after cutting and assembly to form a plurality of finely threaded leaf structures to be used as artificial Christmas trees, decorations, wreaths, sprays and garlands. The narrow strips of the cut imprinted plastic are assembled by means of twisted wires forming the stem with the leaf elements projecting obliquely upwardly and outwardly on each branch and with the ends of the stems or branches being cut off circularly. The resultant effect is exactly that of a natural blue spruce Christmas tree which may be in varying sizes from very small trees or other articles ranging from a few inches in height or width up to several feet.

3,513,064
COMPOSITE POLYFLUOROCARBON SHEET MATERIAL

Melvin W. Westley, Trumbull, Conn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 27, 1966, Ser. No. 545,567
Int. Cl. C09j *3/14*; D03d *15/10*
U.S. Cl. 161—92 9 Claims

There is disclosed a composite sheet material having utility as a flexible and durable fluorine-resistant garment material for those who handle missile fuels and the like. The flexible sheet material comprises a polytetrafluoroethylene (PTFE) fabric having on at least one side:

(A) a layer of a cured fluoroelastomer (e.g. a VF/HFP copolymer) adhered to the fabric, and

(B) an impervious layer of fluoropolymer (e.g., a TFE/HFP copolymer) adhered to layer (A).

3,513,065
FILM FACED FIBROUS BODY

Arthur J. Pearson, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

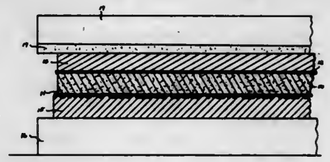
Continuation of application Ser. No. 292,350, July 2, 1963. This application Apr. 19, 1967, Ser. No. 632,110
Int. Cl. B32b
U.S. Cl. 161—93 2 Claims

The disclosure embraces a substantially rigid laminated panel comprising a body of interbonded compressed glass fibers with a layer of scrim textile of glass fibers on a major surface of the fibrous body, a preformed resinous film on the layer of scrim textile and adhesive securing the film to the scrim textile and the textile to the fibrous body. The panel may include a layer of foil between the resinous film and the scrim textile and adhesively secured to the resinous film and the scrim textile.

3,513,066
MOLDING SHEETS FOR ELECTROTYPES

Robert R. Myers, 904 NE. 2nd St., Boca Raton, Fla. 33432

Continuation of application Ser. No. 838,294, Sept. 4, 1959. This application Jan. 28, 1966, Ser. No. 532,821
Int. Cl. B41b *5/02*; B41n *1/00*
U.S. Cl. 161—165 1 Claim



1. A new article of manufacture, a laminated sheet for producing a matrix, comprising

a fibrous paper sheet of wax-impregnated fibers, the wax of said wax-impregnated fibers consisting of

one from a group of micro-crystalline wax, beeswax, paraffin wax and candelilla wax,

first and second thin sheets of flexible thermoplastic polymer material on opposite sides of said fibrous sheet, said sheets of polymer material being co-extensive and in direct engagement with said fibrous sheet and being secured thereto, said sheets of polymer material being impervious to said wax of said wax-impregnated fibers and being selected from the group consisting of vinyl chloride, polyethylene, polystyrene, polytetrafluoroethylene and polyamide,

a reinforcing metal sheet secured to and being coextensive with one of said sheets of polymer material, and the exposed surface of the other of said sheets of polymer material being adapted to receive printing,

said fibrous sheet being approximately 0.050 inch thick; said sheets of polymer material being approximately 0.015 inch thick, and said reinforcing metal sheet being between 0.010 and 0.015 inch thick.

3,513,067

METHOD OF PRODUCING AN ORIENTED FIBER REINFORCED PLASTIC ARTICLE

Giorgio Tangorra, Milan, Italy, assignor to Pirelli, Societa per Azioni, Milan, Italy

No Drawing. Filed Jan. 30, 1967, Ser. No. 612,342
Claims priority, application Italy, Feb. 10, 1966, 2,911/66
Int. Cl. B29d *3/02*
U.S. Cl. 264—108 6 Claims

Fibers disposed within a plastic material, e.g., a vulcanizable rubber, are oriented so that the average number of fibers in a unit area of a plane perpendicular to the direction of the prevailing orientation is at least about three times the average number of fibers in a unit area of a plane parallel to the direction of orientation. The fibers are oriented by stretching prior to setting the plastic material.

3,513,068

PROCESS FOR PULPING WOOD CHIPS WITH SODIUM SULFIDE AND ORGANIC SOLVENT

Laurence D. Starr and Ronald L. Casebier, Shelton, Wash., assignors to Rayonier Incorporated, New York, N.Y., a corporation of Delaware

Filed Jan. 13, 1967, Ser. No. 609,103
Int. Cl. D21c *3/20*
U.S. Cl. 162—76 6 Claims

In the process of this invention wood chips are digested in a solution consisting essentially of an organic solvent for degraded lignin, preferably a sulfone, and 9 to 15% of active alkali added as sodium sulfide, providing essentially the entire active alkali in aqueous solution resulting in a pulp having eyceptionally high I.V. values in the range of about 12 to 18, and in yields as high as 60%.

3,513,069

METHOD FOR PRODUCING METAL FIBER WEBS ON A PAPERMAKING MACHINE

Hanns F. Arledter, Chillicothe, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio

Filed July 27, 1966, Ser. No. 568,281
Int. Cl. D21f *11/04*
U.S. Cl. 162—129 5 Claims

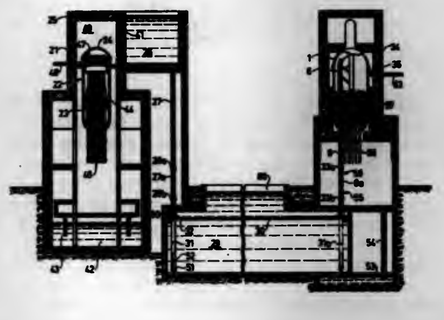
The present invention relates to a method of producing metal fiber webs on a papermaking machine by depositing a dispersion of metallic fibers on a primary layer of supporting papermaking fibers previously formed on the wire screen of a papermaking machine, which procedure permits the formation of metallic fiber webs on papermaking machines without entanglement of the metallic fibers in the meshes of the papermaking screen.

3,513,070

NUCLEAR POWER PLANT CONTAINING AT LEAST ONE LIGHT WATER NUCLEAR REACTOR AND ONE HEAVY WATER NUCLEAR REACTOR

Peter Heinrich Erwin Margen, Nasbypark, and Karl Goran Ernst Froman, Solna, Sweden, assignors to Aktiebolaget Atomenergi, Stockholm, Sweden, a company of Sweden

Filed Dec. 12, 1967, Ser. No. 689,938
Claims priority, application Sweden, Dec. 16, 1966, 17,306/66
Int. Cl. B41b *3/06*
U.S. Cl. 176—31 8 Claims



Partially burned-up fuel cartridges are transferred from a light water nuclear reactor to a heavy water nuclear reactor for a complete burn-up. The cartridges have a square or hexagonal cross-section, and they are placed in tubes having a circular cross-section in the heavy water reactor. Consequently, there will be heat insulating spaces between the cartridge and the tube, preventing an undesired heating of the moderator.

3,513,071

PROCESS AND COMPOSITION FOR LOOSENING AND REMOVING EDIBLE TISSUE FROM SHELLS OF MARINE CREATURES

Gottlieb Bernhard Fehmerling, P.O. Box 236, Bridgeton, N.J. 08302

No Drawing. Filed May 5, 1967, Ser. No. 636,249
Int. Cl. A22c *29/00*
U.S. Cl. 195—2 13 Claims

A method and composition for loosening and then removing the edible tissue from the shells of marine creatures held therein by connective tissue by immersing these creatures in an aqueous bath of enzymes in a concentration of .01–5% by weight, under optional vacuum, the enzymes being in a synergistic mixture 60–96% proteolytic and 4–40% diastatic enzymes by weight of the total present and optionally 1–20% by weight cellulase enzymes for a time, 45–300 minutes and at a temperature of 90° F.–175° F. sufficient to dissolve at least partially said connective tissue to loosen the edible tissue in the shells, then removing the creatures from the bath and spraying the creatures to remove the edible tissue from the shells.

3,513,072

INACTIVATION OF ALPHA AMYLASE ENZYMES BY FLUOROSILICATE COMPOUNDS

John Frankevicz, Bethel, and Sidney M. Short, Winthrop, Maine, assignors to Oxford Paper Company, Rumford, Maine, a corporation of Maine

No Drawing. Filed June 22, 1967, Ser. No. 653,843
Int. Cl. C12d *13/02*
U.S. Cl. 195—31 7 Claims

Alpha amylase enzymes are inactivated by fluorosilica compounds, thus, a high degree of control over starch liquification may be maintained in a starch slurry.

3,513,073

NOVEL LIPASE COMPOSITION AND METHOD FOR PRODUCING SAME

Roland Yves Mauvernay, La Baumette Riom, Puy de Dome, France, and Pierre Laboureur and Michel Labrousse, both of 30 Rue de Versailles, Seine et Oise, France

Continuation-in-part of application Ser. No. 455,889, May 14, 1965. This application July 1, 1968, Ser. No. 746,692
Int. Cl. C07g *7/02*; C12d *13/10*; A61k *19/00*
U.S. Cl. 195—62 7 Claims

A stable lipase of high activity is prepared by cultivating the micro-organism *Rhizopus arrhizus* var. *delemar* in a culture medium with aeration and stirring until the medium exhibits a constant enzymatic activity, separating from the medium a filtrate and collecting the lipase contained in said filtrate.

3,513,074

METHOD OF ACCELERATING THE CRYSTALLIZATION OF ALBUMEN LYSOZYME

Yoshitaka Matsuoka, Yoshio Hidaka, and Tsuyoshi Takahashi, Tokyo, Japan, assignors to Eisai Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Apr. 10, 1967, Ser. No. 629,791
Claims priority, application Japan, June 4, 1966, 41/35,682
Int. Cl. C07g *7/026*
U.S. Cl. 195—66 8 Claims

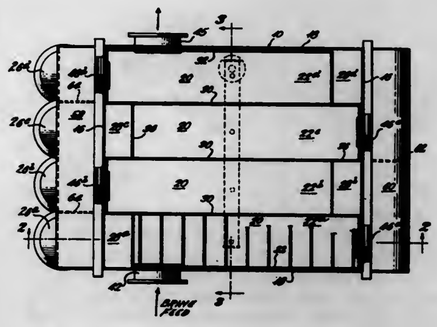
A method of accelerating the crystallization of egg white lysozyme which comprises adding to a solution containing lysozyme or its salts at least about 0.5% by weight of a compound selected from the group consisting of nonionic surface active agents, polyalkylene glycols and lower alkylene glycols.

3,513,075

MODULAR UNIT FOR MULTISTAGE FLASH DISTILLATION

William R. Williamson, Waterford, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Feb. 13, 1967, Ser. No. 615,743
Int. Cl. B01d *3/06*; C02b *1/06*
U.S. Cl. 202—173 3 Claims



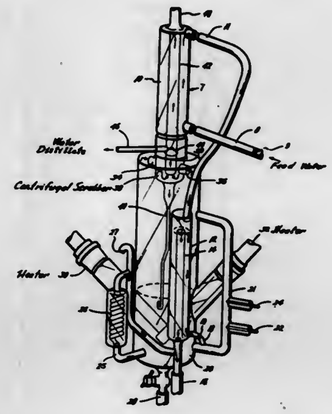
This disclosure includes drawings and a description of a modular effect construction for multistage, multieffect distillation plants of the type used to produce fresh water from sea water. The construction comprises an outer shell of low cost structural material and partitioned interiorly to establish upper flash chambers connected to respective lower condenser chambers by vapor ducts formed in part by corrosion resistant interior partitions and in part by the outer shell. The operating pressure loads of the effect are absorbed by the outer shell.

3,513,076

APPARATUS AND METHOD FOR HIGH PURITY DISTILLATION

Philip S. Lowell, Austin, Tex., assignor to Tracor, Inc., Austin, Tex., a corporation of Texas

Filed Aug. 31, 1965, Ser. No. 484,013
Int. Cl. B01d *3/26*
U.S. Cl. 203—10 17 Claims



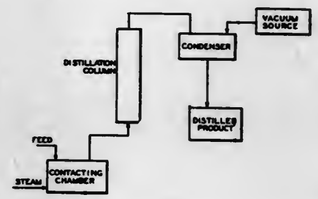
Distillation apparatus, which is particularly suitable for high purity distillation of tap water, comprises a centrifugal scrubber for removal of entrained liquid from the heated vapor in combination with a condenser having a vertically disposed condensing surface and a vent open to ambient to permit volatile inpurities to escape and note be dissolved in the vapor condensed on the condensing surface.

3,513,077

STEAM DISTILLATION OF POLYPHENYL ETHERS UNDER REDUCED PRESSURE WITH OR WITHOUT ALUMINA TREATMENT

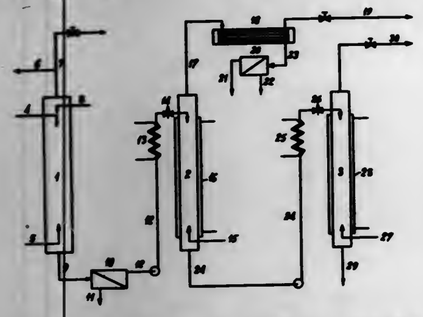
Charles William Roos, Belleville, Ill., and Dario R. Cova, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed June 21, 1966, Ser. No. 559,127
Int. Cl. B01d *3/10*; C07c *41/12, 43/20*
U.S. Cl. 203—29 6 Claims



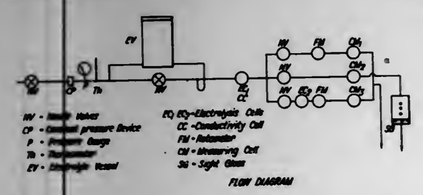
The corrosiveness and oxidative stability of polyphenyl ethers, polyphenyl thioethers, phenoxy biphenyls and mixtures thereof is greatly improved by subjecting such compounds to a subatmospheric pressure distillation in the presence of steam.

3,513,078
PROCESS FOR PURIFICATION OF HIGH BOILING ESTERS FOR REMOVAL OF ALCOHOLS BY PLURAL STAGE DISTILLATION WITH STEAM OR INERT GAS
Paul Bisrault and Gilbert Sitaud, Melle, Deux-Sevres, France, assignors to Melle-Bezons, Melle, Deux-Sevres, France
Filed Jan. 24, 1968, Ser. No. 703,843
Claims priority, application France, Feb. 9, 1967, 94,293
Int. Cl. B01d 3/38; C07c 67/06
U.S. Cl. 203—49 14 Claims



The invention comprises the purification of high boiling esters which are produced by esterification of an acid or its anhydride with an excess of alcohol having at least 4 carbon atoms in which the reaction product is neutralized and water washed to produce the raw ester and in which purification of the raw ester is achieved by subjecting the raw esters to a series of successive stripping steps including the combination of a first stripping step with steam at a pressure within the range of 0.5 to 8 kg./cm.², a second stripping step with steam or inert gas at a vacuum within the range of 30 to 300 mm. of mercury, and a third stripping step with steam or an inert gas at a vacuum within the range of 2 to 20 mm. of mercury and combinations of such stripping steps which include the second stripping step with the first stripping step or the third stripping step or both, and which includes the first stripping step with the third stripping step.

3,513,079
METHOD AND APPARATUS FOR MEASURING THE CONCENTRATION OF DISSOLVED GAS IN A LIQUID
Reginald Gordon Harry Watson and Cyril Francis McCourt, Poole, England, assignors to National Research Development Corporation, London, England, a British corporation
Filed Jan. 5, 1966, Ser. No. 518,851
Claims priority, application Great Britain, Jan. 6, 1965, 652/65
Int. Cl. G01n 27/54, 27/46
U.S. Cl. 204—1 3 Claims



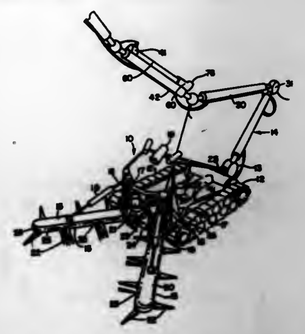
Method and apparatus for measuring the concentration of a dissolved gas in a liquid comprising passing liquid through three identical electrolytic cells arranged in parallel with a flow rate through two of the cells sufficiently high to produce thorough stirring of the liquid and a relatively reduced flow rate through the other and adding a known quantity of dissolved gas to the liquid passing through one of the high flow rate cells, each cell having a pair of electrodes insulated from each other to which an EMF is applied and measuring the electric current through each of the cells and utilizing the measurements to determine the concentration of the dissolved gas.

3,513,080
COATED SINTERED CONDUCTOR
Preston Robinson, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 424,272, Jan. 8, 1965. This application Aug. 12, 1968, Ser. No. 757,201
Int. Cl. C23d 3/00; C23f 7/06
U.S. Cl. 204—38 2 Claims



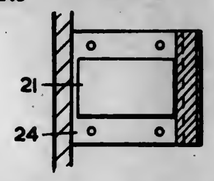
A sintered aluminum conductor is provided with a coating of a refractory insulating material providing the aluminum with resistance to the chemical activity of an encasing protective envelope which is enclosed around the coated sintered aluminum conductor to result in an insulated aluminum conductor.

3,513,081
DEEP SEA MINING SYSTEM USING BUOYANT CONDUIT
Frederick Wheelock Wanzenberg (Box 2889 76 College of Wooster, Wooster, Ohio 44691), and Fritz Walter Wanzenberg, 9 Campbell Lane, Larchmont, N.Y. 10538
Continuation-in-part of application Ser. No. 537,609, Mar. 16, 1966. This application Jan. 27, 1969, Ser. No. 794,156
Int. Cl. B01k 1/00, 3/00
U.S. Cl. 204—130 29 Claims



A system for recovering minerals and mineral bearing ore materials from underwater deposits in the sea, lakes, rivers, etc. wherein collecting apparatus in vehicular form is provided for moving along the bottom surface in deep water areas which gathers mineral and/or mineral ore bearing sediment into the vehicle where it is reduced to small size and delivered into a conduit leading to the surface, with the conduit having associated devices for electrolysis of the surrounding liquid to produce hydrogen gas and other products for propelling the collected material to the surface and for oxidizing the metal and metal components of the ores into soluble forms so that the metal and metal solutes may be separated from the gangue, generally with supplemental surface equipment, and the gangue returned to the general area from which it has been taken.

3,513,082
ELECTRODE SYSTEM
Ernst Beer, Stadzijde 22, The Hague, and Henri Bernard Beer, Nassaulaan 137, Schiedam, Netherlands
Continuation of application Ser. No. 341,003, Jan. 29, 1964. This application Sept. 1, 1967, Ser. No. 665,178
Claims priority, application Netherlands, Feb. 4, 1963, 288,527
Int. Cl. C23f 13/00
U.S. Cl. 204—148 5 Claims



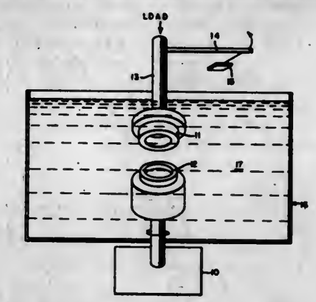
An electrode system for cathodically protecting an iron and/or steel object against corrosion in an electrolyte system comprising a ceramic magnet consisting of iron-barium oxides or iron-lead oxides provided with a pole shoe of a material similar to the material of the object to be protected, an electrode being secured to the object to be protected by means of said magnet. The electronic connection of the electrode with the object to be protected is established via the pole shoes of the magnet. The magnets are magnetized in the direction of their thickness, and the conversion of Fe_2O_3 into Fe_3O_4 is furthered by the use of such magnets.

3,513,083
PROCESS FOR THE ELECTROPHORETIC PREPARATION OF CORROSION RESISTANT COATINGS
Robert Vitek, Mariaenzersdorf, Austria, assignor, by mesne assignments, to Stollack Aktiengesellschaft, Guntramsdorf, near Vienna, Austria, a corporation of Austria
No Drawing. Filed June 27, 1967, Ser. No. 649,129
Int. Cl. C23b 13/00; B01k 5/02
U.S. Cl. 204—181 8 Claims

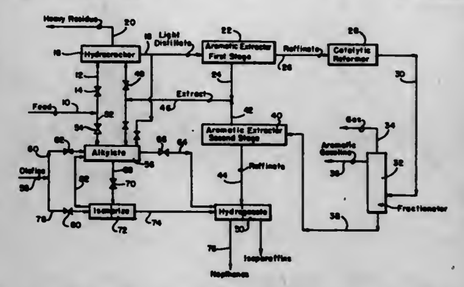
Aqueous electrophoretic baths comprised of pigments, water-soluble resins of polyester resins and formaldehyde condensation resins and small amounts of a silicone-resin and method of forming high corrosion resistant coatings with said electrophoretic baths and coatings produced thereby.

3,513,084
LUBRICANT PRODUCING SYSTEM
Ernest J. Breton and Curtis B. Cameron, Wilmington, and Robert E. Murvine, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 28, 1968, Ser. No. 740,880
Int. Cl. C10g 41/00; C08f 1/02; C08g 35/00
U.S. Cl. 208—46 35 Claims

One can avoid the necessity of adding lubricants to a variety of fluid process assemblies involving relatively movable opposing surfaces by selecting the composition of the opposing surfaces. Specifically, the lubricant can be formed in situ from the fluid used where one surface is of a mixture of an alloy containing at least 6 atom percent of an element selected from the group consisting of molybdenum and tungsten, at least 10 percent by volume of the alloy being an intermetallic compound of molybdenum or tungsten having a Vickers Hardness number of 550–1800, and a softer material that is strong enough to support the alloy particles in the shape required for use; the mating surface is either of an alloy containing at least 50 atom percent iron, at least 1 atom percent carbon, at least one-half the weight of the remainder of the alloy being composed of at least one of the following elements: chromium, manganese, molybdenum and tungsten, said element(s) being present as carbide(s) or in a fully hardened solid solution, and having a Vickers Hardness number of at least 400 or a similar alloy containing at least 80 atom percent iron and having a Vickers Hardness number of at least 200 or an alloy of 11–15 atom percent carbon, 1.5–3 atom percent silicon, the balance being iron, having a Vickers Hardness number of at least 150; and the fluid is an organic compound capable of polymerizing to form a lubricant, e.g., petroleum hydrocarbons, aliphatic alcohols, and aliphatic aldehydes having at least 4 carbon atoms. Although one can obtain a useful lubricating system using the alloy of molybdenum or tungsten as the first surface and one of the alloys of iron as the second surface, a substantial improvement is obtained by using the mixtures set forth herein as the first surface.



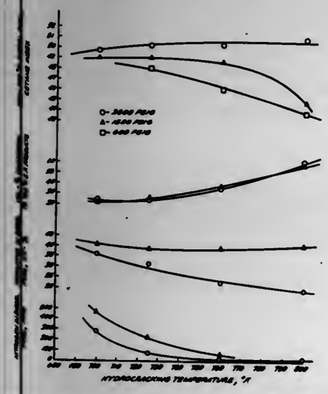
3,513,085
PRODUCING ISOPARAFFINS AND NAPHTHENES FROM HYDROCARBONS
Arnold M. Leas, 803 Bellefonte Princess Road, Ashland, Ky. 41101
Filed Sept. 6, 1967, Ser. No. 665,753
Int. Cl. C10g 13/00
U.S. Cl. 208—60 8 Claims



A method for producing isoparaffinic and naphthenic hydrocarbon liquids from hydrocarbon liquids such as coal liquids and petroleum oils, including subjecting at least a part of the feed to a hydrocracking treatment, separating a light liquid fraction from the hydrocracking product boiling below about 600° F., subjecting the light hydrocracking product to solvent extraction to separate an aromatic extract from a non-aromatic raffinate, recycling at least a part of the aromatic extract to the hydrocracking treatment, passing the non-aromatic raffinate to a catalytic reforming treatment, fractionating the catalytic reforming product to separate a gas, a material boiling in the gasoline range and a material boiling above the gasoline range, passing the material boiling above the gasoline range to a second solvent extraction step to separate the same into an aromatic extract frac-

tion and a non-aromatic fraction, recycling at least a part of the aromatic extract fraction to the hydrocracking step, passing the non-aromatic raffinate to a hydrogenation step and recovering an isoparaffinic material from the hydrogenation step. In an alternative operation, a highly aromatic feed may be passed, at least in part, to an alkylation step, alone or together with aromatic extract from the first solvent extraction step, and at least a part of the alkylation product is passed to a hydrogenation step to produce naphthenic hydrocarbons. In still another alternative form of operation, at least a part of the alkylation product is passed to an isomerization step and the product of the isomerization step is passed to the hydrogenation step. Finally, the olefinic materials utilized in the alkylation step may be passed to an isomerization step before passage to the alkylation step.

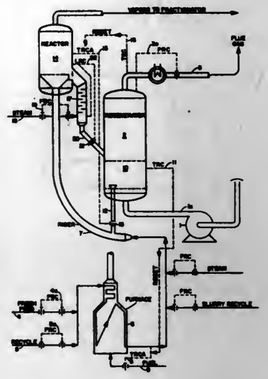
3,513,086
SELECTIVE HYDROCRACKING PROCESS FOR CONVERTING HEAVY OILS TO MIDDLE DISTILLATES
Nicholas L. Kay, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif.
Filed Nov. 1, 1967, Ser. No. 679,915
Int. Cl. C10g *13/02*
U.S. Cl. 208—112 10 Claims



Heavy mineral oils boiling in the 700–1000° F. range are selectively converted to middle distillates boiling in the 300–700° F. range with a minimum production of lighter hydrocarbons, by contacting the feed under hydrocracking conditions and a relatively non-acidic, hydrofining type catalyst comprising nickel plus molybdenum and/or tungsten supported on an essentially alumina carrier. In a preferred aspect high quality diesel fuel is produced as the major product, product quality being maintained essentially constant over a long run length with progressively increasing temperatures by operating at pressures above about 2000 p.s.i.g. Hydrogen consumption is minimized by employing a nitrogen-contaminated feedstock and adjusting hydrocracking conditions so that denitrogenation of the feedstock is incomplete.

3,513,087
CONTROL SYSTEM FOR FLUID CAT CRACKER
John H. Smith, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Continuation-in-part of application Ser. No. 702,047, Jan. 31, 1968. This application Aug. 30, 1968, Ser. No. 756,659
Int. Cl. C10g *13/18*
U.S. Cl. 208—159 5 Claims

Coke deposition rate in the reactor of a fluid cat cracker is controlled by varying the severity and conversion level in the reactor, while maintaining maximum air rate to the regenerator. The temperature at the outlet of the regenerator, which is an indication of afterburning and amount of coke build-up, is used to control reactor temperature and catalyst-to-oil ratio in the



reactor (by resetting the reactor temperature recorder control, which in turn controls the flow of hot regenerated catalyst from the regenerator to the reactor), thus controlling coke deposition to make it commensurate with air supply by controlling the severity and conversion level in the reactor.

3,513,088
OXIDATION OF A MERCAPTAN WITH EXCESS DIMETHYL SULFOXIDE
Joseph V. Karabinos, Orange, and Christ N. Yiannios, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation
No Drawing. Continuation of application Ser. No. 407,577, Oct. 29, 1964. This application Nov. 1, 1968, Ser. No. 774,572
Int. Cl. C10g *27/04*; C07c *149/12*
U.S. Cl. 208—189 4 Claims

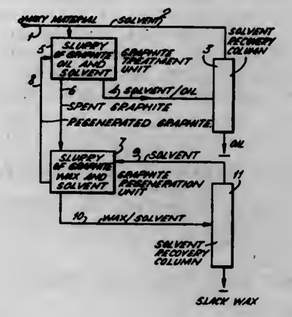
A mercaptan is oxidized to a disulfide by heating a mixture of dimethyl sulfoxide and the mercaptan at 30–100° C. An excess of sulfoxide of up to 10 moles per mole of mercaptan sulfur is used in the reaction, the excess serving as solvent for the mercaptan. The by-product dimethyl sulfide is recovered and oxidized to the sulfoxide by catalytic air oxidation. A specific utility for the dimethyl sulfoxide is in sweetening of a sour, mercaptan-containing petroleum fraction in accordance with the present reaction conditions, the dimethyl sulfide formed in the reaction and excess dimethyl sulfoxide are distilled off to recover the sweetened petroleum fraction.

3,513,089
HYDROCARBON SEPARATION BY ADSORPTION ON GRAPHITE
Charles John Geach, Shepperton, and Aleksander Jerzy Groszek, London, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England
Filed Apr. 24, 1968, Ser. No. 723,829
Claims priority, application Great Britain, May 2, 1967, 20,166/67
Int. Cl. C07c *7/12*; C10g *25/00*
U.S. Cl. 208—310 17 Claims

A process as disclosed in which an aromatic hydrocarbon and/or a C_4 and higher normal paraffin hydrocarbon containing mixture is contacted with a graphite having a surface area of at least 50 m.²/gm. at 50° C. to 200° C.

in the presence of a liquid in which the hydrocarbons are soluble, so that the hydrocarbons are adsorbed removing unadsorbed material and desorbing the adsorbed components with a liquid in which they are soluble, at a temperature of 50° C. to 400° C. and finally recovering the adsorbed components from the desorbate.

A further development is that in which a petroleum fraction containing aromatics and C_4 or/and higher n-paraffins is mixed with liquid and contacted with a slurry of

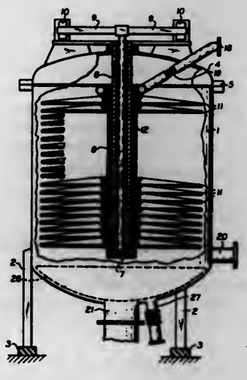


graphite in the liquid, the slurry is washed with further liquid and desorption takes place in two stages, both using the same liquid as in adsorption. Both of the desorption stages takes place at elevated temperature.

Preferably the second process is a continuous flow counter-current process in which the graphite slurry flows counter-currently to the feed/liquid.

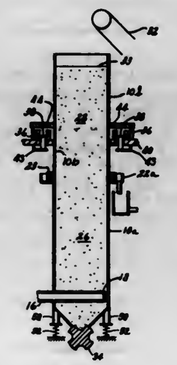
Preferably in the first process the liquids used in adsorption and desorption are the same.

3,513,090
FILTERING APPARATUS AND METHOD
Albrecht Migule, 1 Malerbruckallee, Tiengen, Germany, and Hans Burde, 16 Iserlohner Strasse, Kalthof uber Schwerte, Germany
Filed Dec. 14, 1966, Ser. No. 601,772
Claims priority, application Germany, Mar. 9, 1966, M 68,691
Int. Cl. B01d *35/20*, *25/34*
U.S. Cl. 210—19 18 Claims



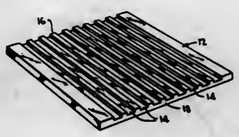
Filtering apparatus and method of using the same including a casing, at least one filter plate within the casing, inlet means sealingly passing through said casing, outlet means sealingly passing through said casing on the other side of the filter plate, and means for rotationally oscillating the filter plate without breaking the sealing between the outlet means and the casing.

3,513,091
COUNTERCURRENT SOLID-LIQUID CONTACTING SYSTEM
Rowland S. Bevans, Morristown, N.J., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,193
Int. Cl. B01d *33/20*
U.S. Cl. 210—19 19 Claims



This invention relates to method and apparatus for passing a liquid to be treated, such as sewage, upwardly through the lower portion of a confined bed of solid, closely packed particles, such as granular or lump coal. The specific improvement is in the means and method for causing the upper portion of the bed to be out of the liquid stream to maintain the operating portion of the bed in a compacted condition.

3,513,092
CHANNEL LAYER CHROMATOGRAPHY METHOD
Mederic J. Matherne, Jr., New Orleans, La., assignor to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare
Original application Sept. 25, 1967, Ser. No. 670,131, now Patent No. 3,465,884, dated Sept. 9, 1969. Divided and this application Apr. 29, 1969, Ser. No. 833,240
Int. Cl. B01d *15/08*
U.S. Cl. 210—31 3 Claims



Channel layer chromatography wherein a common support element having a plurality of channels filled with a chromatographic adsorbent material is utilized for simultaneous multiple separations. The technique provides for the product capacity of column chromatography with the speed of thin layer chromatography. Particular applicability as a cleanup procedure for pesticide residue analysis is shown.

3,513,093
LUBRICANT CONTAINING NITROGEN-CONTAINING AND PHOSPHORUS-CONTAINING SUCCINIC DERIVATIVES

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Original application June 17, 1963, Ser. No. 288,481. Divided and this application May 16, 1966, Ser. No. 550,180
Int. Cl. C10m *1/44, 1/48;* C10l *1/26*
U.S. Cl. 252—32.5 14 Claims

Nitrogen- and phosphorus-containing succinic derivatives are obtained by the reaction of a high molecular weight succinic acid compound, an amine, and a phosphorizing agent. The products of such reaction are useful as additives in lubricating oils, fuels, plastics, etc.

3,513,094
LUBRICANT COMPOSITIONS

Homer H. Farmer, Westport, Harold F. Tompkins, Trumbull, and Bobby W. Malone, Norwalk, Conn., assignors to R. T. Vanderbilt Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 26, 1967, Ser. No. 633,677
Int. Cl. C10m *1/48*
U.S. Cl. 252—32.7 8 Claims

An improved extreme pressure lubricant combining an antimony dihydrocarbylphosphorodithioate with a second, known extreme pressure or wear inhibiting agent, such as chlorinated paraffin, sulfurized oil, a lead dithiocarbamate or lead naphthenate, in a lubricating oil or lubricating grease base.

3,513,095
LUBRICATING OIL COMPOSITION OF IMPROVED DISPERSANCY, VISCOSITY INDEX AND SHEAR STABILITY

Richard F. Love, Beacon, and William M. Sweeney, Wappingers Falls, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,090
Int. Cl. C10m *1/32*
U.S. Cl. 252—51.5 4 Claims

A lubricating oil composition containing between about 0.1 and 80 wt. percent of a novel adduct that imparts thereto improved shear stability, dispersancy and improved viscosity index. The novel additive is the reaction product of (1) a cracked ethyelne-propylene-unconjugated C_5–C_{50} diene hydrocarbon terpolymer having an average molecular weight between about 2,000 and 30,000 and an inherent viscosity between 0.2 and 1.8, (2) maleic anhydride and (3) an alkylene polyamine of the formula $H_2N(ANH)_bH$ where A is a divalent saturated aliphatic hydrocarbon radical (alkanediyl) of from 1 to 4 carbons and *b* is a whole integer of from 1 to 6.

3,513,096
OIL CONCENTRATE CONTAINING A COMPATIBLE MIXTURE OF POLYISOBUTYLENE AND ETHYLENE-ALPHA OLEFIN COPOLYMER

Darrell W. Brownawell, Scotch Plains, Donald J. Buckley, Plainfield, and Norman Jacobson, East Brunswick, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Continuation of application Ser. No. 714,399, Mar. 12, 1968. This application Dec. 3, 1968, Ser. No. 781,708
Int. Cl. C10m *1/18, 3/12*
U.S. Cl. 252—59 11 Claims

An additive concentrate for lubricating oils which comprises a compatible mixture of polyisobutylene and a polymer of ethylene and alpha-olefin in mineral oil. The polymer mixture is compatible over a wide temperature range and imparts unique and desirable viscosity characteristics to lubricating oils at both low and high temperatures.

3,513,097
FUNCTIONAL FLUID COMPOSITIONS

Frank H. Langenfeld, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 516,077, Dec. 23, 1965. This application Nov. 13, 1967, Ser. No. 682,546
Int. Cl. C09k *3/00*
U.S. Cl. 252—78 6 Claims

Compositions of the class which exhibit the ability to inhibit and control damage to mechanical members in contact with said compositions by the incorporation of water into a class of base stocks representative of which are esters and amide of phosphorus, o-silicates, polysilicones, arylethers and esters. The compositions have many uses, among which are their use as hydraulic fluids.

3,513,098
GERMICIDAL NONIONIC DETERGENT-IODINE COMPOSITIONS

Abraham Cantor, Elkins Park, Pa., and Murray W. Winicov, Flushing, N.Y., assignors to West Laboratories, Inc., Long Island City, N.Y., a corporation of New York

No Drawing. Filed Aug. 7, 1967, Ser. No. 658,647
Int. Cl. C11d *3/48*
U.S. Cl. 252—106 3 Claims

Aqueous nonionic detergent-iodine compositions providing enhanced iodine color in high use dilution, wherein the detergent is a water soluble secondary alcohol-ethylene oxide condensate having an alcohol moiety with an average carbon content within the C_{14} to C_{15} range and 8 to 13 moles of ethylene oxide, the ratio of detergent to available iodine being at least 5:1, and said aqueous composition containing a source of iodide (I^-) in excess of 0.25 part per part of available iodine. In preferred compositions the detergent is a liquid condensate of a C_{14}–C_{15} secondary alcohol and about 8 to 10 moles of ethylene oxide.

3,513,099
LAS DETERGENTS CONTAINING PRIMARY AND SECONDARY ALKOXY ALKANOL AMMONIUM SULFATES

Harvey B. Hans, Fountain Valley, and Lyle J. Lofdahl, Fullerton, Calif., assignors to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

No Drawing. Filed Dec. 6, 1966, Ser. No. 599,403
Int. Cl. C11d *1/38, 3/26, 7/32*
U.S. Cl. 252—152 7 Claims

Use of a mixture of primary and secondary alkoxy alkanol ammonium sulfates, e.g. primary and secondary ammonium linear tridecoxy diethoxy ethanol sulfate in weight ratios of 2:1 to 1:2 in combination with LAS detergent such as sodium linear dodecylbenzene sulfonate in a weight ratio of 0.2 to 1 sulfate to sulfonate rather than either of the sulfates alone in an aqueous vehicle affords lowered cloud point, improved viscosity characteristic and adequate detersive strength at lower cost through elimination of superadded alcoholic solvent.

3,513,100
METHOD FOR SUBSURFACE DISPOSAL OF RADIOACTIVE WASTE

Joel M. Stogner, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Sept. 25, 1967, Ser. No. 670,034
Int. Cl. G21c *19/44*
U.S. Cl. 252—301.1 7 Claims

A method for disposing of high level, solid, radioactive waste material by delivering such material in a continuous, water-phase cement to a subterranean formation. The solid waste is used as a propping agent to hold formation fractures open as a slurry containing the solid, radioactive waste material is pumped thereinto.

3,513,101
PREPARATION OF STABLE SOLS OF THORIA-URANIUM TRIOXIDE

Albert B. Meservey, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Apr. 25, 1968, Ser. No. 724,261
Int. Cl. G21c *19/42*
U.S. Cl. 252—301.1 9 Claims

A stable thoria-uranium trioxide sol having a minimum counterion is prepared in a carbon dioxide-free atmosphere by forming a thorium (IV)-uranium (VI) seed sol which is stabilized with a stoichiometric excess of counterion and thereafter dispersing additional quantities of counterion-free thorium (IV)-uranium (VI) hydrous oxide as a water slurry in the seed sol with boiling to thereby peptize the solids into the minimum counterion sol.

3,513,102
FLUORESCENT COATINGS

Ronald L. Heidke, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 8, 1966, Ser. No. 563,678
Int. Cl. C09k *1/00;* F21k *2/00*
U.S. Cl. 252—301.2 17 Claims

This invention relates to processes for making fluorescent coatings and to manufactures comprising improved fluorescent coatings made by such methods. A typical method according to the invention comprises dissolving an organic fluor and a solid-solution carrier for the fluor in a mutual liquid, such as an organic liquid, and then dispersing the liquid solution as emulsified particles in an aqueous dispersion of gelatinoid hydrosol, gelling said hydrosol and washing the gel with an aqueous liquid to dissolve out said mutual solvent.

3,513,103
FLUORESCENT PHOSPHOR

Francis N. Shaffer, Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed Dec. 12, 1967, Ser. No. 689,817
Int. Cl. B09k *1/06, 1/36*
U.S. Cl. 252—301.4 6 Claims

An alkaline earth metal halophosphate phosphor activated by europium and manganese in which the alkaline earth metal is preferably calcium and/or strontium and the halogen is preferably chlorine and/or bromine. Such phosphors can be excited by ultraviolet light at both 2537 and 3650 A., thereby making them suitable luminescent materials in both fluorescent and high pressure mercury lamps.

3,513,104
SELF-PROPELLING POWDER COMPOSITIONS

Denis John Healy, Bronx, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 26, 1965, Ser. No. 443,088
Int. Cl. C09k *3/30*
U.S. Cl. 252—305 4 Claims

A self-propelling liquid composition capable of deposition as a powder in which a metal ester dissolved in a polyhalogenated propellant is converted to hydrolysis to a powder.

3,513,105
LUMINESCENT MATERIALS

Harold Francis Ward, London, England, assignor to British Lighting Industries Limited, London, England

No Drawing. Filed Aug. 11, 1967, Ser. No. 659,883
Claims priority, application Great Britain, Aug. 18, 1966, 37,108/66
Int. Cl. C09k *1/30*
U.S. Cl. 252—301.6 3 Claims

A luminescent material corresponding to the formula $xZrO_2{:}yMO{:}zTiO_2{:}P_2O_5$ where x=2–16, y=2, z=0.002–0.012, and M=Mg, Ca, Sr, Ba, Zn, or a mixture thereof. The material is made by firing the oxides, or compounds which on firing yield the oxides, of Zr, M, Ti, and P in a covered crucible at from 1100° C. to 1400° C. When exposed to short wave or long wave ultraviolet or cathode rays the material emits a greenish blue color.

3,513,106
POROUS GLASS CATALYSTS

Ian D. Chapman, Peterborough, Ontario, Canada, and Thomas H. Elmer, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed Sept. 10, 1965, Ser. No. 486,512
Int. Cl. B01j *11/82*
U.S. Cl. 252—432 11 Claims

Method of making a porous glass catalyst by heating a phase separating glass to a temperature sufficient to cause separation of the glass into phases at least one of which is soluble, leaching the soluble phase at a pH of 1.5–7.0 in a 0.1–3.0 molar aqueous solution of a water soluble salt of aluminum, magnesium, zirconium, or phosphorus; and also includes the addition of metal ion promoters to the leaching solution.

3,513,107
CATALYST COMPOSITION AND TREATMENT METHOD

Norman Harris, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 11, 1967, Ser. No. 659,853
Claims priority, application Great Britain, Aug. 31, 1966, 38,858/66
Int. Cl. B01j *11/82*
U.S. Cl. 252—438 4 Claims

A non-pyrophoric partly reduced composition convertible to an ammonia synthesis catalyst by further reduction is produced by treating a reduced ammonia synthesis catalyst with ammonia under conditions of temperature and ammonia concentration such that iron nitride formation takes place and then subjecting it to oxidation at such a temperature that any pyrophoric iron remaining after the ammonia treatment is converted to oxide without decomposition of a substantial proportion of the iron nitride.

3,513,108
HYDROTHERMALLY STABLE CATALYST AND METHOD FOR ITS PREPARATION

George T. Kerr, Trenton, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Nov. 30, 1967, Ser. No. 686,794
Int. Cl. B01j *11/40*
U.S. Cl. 252—455 6 Claims

Briefly, the present invention concerns a novel hydrothermally stable hydrogen zeolite, characterized by a silica to alumina mol ratio of at least 3, prepared by subjecting a hydrogen zeolite to dehydroxylation conditions, but without removing the resultant water from the zeolite atmosphere. It has been found that by so subjecting the zeolite starting material a hydrothermally stable hydrogen zeolite is produced.

3,513,109
PROCESS FOR APPLYING CATALYTIC COATINGS
Alvin B. Stiles, Welshire, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 19, 1967, Ser. No. 631,915
Int. Cl. B01j *11/08, 11/22*
U.S. Cl. 252—462 4 Claims

A method of applying catalytic materials to a support, particularly supports having smooth surfaces of low surface area, by slurrying a finely divided form of the catalytic material in a solution of a metal ammine, applying the slurry to the support, drying and calcining. In a preferred aspect, the catalytic material applied contains interspersants to stabilize the catalyst from crystal growth at high temperatures.

3,513,110
OPEN-CELLED LOW DENSITY FILAMENTARY MATERIAL
Herman D. Noether, Short Hills, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 1, 1965, Ser. No. 492,328
Int. Cl. C08g *53/08, 39/04, 41/00*
U.S. Cl. 260—2.5 7 Claims

Open-celled low density filamentary material composed of high molecular weight linear polycarbonamides or high molecular weight linear polyesters are prepared by melt extruding, drawing down at a draw down ratio above 200 to achieve orientation, raising the crystallinity by a solvent or heat treatment, stretching, and, while the filaments are in a stretched condition, annealing. The low density properties of the filamentary material are attributable to an open-celled structure of extremely fine porosity in which the entrance passageways of the cells are no larger than about 5000 angstrom units, e.g., 150 to 5000 angstrom units.

3,513,111
PREPARATION OF POLYMERS OF THE POLYARYLIDENE TYPE
Johny Camille Hermans, Leuven, and Georges Joseph Smets, Heverlee, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a company of Belgium
No Drawing. Filed Apr. 20, 1967, Ser. No. 632,209
Claims priority, application Great Britain, May 12, 1966, 21,200/66
Int. Cl. C08g *33/00*
U.S. Cl. 260—2 1 Claim

Polymers of the arylidene type are prepared by refluxing a reaction mixture comprising a solution of at least one aryl substituted diazo-lower-alkane in an homogeneous mixture of an aprotic and of a protic solvent, said reaction mixture being vividly colored by the presence of the diazoalkane, continuing said refluxing until complete discoloration of the reaction mixture, and precipitating the polyarylidene in a non-solvent.

3,513,112
PROCESS FOR PRODUCING MULTICELLULAR SYNTHETIC RESIN STRUCTURES
Masanori Kanai, Ukyo-ku, Kyoto-shi, Kyoto-fu, and Norio Segawa and Izuo Kaetsu, Takatsuki-shi, Osaka-fu, Japan, assignors to Sekisui Ragoku Rogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan, a corporation of Japan
No Drawing. Filed July 9, 1963, Ser. No. 293,883
Claims priority, application Japan, July 18, 1962, 37/30,500; Jan. 29, 1963, 38/4,164; Feb. 13, 1963, 38/7,739; Feb. 15, 1963, 38/7,972
Int. Cl. C08j *1/02, 1/04, 1/20*
U.S. Cl. 260—2.5 16 Claims

The invention relates to a process of polymerizing with ionizing radiation a monomer such as acrylamide with an organic foaming agent and thereafter heating the polymerized composition to decompose the blowing agent and foam the composition.

3,513,113
PRODUCTION OF SELF-EXTINGUISHING POLYURETHANES
Hans Eberhard Praetzel, Bensberg-Frankenforst, and Herbert Jenkner, Cologne-Deutz, Germany, assignors to Chemische Fabrik Kalk GmbH, Cologne-Kalk, Germany
No Drawing. Filed Dec. 28, 1965, Ser. No. 517,125
Int. Cl. C08g *22/14, 22/44*
U.S. Cl. 260—2.5 6 Claims

Self-extinguishing, cured polyurethane products which are foamed or not, which comprise a certain amount of bromine and phosphorous, the later bound chemically in the polyurethane through P—C bonds.

3,513,114
INTUMESCENT COATING COMPOSITIONS
Frank J. Hahn, Wilbraham, Mass., and Howard L. Vandersall, Ballwin, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 7, 1966, Ser. No. 519,289
Int. Cl. C09d *5/18;* C09k *3/28;* C08d *11/02*
U.S. Cl. 260—8 10 Claims

Intumescent coating compositions are disclosed which comprise an aqueous dispersion of a polyvinyl acetate-containing emulsion, a solvent plasticizer, a carbonific and substantially water-insoluble ammonium polyphosphates having a phosphorus chain length greater than 10 phosphorus atoms.

3,513,115
COATING COMPOSITION FOR METAL CONTAINERS
Joseph J. Tryzna, Evergreen Park, and George L. Becker, Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 12, 1967, Ser. No. 689,789
Int. Cl. C08f *29/24*
U.S. Cl. 260—21 10 Claims

A coating composition for metal food containers which may be applied directly to a metal substrate is prepared from a dispersion in a volatile organic solvent of (1) an organosol film component composed of (a) a dispersion grade vinyl chloride homopolymer; (b) a solution grade vinyl chloride copolymer resin, and (c) a plasticizer; (2) an adhesion promoting component comprised of a methylol phenol ether and a low molecular weight epoxy resin; and (3) a heat stabilizing component of a triazine-aldehyde resin and an epoxidized triglyceride.

3,513,116
PROCESS FOR THE POLYMERIZATION AND COPOLYMERIZATION OF VINYL-FLUORIDE
Dario Sianesi and Gerardo Caporiccio, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy
No Drawing. Filed Jan. 10, 1966, Ser. No. 519,431
Claims priority, application Italy, Jan. 11, 1965, 366/65
Int. Cl. C08f *1/60, 3/22*
U.S. Cl. 260—23 16 Claims

Homopolymers and copolymers of vinyl fluoride are produced with the aid of a catalytic system consisting of a metalorganic lead or tin compound and an activating agent therefor which is an inorganic compound having oxidizing properties.

3,513,117
THIXOTROPIC, NON-SAG, ONE-COAT PAINT
Earl F. Carleton, El Cerrito, and William H. Ellis, El Segundo, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 562,302, July 1, 1966. This application Mar. 10, 1969, Ser. No. 837,963
Int. Cl. C08g *17/16;* C09d *3/64, 5/04*
U.S. Cl. 260—22 7 Claims

Paints having as non-volatile vehicles, ternary mixtures of oil-modified alkyd resins having different oil lengths, the interaction between the resins imparting non-sag and thixotropic properties to the paints.

3,513,118
VINYL URETHANE COATING
Norris R. Legue, Scotch Plains, N.J., and Arthur Ehrlich, Brooklyn, N.Y., assignors to The Baker Castor Oil Company, Bayonne, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 19, 1967, Ser. No. 631,954
Int. Cl. C09d *3/76*
U.S. Cl. 260—23 21 Claims

A composition which comprises (1) a partially hydrolyzed vinyl chloride-vinyl acetate copolymer (2) at least one polyhydric alcohol having an equivalent weight between about 38 and 600 and a functionality between 2 and 6, and (3) a urethane prepolymer derived from the reaction of a polyisocyanate and a polyfunctional compound containing active hydrogen groups; this composition demonstrates excellent performance as a coating when applied to a wood substrate.

3,513,119
FLAME-RETARDANT COMPOSITIONS FOR PLASTICS COMPRISING ETHYLENE PHOSPHITE AND A CHLORINATED HYDROCARBON
Joseph Frederick Cannelongo, Piscataway, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 521,536, Jan. 19, 1966. This application Dec. 20, 1968, Ser. No. 785,747
Int. Cl. C08f *45/52*
U.S. Cl. 260—28.5 10 Claims

Flame-retardant compositions comprising a combination of ethylene phosphite and a chlorinated hydrocarbon and polymers containing said compositions are disclosed.

3,513,120
PRODUCTION OF DISPERSIONS OF POLYMERS OF STYRENE AND ESTERS OF ACRYLIC OR METHACRYLIC ACID
Heinz Pohlemann, Limburgerhof, Pfalz, Gerhard Florus, Ludwigshafen (Rhine), Wolfgang Sliwka, Weinheim, Bergstrasse, and Manfred Gellrich, Gruenstadt, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Rhineland-Pfalz, Germany
No Drawing. Filed Oct. 10, 1966, Ser. No. 585,293
Claims priority, application Germany, Oct. 29, 1965, 1,570,312
Int. Cl. C08f *1/13, 19/10*
U.S. Cl. 260—29.6 11 Claims

Process of copolymerizing styrene and acrylic esters in aqueous emulsion and adding a small amount of a protective colloid gradually during the polymerization so as to obtain highly viscous aqueous dispersions of copolymers of styrene and acrylic esters having a large particle size. The products are useful in films, coatings and adhesives.

3,513,121
AQUEOUS COMPOSITIONS FOR COATING PERMEABLE SUBSTRATES
John Raymond Douglas Heaton, Harlow, Essex, England, assignor to Doverstrand Ltd., London, England, a British corporation
No Drawing. Filed Mar. 27, 1967, Ser. No. 625,978
Claims priority, application Great Britain, Mar. 25, 1966, 13,379/66
Int. Cl. C08d *7/00;* C09d *3/76*
U.S. Cl. 260—29.7 13 Claims

A binder composition for use in the pigment coating of a permeable substrate, such as paper or board, comprises a blend of copolymer latices one of which is dissolved in, or capable of being rendered soluble by alkali and which contains as one of its components butadiene or vinyl acetate, and the other of which is undissolved in, or is not capable of being rendered soluble by alkali. The non-alkali-soluble latex, which may be derived from a variety of polymerisable monomers, and may be a carboxylated butadiene/styrene resin, preferably constitutes from 80 to 95% by weight of the blend, while the alkali-soluble resin which may be a carboxylated butadiene/styrene/methacrylic acid resin or a copolymer of vinyl acetate and crotonic acid preferably constitutes from 20 to 5% by weight of the blend. The binder composition is mixed with pigment or filler, alkali and water to provide a pigment coating composition of good rheological properties which may be applied by an air knife or as a print coating and which results in a coated substrate with pleasing smooth surfaces and good pick strength.

3,513,122
PRINTING ON LUBRICATED SURFACES AND INK COMPOSITION USEFUL THEREIN
John E. Dereich, Pittsburgh, Pa., assignor to Neville Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Feb. 20, 1967, Ser. No. 617,035
Int. Cl. C08g *51/30;* C08c *1/24*
U.S. Cl. 260—33.8 7 Claims

One-part, self-curing, low melting, two-stage, solid epoxy resin ink compositions which contain a chlorinated aromatic hydrocarbon as a modifier are used in forming prints, labels, design or coatings on solid objects such as glass bottles or similar articles even when they have a film of lubricant applied to their surface. When these organic ink compositions are applied in molten form to the lubricated surface, they absorb or dissipate the lubricant and dry almost instantly to a tenacious, non-tacky surface, permitting the subsequent printing of a differently colored ink design thereover. In the absence of the chlorinated aromatic hydrocarbon additive, previously used printing compositions did not adhere well to the lubricated surface and tended to lift off during subsequent printing or other manipulative steps prior to being finally cured.

In a preferred embodiment these epoxy resin ink compositions include a curing system which comprises a guanidine compound such as dicyandiamide which is promoted with a small amount of a metal salt of a C_8 to C_{18} monocarboxylic acid, and particularly a zinc soap, to increase the alkali resistance of the cured print.

3,513,123
ADHESIVE DENTAL FILLING
Jacob A. Saffir, Los Angeles, Calif., assignor, by mesne assignments, to Dentsply International Inc., York, Pa., a corporation of Delaware
Filed Oct. 11, 1967, Ser. No. 674,487
Int. Cl. C08g *51/04;* C08k *1/02*
U.S. Cl. 260—37 9 Claims

An adhesive dental filling composition to be employed in the filling of cavities in teeth, said dental filling com-

position comprising an intimate admixture of a non-toxic epoxy resin and a dental alloy or amalgam. A preferred metallic alloy is composed principally of silver and tin and an amalgam is prepared by admixing such an alloy with mercury. The employment of such an adhesive dental filling composition allows the dentist to fill a cavity without the use of any mechanical device to create retention between the tooth and the filling material or any special geometrical undercuts to create such retention.

3,513,124

ANTIOZONANTS FOR CHLOROPRENE POLYMERS

James Kalil, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 31, 1967, Ser. No. 612,792
Int. Cl. C08d *11/04*; C09k *3/00*
U.S. Cl. 260—45.9 3 Claims

An antiozonant for chloroprene polymers prepared by condensing one mole of hydroquinone with at least two moles of an amine mixture consisting of about 75 to 90% by weight of o-toluidine and about 25 to 10% by weight of an alkyl phenyl amine composition. The phenyl amine composition consists essentially of ring substituted dimethyl anilines or mixtures of dimethyl and ethyl anilines. It is necessary that at least 65% by weight of the alkyl phenyl amine composition be a xylidene from the group 2,3-; 2,4- and 2,5-xylidenes. The antiozonants are solids and are incorporated into the chloroprene polymers in the amount of about 0.05 to 6 parts by weight per 100 parts of polymer during the compounding of the polymer stock. The antiozonants provide excellent protection against ozone attack without adversely affecting storage stability or causing bloom.

3,513,125

CARBAZATE CROSSLINKING AGENT AND THERMOSETTING RESIN COMPOSITIONS AND PROCESS OF MAKING SAME

Clifton L. Kehr, Silver Spring, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Feb. 24, 1967, Ser. No. 618,345
Int. Cl. C08g *30/14*
U.S. Cl. 260—47 9 Claims

A novel class of crosslinking compounds is described which can be broadly classified as blocked hydrazine derivatives. They are most suitable for use with thermosetting resins, halogenated thermoplastics and elastomers. The major advantage in their use is that the crosslinking is not initiated except at a relatively high "trigger temperature," at which temperature crosslinking is quick and complete, without any post cure, or scorching in the pot.

3,513,126

PROCESS FOR MAKING AQUEOUS MELAMINE FORMALDEHYDE RESINOUS COMPOSITIONS

Johann F. Ehlers, Tuxedo, and Jorge A. Cremaschi, Suffern, N.Y., and Alvaro Salgado, Mahwah, N.J., assignors to Reichhold Chemicals, Inc., White Plains, N.Y.

No Drawing. Continuation of application Ser. No. 542,745, Apr. 15, 1966. This application Mar. 25, 1969, Ser. No. 810,930
Int. Cl. C08g *9/24*
U.S. Cl. 260—51.5 13 Claims

An aqueous melamine formaldehyde process suitable for forming laminated structures having desirable post-forming properties, prepared by reacting melamine and formaldehyde in the molecular range of about two moles of formaldehyde per mole of melamine to about one mole of formaldehyde per mole of melamine, together with a certain specified reducing agent selected from a group consisting of hydroquinone, glycine and o-phenylenediamine in the range of approximately 0.5 to approximately 2.0 percent by weight of the melamine contained therein at the pH value ranging from about 8.6 to 9.3.

3,513,127

POLYESTERS, POLYAMIDES, AND POLYESTERAMIDES OF MIXTURES OF NITRILOTRIACETIC AND HYDROXYETHYLIMINODIACETIC ACIDS

Nelson S. Marans, Silver Spring, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Oct. 10, 1968, Ser. No. 766,615
Int. Cl. C08g *17/04, 20/00, 20/30*
U.S. Cl. 260—77 4 Claims

A process for preparing a novel crosslinked polymer, comprising heating at about 130–200° C. for about 10–1000 minutes in an inert liquid medium, a reaction mixture consisting essentially of a first compound having the formula

$$HO—G—OH,\ H_2N—G—NH_2,\ \text{or}\ HO—G—NH_2$$

wherein G is an alkyl group having about 2–12 carbon atoms, hydroxyethyliminodiacetic acid, and nitrilotriacetic acid to form the polymer and water while continuously removing the water substantially as it is formed; separating the polymer from the reaction mixture; and recovering the separated polymer.

3,513,128

PROCESS FOR THE PRODUCTION OF THERMALLY STABLE POLYOXYMETHYLENES

Fritz Ulrich Herrmann, Offenbach, Germany, assignor to Chemische Werke Huls A.G., Marl, Germany

No Drawing. Filed July 27, 1967, Ser. No. 656,332
Claims priority, application Germany, July 27, 1966, C 39,725
Int. Cl. C08g *1/04*
U.S. Cl. 260—67 3 Claims

Copolymerization of trioxane with cyclic ethers or cyclic acetals to produce thermally stable polyoxymethylenes, wherein the copolymerization mixture is copolymerized at 62–120° C. until turbidity or strong increase of viscosity is reached, and then is quenched at a temperature of −10 to +60° C., and preferably storing the polymerizate for 5–120 minute at 30–120° C. before cooling the polymerizate and processing same.

3,513,129

SYNTHETIC POLYAMIDES

David E. Kramm, Laurel, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Dec. 5, 1967, Ser. No. 687,977
Int. Cl. C08g *9/16*
U.S. Cl. 260—72 9 Claims

A solid synthetic polyamide is formed by the reaction of one molar proportion of nitrilo-tris-acetonitrile with about 2 molar proportions of formaldehyde and one molar proportion of a monofunctional organic nitrile in the presence of an acid catalyst and water. Copolymers may also be made by utilizing a dinitrile as an additional ingredient in the reaction. Some of the products are water-soluble and other are water-insoluble.

3,513,130

REMOVING CATALYST FROM HYDROFORMYLATED POLYMERS

Joseph K. Mertzweiller and Lawrence W. McLean, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 9, 1965, Ser. No. 507,048
Int. Cl. C08g *17/10*; C08f *3/70*; C07c *69/60*
U.S. Cl. 260—75 5 Claims

Cobalt or rhodium catalyst complexes employed in the preparation of hydroxylated homopolymers and copolymers of C_4–C_6 conjugated diolefins are removed from the hydroxylated homopolymers or copolymers by treatment thereof with a saturated or unsaturated polycarboxylic acid or anhydride (e.g. succinic, maleic, etc.), thereby converting the catalyst complexes to metal soaps. The metal soaps are then precipitated with a slight excess of an acid forming a salt with the cobalt or rhodium (e.g. oxalic acid).

3,513,131

POLYMETHANES PREPARED FROM N,N'-BIS-(HYDROXYORGANO) PYROMELLIMIDES

Gilbert Joseph Marin and Andre Louis Armand Rio, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed June 15, 1966, Ser. No. 557,635
Claims priority, application France, June 21, 1965, 21,613
Int. Cl. C08g *22/16*
U.S. Cl. 260—75 8 Claims

The invention provides novel polyurethane elastomers prepared by reacting a diol of molecular weight 500 to 5000 with a diisocyanate and an N,N'-bis(hydroxyorgano)pyromellimide.

3,513,132

ADHESIVES FROM OLEFINICALLY UNSATURATED POLYESTERS AND POLYTHIOLS

James T. Edmonds, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 14, 1966, Ser. No. 579,205
Int. Cl. C08g *17/12, 33/10*; C09j *3/16*
U.S. Cl. 260—75 7 Claims

Olefinically unsaturated polyesters of polyhydric alcohols or phenols are contacted with a polythiol for a time sufficient to form an adhesive composition in the absence of an oxidizing atmosphere, and in the presence of a base, which promotes a cross-linking reaction. The novel composition of matter which results is useful as an adhesive.

3,513,133

REACTION PRODUCT OF ELEMENTAL SULFUR WITH SULFUR CONTAINING POLYESTERS AND METHOD OF PREPARATION

William E. Weesner, 4039 Le Fevre Drive, Dayton, Ohio 45429

No Drawing. Original application Oct. 11, 1965, Ser. No. 494,888. Divided and this application Mar. 20, 1969, Ser. No. 828,044
Int. Cl. C08g *17/06*
U.S. Cl. 260—75 7 Claims

This invention relates to the reaction of certain thiopolyesters with elemental sulfur and the products of said reaction which are useful as caulking compounds, fertilizer coatings, compositions for striping or marking highways, etc.

3,513,134

POLYAMIDE-IMIDE ENAMEL CONTAINING (1) DICYANDIAMIDE OR (2) DICYANDIAMIDE AND TRIPHENYL PHOSPHITE

Ronald H. Fillus, Muskegon, Mich., assignor to Anaconda Wire and Cable Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 23, 1966, Ser. No. 596,443
Int. Cl. C08g *20/32*
U.S. Cl. 260—78 3 Claims

A magnet wire coating composition is disclosed consisting essentially of a polyamide-imide enamel and an additive of dicyandiamide wherein the additive is present in an amount of about 0.1% or more. Various properties of the enamel are improved, including adhesion, abrasion, coatability and thermoplastic flow. The foregoing composition may also contain amounts of triphenyl phosphite.

3,513,135

ANIONIC POLYMERIZATION OF A LACTAM IN THE PRESENCE OF N-MONO SUBSTITUTED CARBOXYLIC ACID AMIDES

Karl-Heinz Hermann, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 498,149, Oct. 19, 1965. This application May 7, 1969, Ser. No. 824,375
Claims priority, application Germany, Dec. 10, 1964, F 44,663
Int. Cl. C08g *20/18*
U.S. Cl. 260—78 5 Claims

Process of preparing polyamides characterized by their increased thermal stability and improved flowability comprising polymerizing an anhydrous lactam with an alkali catalyst and a polymerization accelerator in the presence of an N-mono-substituted carboxylic acid amide at a temperature from 100 to 350° C.

3,513,136

POLYMERIZATION OF MALEIC ANHYDRIDE

John H. Blumbergs, Highland Park, and Donald G. MacKellar, Trenton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 10, 1968, Ser. No. 758,678
Int. Cl. C08f *1/60, 3/48*
U.S. Cl. 260—78.4 4 Claims

Maleic anhydride is homopolymerized by heating said maleic anhydride at a temperature of at least about 65° C. in the presence of an initiating amount of a mixed maleic-acyl peroxide.

3,513,137

PROCESS FOR POLYMERIZING ARYL OXALATES AND PRODUCTS THEREOF

Peter Salvatore Forgione, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application June 7, 1963, Ser. No. 286,212, now Patent No. 3,431,278, dated Mar. 4, 1968. Divided and this application July 23, 1968, Ser. No. 746,732
Int. Cl. C08f *5/00*
U.S. Cl. 260—78.5 7 Claims

A method for increasing the heat distortion temperature, the glass transition temperature and the hardness of a vinyl polymer comprising polymerizing a vinyl monomer with an aryl oxalate and the resulting polymers per se, are disclosed.

3,513,138

ACRYLONITRILE COPOLYMERS

Heinrich Rinkler and Gunther Nischk, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 26, 1968, Ser. No. 707,930
Claims priority, application Germany, Mar. 3, 1967, F 51,706
Int. Cl. C08f *15/22, 15/32*
U.S. Cl. 260—79.3 9 Claims

The invention relates to acrylonitrile copolymers containing in copolymerised form at least 50% acrylonitrile, 0.1 to 20% of compound of the general formula

$$CH_2{=}\underset{\displaystyle R}{\underset{|}{C}}{-}CO{-}NH{-}CH_2{-}NH{-}CO{-}Ar{-}SO_2X$$

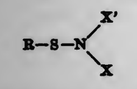
wherein R represents hydrogen or a C_1 to C_4 alkyl radical, Ar represents an aryl radical and X represents hydrogen or an alkali metal atom, the balance being one or more copolymerisable compounds, and to a process for their production.

3,513,139
INHIBITING PREMATURE VULCANIZATION OF RUBBER

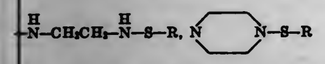
Aubert Y. Coran, Creve Coeur, Mo., and Chester D. Trivette, Jr., and Joseph E. Kerwood, St. Albans, W. Va., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 6, 1966, Ser. No. 518,987
Int. Cl. C08c *1/00, 11/54;* C08f *27/06*
U.S. Cl. 260—79.5 51 Claims

Premature vulcanization of a vulcanizable rubber is inhibited by incorporating therein besides vulcanizing agent and accelerator an amount effective to inhibit premature vulcanization of a compound of the formula



wherein x is cycloalkyl, lower alkyl, alkaryl, aryl, aralkyl, or hydrogen and x' is cycloalkyl, lower alkyl, alkaryl, aryl, or aralkyl, or x and x' together with the nitrogen atom are



morpholine, or lower alkyl substituted morpholine; and wherein R is aryl, aralkyl, cycloalkyl, alkyl of 1 to 20 carbon atoms, or alkaryl.

3,513,140
CRYSTALLINE COPOLYMERS

James Keith Hambling, Frimley, near Aldershot, Hampshire, Great Britain, and David Allinson Woodhead, Shepperton, Middlesex, Northern Ireland, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed Nov. 22, 1967, Ser. No. 684,933
Claims priority, application Great Britain, Nov. 29, 1966, 53,404/66
Int. Cl. C08f *15/40*
U.S. Cl. 260—80.78 3 Claims

Transparent crystalline polymers of improved tensile strength and malleability contain units derived from a branched chain monoolefin of 4–6 carbon atoms and at least some but less than 5% of units derived from at least one branched chain alpha octene. The polymers may be prepared by polymerising the branched C_{4-6} monoolefin with the branched chain alpha octene in the presence of a catalyst obtained from (a) a solid crystalline compound of a metal selected from Groups IV, V, VI, VII or VIII, the metal being in a lower valency state than its maximum and (b) an organometallic compound of a metal selected from Groups I, II or III.

3,513,141
PROCESS FOR IMPROVING OZONE RESISTANCE OF HYDROGENATED RUBBER

Roy F. Wright and William T. Cooper, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

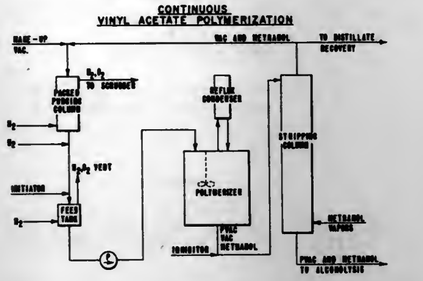
No Drawing. Filed Aug. 8, 1967, Ser. No. 659,010
Int. Cl. C08f *27/22, 27/25;* C08c *5/00*
U.S. Cl. 260—85.1 3 Claims

The ozone resistance of hydrogenated rubbery polymers containing residual unsaturation is improved by aging the polymers in an oxygen-containing atmosphere at a temperature of 200° to 350° F.

3,513,142
PRODUCTION OF POLYVINYL ALCOHOL OF IMPROVED COLOR BY OXYGEN PURGE

Jerald A. Blumberg, Newark, Del., Melven B. Burton, Jr., Williamsville, and Harold K. Inskip, Tonawanda, N.Y., and Timothy M. Kemp, Monroeton, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 664,060, Aug. 29, 1967. This application Mar. 7, 1969, Ser. No. 805,203
Int. Cl. C08f *27/16*
U.S. Cl. 260—85.7 12 Claims



A method for producing a polyvinyl alcohol product of improved color wherein a vinyl ester of a 2 to 4 carbon aliphatic monocarboxylic acid, or a mixture thereof with a copolymerizable monomer, is polymerized continuously in a polymerizing zone fed by a non-aqueous stream of the vinyl ester monomer or such mixture (or a solution thereof in a solvent such as a 1–4 carbon aliphatic alcohol), which stream has been purged with an inert gas such as nitrogen to remove dissolved oxygen therefrom, and the resulting polymer is alcoholyzed to obtain a polyvinyl alcohol product of improved color. Purging the monomer feed stream with the inert gas so as to reduce its dissolved oxygen content to not more than about 30 p.p.m. is distinctly beneficial, but a reduction to not more than about 10 p.p.m. is preferred.

3,513,143
PROCESS FOR THE MANUFACTURE OF BRANCHED POLYETHYLENE OF HIGH MOLECULAR WEIGHT

Bernd Diedrich and Karl Diether Keil, Frankfurt am Main, and Klaus Hofmann, Ingelheim am Rhine, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Mar. 3, 1967, Ser. No. 620,226
Claims priority, application Germany, Mar. 4, 1966, F 48,579
Int. Cl. C08f *15/04*
U.S. Cl. 260—88.2 8 Claims

Manufacture of copolymers of ethylene with butene-(1) having a density below 0.942 g./cc., a butene-(1) content of 0.5 to 4.7% by weight and an ash content of less than 0.03%, in the presence of a catalyst consisting of 0.1 to 0.01 millimole, per liter of dispersing agent, of a trivalent titanium compound containing chlorine and alkoxy groups and 0.5 to 4 millimoles of aluminum triisobutyl per liter of dispersing agent.

3,513,144
POLYTETRAFLUOROETHYLENE FIBROUS POWDERS

Yutaka Kometani, Hyogo-ken, Shun Koizumi, Osaka, and Katuo Kubota and Takeaki Nakazima, Osaka-fu, Japan, assignors to Daikin Kogyo Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Continuation of application Ser. No. 403,366, Oct. 12, 1964. This application Apr. 3, 1969, Ser. No. 858,547
Claims priority, application Japan, Oct. 14, 1963, 38/54,482; Nov. 11, 1963, 38/60,288
Int. Cl. C08f *3/24*
U.S. Cl. 260—92.1 2 Claims

A process for preparing polytetrafluoroethylene fibrous powder and product produced therefrom, said fibrous powder having an average fiber length of 100 to 5,000 microns, an average shape factor of not less than 10, and an anisotropic expansion factor of 1.3–7.0.

3,513,145
CONTINUOUS MASS POLYMERIZATION PROCESSES

James R. Crawford, New Canaan, Conn., assignor to Crawford & Russell Incorporated, Stamford, Conn.

Filed Feb. 25, 1966, Ser. No. 530,143
Int. Cl. C08f *7/04*
U.S. Cl. 260—935 6 Claims

Continuous processes for the mass polymerization of styrene monomer, utilizing two polymerization stages. First stage polymerization is performed in a first agitation-reaction zone where the monomer is maintained between 200° F. and 260° F.; second stage polymerization is performed by moving the material through a second agitation-polymerization zone at higher pressure and lower temperature while exposing successive portions of the entire polymerizing mass to reduced vaporization pressures in an unobstructed flash vaporizing region.

3,513,146
POLYPROPYLENE-METAL FLUORIDE COMPOSITION

Herbert Naarmann, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 13, 1967, Ser. No. 653,018
Claims priority, application Germany, July 21, 1966, 1,669,655
Int. Cl. C08f *29/02*
U.S. Cl. 260—93.7 4 Claims

Polypropylene molding material which contains a specific amount of a fluoride of a transition metal or of a metal of Group II or III of the Periodic System. This material can be processed into moldings having relatively high transparency.

3,513,147
POLYMERIZATION PROCESS AND CATALYST

Lawrence M. Fodor and Gerald R. Kahle, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 28, 1967, Ser. No. 663,500
Int. Cl. C08f *1/56, 3/10*
U.S. Cl. 260—93.7 6 Claims

Use of benzenediazonium hexafluorophosphate as an adjuvant for the binary polymerization catalyst system containing a complex of the formula $TiCl_3 \cdot \frac{1}{3}AlCl_3$ and at least one compound of the formula R_nAlX_{3-n} where R is alkyl, aryl cycloalkyl or combinations thereof having up to 20 carbon atoms, X is a halogen, and n is 2 or 3, results in the production of polymers of 1-olefins of 3 to 8 carbon atoms having increased modulus and lower xylenes-soluble content.

3,513,148
ZINC MALEATE-POLYPROPYLENE COMPOSITION

Herbert Naarmann, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

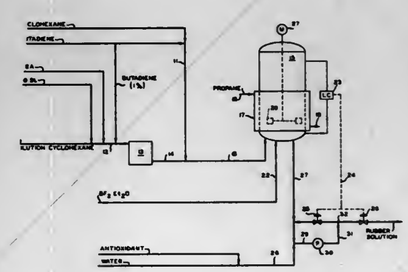
No Drawing. Filed Sept. 21, 1967, Ser. No. 669,387
Claims priority, application Germany, Oct. 8, 1966, 1,294,662
Int. Cl. C08f *29/02*
U.S. Cl. 260—93.7 1 Claim

Polypropylene molding material containing zinc malate can be processed into moldings of relatively high tear resistance and softening point.

3,513,149
GEL REDUCTION IN CIS-POLYBUTADIENE PROCESS

Robert H. Smith, Lawrence, Kans., and Donald D. Norwood, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 11, 1967, Ser. No. 689,534
Int. Cl. C08d *3/06*
U.S. Cl. 260—94.3 10 Claims



When polymerizing 1,3-butadiene to cis-polybutadiene using a catalyst comprising (1) a nickel compound, (2) lithium aluminum hydride or an organometallic compound, and (3) boron trifluoride, boron trifluoride etherate, or hydrogen fluoride, negligible gel is produced by using a single continuous polymerization zone operating at steady state conditions with a weight ratio of polymer to monomer of at least 9.

3,513,150
METHOD OF MANUFACTURING POLYETHYLENE

Ryo Matsuura, Shigeo Kamimura, Koichiro Iwasaki, Kazuo Yamaguchi and Jihei Inomata, Tokyo, Japan, assignors to Mitsubishi Chemical Industries Limited, Tokyo, Japan, a corporation of Japan

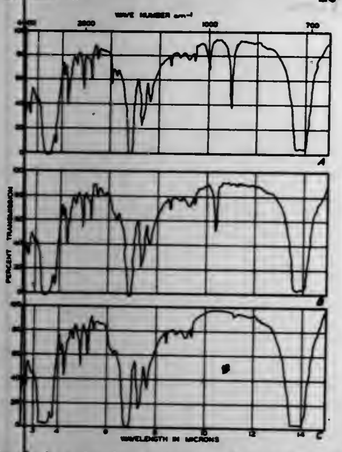
No Drawing. Filed Nov. 23, 1965, Ser. No. 509,425
Int. Cl. C08f *1/66, 1/72*
U.S. Cl. 260—94.9 11 Claims

Polyethylene of relatively low molecular weight is produced in a hydrocarbon solvent in the presence of (1) γ-alumina having a particle size of 10 to 100 microns and reacted with gaseous titanium tetrachloride at 200 to 700° C. in a fluidized state and which may be optionally chlorinated, (2) a cocatalyst selected from the class consisting of a metal of Groups I, II and III of the Periodic Table, a hydride and a complex hydride of said metal and (3) hydrogen.

3,513,151
REACTION PRODUCT OF METAL OXIDES AND HYDROCARBYLCYCLOSILOXANES AND METHOD OF POLYMERIZATION USING SAME
Edgardo Santiago, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Dec. 27, 1965, Ser. No. 516,715
Int. Cl. C08f *1/56, 3/06*
U.S. Cl. 260—94.9 17 Claims

The specification discloses polymerization of olefinic hydrocarbons in the presence of a catalyst combination comprising the reaction product of a hydrocarbylcyclosiloxane with a transition metal oxide selected from Group IV, V, or VI and a reducing agent for such reaction product.

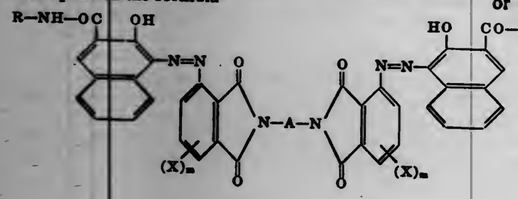
3,513,152
THERMALLY STABLE OLEFIN POLYMER
John Paul Hogan, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,311
Int. Cl. C08d *5/00*
U.S. Cl. 260—94.9 10 Claims



1. Polyethylene having a density of at least 0.94 gram per cubic centimeter, a melt index of 0.1 to 50, a weight average molecular weight of about 40,000 to 160,000, a ratio of weight average to number average molecular weight of 3 to 6, and an infrared spectrum showing an absence of absorption bands at 10.1 and 11 microns.

3,513,153
SYMMETRICAL DISAZO DYES CONTAINING PHTHALIMIDO GROUPS
Walter Herrmann, Cologne-Buchheim, and Edgar Siegel, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Aug. 18, 1966, Ser. No. 573,196
Claims priority, application Germany, Aug. 27, 1965, F 47,014; Mar. 11, 1966, F 48,637
Int. Cl. C09b *43/12*
U.S. Cl. 260—152 12 Claims

Azo dyestuffs free from sulfonic acid groups which correspond to the formula



(1)

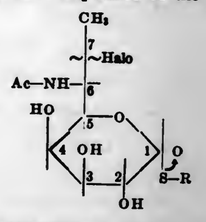
in which the radicals R represent aromatic radicals; X stands for substituents; *m* is 0 to 3; and A is a carbocyclic or heterocyclic radical. These dyestuffs are valuable pigment dyestuffs predominantly in the yellow-to-bluish-red range, and they are resistant to deterioration by solvent, light, or heat when incorporated in plastics, lacquers, and papers.

3,513,154
DISAZO DYESTUFFS CONTAINING A DIAZOTIZED METHYL OR METHOXY - p - CHLOROANILINE COUPLED WITH AN N,N' - (POLYHALO - p-PHENYLENE)-BISACETOACETAMIDE
Jack L. Towle, East Cleveland, Anton Mudrak, Broadview Heights, and Vernon J. Weir, Parma, Ohio, assignors to Kewanee Oil Company, Bryn Mawr, Pa., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 441,293, Mar. 19, 1965. This application Dec. 19, 1966, Ser. No. 602,530
Int. Cl. C09b *31/02, 33/14*
U.S. Cl. 260—176 6 Claims

This invention comprises disazo dyestuffs of improved light-fastness, tinctorial strength and resistance to bleeding prepared by the coupling of a 4-chloroaniline derivative, having either a methyl or methoxy radical in the 2-position and either hydrogen or a methyl radical in the 5-position, with a N,N'-(polyhalo-p-phenylene)-bisacetoacetamide having 2–4 chlorine or bromine atoms attached to the phenylene nucleus.

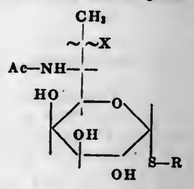
3,513,155
SULFOXIDES OF 7-HALO-7-DEOXYLINCOMYCINS AND PROCESS
Robert D. Birkenmeyer, Comstock Township, Kalamazoo County, and Fred Kagan, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed May 7, 1968, Ser. No. 727,353
Int. Cl. C07c *47/18*
U.S. Cl. 260—210 20 Claims

Novel antibacterial compounds of the formula:



(I)

are prepared by sulfoxidizing a compound of the formula:



(I)

wherein Ac is hydrogen or basic acyl and X is hydroxy or halogen, and when X is hydroxy replacing the 7-hy-

droxy group with halogen. Any or all of the 2-, 3-, and 4-hydroxy groups can be esterified or etherified before or after the halogenation.

3,513,156
ESTERS OF STARCH AND ANTHRANILIC ACID AND DERIVATIVES THEREOF
Edwin L. Speakman, 806 Park Place, Clinton, Iowa 52732
No Drawing. Continuation-in-part of application Ser. No. 367,246, May 13, 1964. This application Aug. 27, 1968, Ser. No. 755,748
Int. Cl. C13l *1/08*
U.S. Cl. 260—233.5 13 Claims

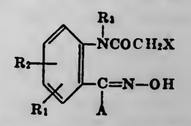
This invention relates to esters of starch and anthranilic acid and esters of starch and derivatives of anthranilic acid. These esters having a degree of substitution below about 0.1 exhibit essentially the pasting characteristics of raw starch. The esters having a higher degree of substitution than about 0.1 tend to be increasingly more difficult to paste in water.

3,513,157
DIAZABICYCLO[4.4.1]UNDECANES
William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hanover, N.J.
No Drawing. Filed July 14, 1967, Ser. No. 653,351
Int. Cl. C07d *53/00, 51/14*
U.S. Cl. 260—239 4 Claims

Compounds are of the class of 2-aryl-1,6-diazabicyclo [4.4.1]undecanes, e.g., 2-phenyl-1,6-diazabicyclo[4.4.1] undecane, which are useful as central nervous system stimulants.

3,513,158
PROCESS FOR PREPARING 5-ARYL BENZODIAZEPINES AND INTERMEDIATES
Earl Reeder, Nutley, Arthur Stempel, Teaneck, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 506,129, Nov. 2, 1965. This application Sept. 9, 1966, Ser. No. 578,153
Int. Cl. C07d *41/00, 41/06, 53/00, 87/54, 93/36*
U.S. Cl. 260—239.3 14 Claims

Treating an α-oxime of the formula



wherein R_1 and R_2 are hydrogen, halogen, trifluoromethyl and nitro, R_3 is hydrogen and lower alkyl, A is phenyl, halophenyl and pyridyl and X is halogen or alkyl or arylsulfonyloxy with a base to obtain the corresponding 4,1,5-benzoxadiazocin-2-one. The last-mentioned compounds are converted, with or without isolation, into the corresponding 3-hydroxy-1,4-benzodiazepin-2-one.

3,513,159
METHOD OF PRODUCING 1,2-DIHYDRO-1,4-BENZODIAZEPINES-2-ONES
Hjarne Paul Correll Dyrsting, Virum, Denmark, assignor to A/S Dumex (Dumex Ltd.), Copenhagen, Denmark, a Danish company
No Drawing. Filed Aug. 28, 1967, Ser. No. 663,499
Claims priority, application Denmark, Sept. 9, 1966, 4,662/66
Int. Cl. C07d *41/08*
U.S. Cl. 260—239.3 2 Claims

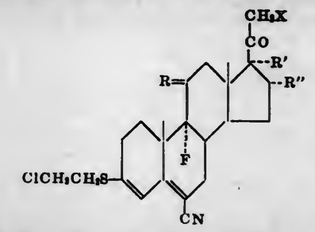
The invention relates to a novel method of producing 1-alkyl - 1,2 - dihydro - 3H - 5 - phenyl-1,4-benzodiazepin-2-ones by oxidizing the corresponding 1,2,4,5-tetrahydro compounds with azodicarboxylic acid diethyl ester.

3,513,160
PROCESS FOR THE PREPARATION OF 9α-BROMO-11β - HYDROXY - 17α,20;20,21-BISALKYLENEDIOXY PREGNANES
Royal E. Bright, Philadelphia, Richard W. Rees, St. Davids, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 1, 1968, Ser. No. 702,191
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.55 3 Claims

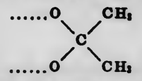
Steroids of the 9α-halo-11β-hydroxy-17α,20;20,21-bisalkylenedioxypregnane series are provided by treating, in acid medium, the corresponding 17α,20;20,21-bisalkylenedioxypregna-9(11)-ene with an N-bromo acid, retaining the bisdioxy group. The products of the process are adrenocortically active, especially as anti-inflammatory agents, or are convertible to other valuable adrenocortically active steroids by cleavage of the bisalkylenedioxy functional group.

3,513,161
CYANO-STEROIDS
Alberto Consonni, Via Brunelleschi n. 2, and Roberto Sciaky, Via Fiamma n. 13, both of Milan, Italy
No Drawing. Filed Feb. 2, 1968, Ser. No. 702,515
Claims priority, application Italy, Feb. 7, 1967, 12,332A/67
Int. Cl. C07c *173/00, 169/34*
U.S. Cl. 260—239.55 4 Claims

Disclosed are compounds of the formula:



wherein:
R is selected from the group consisting of αH(βOH) and O;
R' is αOH;
R'' is selected from the group consisting of H, αOH and αCH_3;
R' and R'' may form together the group



X is selected from the group consisting of H and OY, where
Y is a radical of a mono- or dicarboxylic organic acid having from 1 to 9 carbon atoms.
These compounds have anti-inflammatory activity. Also disclosed is the preparation of these compounds.

3,513,162
5',6'-DIHYDRO-2H-PYRAN-4'-YL ETHERS OF CORTICOID STEROIDS
Alexander D. Cross, Mexico City, Mexico, and John A. Edwards, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Continuation-in-part of application Ser. No. 731,299, May 22, 1968. This application Oct. 9, 1968, Ser. No. 766,296
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.55 17 Claims

The 5',6'-dihydro-2H-pyran-4'-yl ethers of corticoids have high oral activities.

3,513,163

21-TRI(LOWER ALKYL)-SILOXYPREGNANE-3,20-DIONES

Edward A. Brown, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Feb. 12, 1968, Ser. No. 704,559
Int. Cl. C07c *173/00, 169/34*
U.S. Cl. 260—239.55 8 Claims

Preparation of the captioned compounds—for example, 17α - hydroxy - 21 - trimethylsiloxypregn - 4-ene-3,11,20-trione—and their valuable pharmacological properties—including anti-inflammatory, neoglycogenetic, and occasional anti-algal activity—are disclosed.

3,513,164

5',6'-DIHYDRO-2H-PYRAN-4'-YL ETHERS OF PROGESTATIONAL STEROIDS

Alexander D. Cross, Mexico City, Mexico, and John A. Edwards, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Continuation-in-part of application Ser. No. 731,267, May 22, 1968. This application Oct. 9, 1968, Ser. No. 766,328
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.55 44 Claims

The 5',6'-dihydro-2H-pyran-4'-yl ethers of progestational steroids have high oral activities.

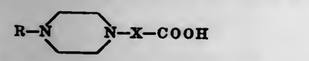
3,513,165

5-NITRO-FURFURAL PIPERAZINEALKANOYL HYDRAZONES AND METHOD OF PREPARATION

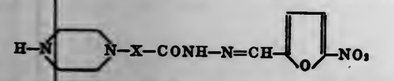
Elena Massarani, Dante Nardi, and Ludwig Degen, Milan, Italy, assignors to Societe d'Exploitations Chimiques et Pharmaceutiques Seceph S.A., Lugano, Switzerland

No Drawing. Filed Aug. 29, 1968, Ser. No. 756,290
Claims priority, application Switzerland, Sept. 11, 1967, 12,647/67
Int. Cl. C07d *51/70*
U.S. Cl. 260—240 3 Claims

Novel 5 - nitro - furfural piperazinealkanoylhydrazones having antibacterial activity are prepared by condensing hydrazones with 5-nitro-furfural and a carboxylic acid of the formula



or by reacting an alcohol with a compound of the formula



The object of the present invention is new 5-nitrofurfural piperazinealkanoylhydrazones of the formula:



(I)

in which R is hydrogen or an alkyl or alkenyl radical having 1 to 12 carbon atoms which is unsubstituted or substituted by at least one hydroxyl or aryl group, an aryl radical, an acyl radical or a dialkyl carbamoyl radical, and X is an alkylene radical having one or two carbon atoms, as well as their acid addition salts.

3,513,166

3-(OMEGA-AMINOALKYL)-4-SUBSTITUTED-1, 3-BENZOXAZINE-2-ONES

John A. Richman, Jr., Richmond, Va., assignor to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia

No Drawing. Filed May 22, 1967, Ser. No. 640,382
Int. Cl. C07d *87/08, 87/38, 29/38*
U.S. Cl. 260—247.2 6 Claims

The invention relates to 3-(omega-aminoalkyl)-4-substituted-1,3-benzoxazine-2-ones. The phenyl moiety of the benzoaxine ring may be further substituted by lower alkyl-lower alkoxy- and trifluoromethyl groups and by chlorine and bromine. The compounds are tranquilizers. 2-hydroxybenzaldehydes, 2-hydroxyacylphenones and 2-hydroxybenzophenones are condensed with omega-alkylamines, the resulting Schiff bases are reduced catalytically or by sodium borohydride and the N-omega-aminoalkyl-2-hydroxy-α-substituted benzylamines cyclized using a carbonyl halide in the presence of a base to the 3-(omega-aminoalkyl) - 4 - substituted-1,3-benzoxazine-2-ones of the present invention.

3,513,167

PRODUCTION OF PURE MELAMINE

Hermann Dieter Fromm, Ludwigshafen (Rhine), Rudolf Mohr, Lampertheim, and Matthias Schwarzmann and Horst Woehrle, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Sept. 29, 1967, Ser. No. 671,583
Claims priority, application Germany, Oct. 6, 1966, 1,670,154
Int. Cl. C07d *55/24*
U.S. Cl. 260—249.7 2 Claims

Melamine is recovered from the reaction offgas from the thermal conversion of urea carried out at temperatures of 300° to 450° C. in the presence of catalysts, by cooling the gas to a temperature of 220° C. To increase the purity of the melamine the gas is previously cooled to a temperature above the dewpoint up to 360° C. and the solid thus obtained is separated separately.

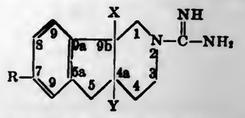
3,513,168

INDENO [1,2-c] PYRIDINES AND 2-GUANYL DERIVATIVES THEREOF

Ernst Jucker, Ettingen, Anton Ebnother, Reinach, Basel-Land, and Jean-Michel Bastian, Birsfelden, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed July 27, 1967, Ser. No. 656,318
Claims priority, application Switzerland, July 29, 1966, 11,039/66
Int. Cl. C07d *39/00*
U.S. Cl. 260—290 4 Claims

The invention relates to compounds of the formula



wherein R is hydrogen, chlorine, or lower alkyl of 1 to 4 carbon atoms, and X and Y are hydrogen or X and Y together are a second bond, and their acid addition salts. The compounds of the invention are indicated for use in the treatment of hypertonia.

3,513,169

5,9-DIETHYL BENZOMORPHAN DERIVATIVES

Franklin M. Robinson, Ambler, Paul S. Anderson, North Wales, and James A. Nicholson, Philadelphia, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 20, 1966, Ser. No. 551,546
Int. Cl. C07d *39/00*
U.S. Cl. 260—294.7 6 Claims

Novel 5,9-diethyl benzomorphan derivatives and processes for preparing the same are described. These compounds exhibit good pharmacological properties as analgesics.

3,513,170

PREPARATION OF 2,2,6,6-TETRAMETHYL-4-OXOPIPERIDINE

Keisuke Murayama, Syoji Morimura, Toshimasa Toda, Eiko Yamao, Tomizi Tsuzi, Susumu Higashida, and Osamu Amakasu, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan

No Drawing. Filed July 19, 1967, Ser. No. 654,361
Claims priority, application Japan, July 23, 1966, 41/48,272, 41/48,274
Int. Cl. C07d *29/20*
U.S. Cl. 260—294.7 2 Claims

Novel and improved process for the preparation of 2,2-dimethyl-4-oxo-6,6-disubstitutedpiperidine derivatives which comprises reacting diacetone alcohol with ammonia and ketone derivative in the presence of a Lewis acid.

Novel and improved process for the preparation of 2,2,6,6-tetramethyl-4-oxopiperidine which comprises reacting 2,2,4,4,6-pentamethyl-2,3,4,5-tetrahydropyrimidine with a Lewis acid in the presence of water. These 2,2-dimethyl-6,6-disubstituted-4-oxopiperidines, including the known 2,2,6,6-tetramethyl-4-oxopiperidine, are useful as intermediates for the synthesis of light stabilizer for polyolefins.

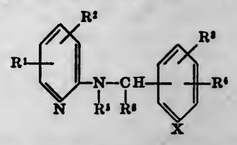
3,513,171

CERTAIN SUBSTITUTED BENZYL PYRIDYL-METHYL DERIVATIVES OF 2-, 3- OR 4-PYRIDYL CARBAMATES

Kurt Thiele and Walter von Bebenburg, Frankfurt, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Continuation-in-part of applications Ser. No. 637,322, May 10, 1967, and Ser. No. 762,321, Sept. 16, 1968. This application July 25, 1969, Ser. No. 845,058
Claims priority, application Germany, May 12, 1966, D 50,092, D 50,093
Int. Cl. C07d *31/34*
U.S. Cl. 260—295 8 Claims

Pharmacological compounds of the formula:



and their pharmacologically acceptable acid addition salts wherein: R^1 signifies an acylamino group R^7NH— wherein R^7 is an acyl group derived from carbonic acid, carbonic acid semi-morpholide, carbonic acid monoesters, such as the lower alkyl and alkenyl monoesters of carbonic acid, benzoic acids, preferably, substituted benzoic acids, pyridine carboxylic acids, preferably, substituted pyridine carboxylic acids, saturated or unsaturated lower aliphatic mono or dicarboxylic hydrocarbon acids, which, if desired, may be substituted with a morpholino group; each of R^2, R^3 and R^4 can signify the same as R^1 or hydrogen, halogen, lower alkyl, trifluoromethyl, cyano, thiocyanato, mercapto, lower alkylthio, acylthio, hydroxy, lower alkoxy, methylene dioxy, acyloxy, nitro, amino carboxy, carbalkoxy or carbamoyl; R^5 signifies hydrogen or an acyl group; R^6 is hydrogen, lower alkyl or unbranched phenalkyl preferably, phenyl lower alkyl and X signifies =N— or =CH—, the acyl groups included in R^2, R^3, R^4, or R^5 being as defined for R^7.

The benoic acids and the pyridine carboxylic acids from which the acyl groups R^7 are derived can be mono or poly substituted by halogen, hydroxy, trifluoromethyl, lower alkyl, lower alkoxy, methylene dioxy, acyloxy, amino, alkylamino, acylamino, cyano, isocyanato, nitro, mercapto, lower alkylthio, acylthio, carboxy carbethoxy and carbamino. The acyl groups in such substituents again being as defined.

3,513,172

3-PHENYL-5-(3,4,4-TRIFLUORO-3-BUTENYLTHIO) 1,2,4-THIADIAZOLE

Mervin E. Brokke, Richmond, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,664
Int. Cl. C07d *91/60*
U.S. Cl. 260—302 1 Claim

Certain trifluorobutenyl compounds of the formula

$$CF_2{=}CFCH_2CH_2{-}R$$

wherein R is a member selected from the group consisting of chlorothiophenyl, thio-3,4,4-trifluoro-3-butenyl, 2-thio-4,4,6-trimethyldihydropyrimidyl, 2 - thiobenzoxazoyl, 2-thiobenzothiazolyl, 2-thio-4-alkylthiazolyl, S-(3,4,4-trifluoro - 3 - butenyl)-ethylene-bis(dithiocarbamoyl), thiobenzyl, thionaphthyl, phthalimido, dithio-3,4,4-trifluoro-3-butenyl, thiopyridyl, N-thiazolidyl dione, and 5-thio-3-phenyl-1,2,4-thiadiazolyl, useful as nematocides.

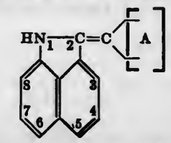
3,513,173

DYES CONTAINING BENZ[c,d]INDOLE AND PYRAZOL-5-ONE GROUPS

Konrad Mix, Fechenheim, Germany, assignor to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main, Fechenheim, Germany, a company of Germany

No Drawing. Filed May 29, 1967, Ser. No. 642,180
Claims priority, application Germany, Dec. 7, 1966, C 40,906; Feb. 3, 1967, C 41,407
Int. Cl. C09b *57/00*
U.S. C. 260—310 6 Claims

Very stable dyes have the formula



wherein A is a chromogen combination having at least one cyclic multiple-bond linkage or two acyclic multiple-bond linkages conjugated to the olefinic bond. These dyes are particularly desirable for dyeing polyesters a variety of different colors with particularly good fastness to light and to sublimation.

3,513,174

N,N' - ALKYLENE-BIS-DIBENZOBICYCLOOCTANO-PYRROLIDINE COMPOUNDS AND PRODUCTION THEREOF

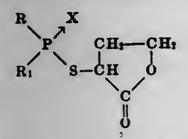
Keizo Kitahonoki, Ikoma-gun, Nara Prefecture, and Ryonosuke Kido, Toyonaka-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed Nov. 14, 1967, Ser. No. 682,975
Int. Cl. C07d *27/30*
U.S. Cl. 260—326.1 6 Claims

A dibenzobicyclo(2,2,2)octane-2,3-dicarboxylic anhydride is reacted with alkylenediamine containing from two to six carbon atoms to give an N,N'-alkylene-bis[dibenzobicyclo(2,2,2)octane-2,3-dicarboimide] compound, and the resultant product is reduced with metallic hydride complex to give an N,N'-alkylene-bis[dibenzobicyclo (2,2,2)octanopyrrolidine] compound which is useful as musculotropic antispasmodics.

3,513,175
2-OXO-TETRAHYDROFURANS
Arthur John Floyd, Bracknell, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Aug. 12, 1963, Ser. No. 301,604
Claims priority, application Great Britain, Aug. 17, 1962, 31,698/62
Int. Cl. C07f 9/32
U.S. Cl. 260—343.6 3 Claims

1. A compound of the formula:



wherein X is sulphur, R is lower alkyl and R_1 is lower alkoxy.

3,513,176
6,7-EPOXY-1-NONEN-3-YL-ACETOACETATES
David Andrews, Nutley, Walter Kimel, Highland Park, and Ronald Propper, Fair Lawn, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 18, 1967, Ser. No. 691,246
Int. Cl. C07d 1/06
U.S. Cl. 260—348 3 Claims

6,7-epoxy-1-nonen-3-yl-acetoacetate and derivatives thereof which are intermediates for derivatives of 3-methyl-10,11-epoxy-2,6-dodecadienoic acid esters, said esters being useful in killing and preventing proliferation of insects by upsetting their hormone balance.

3,513,177
WATER-SOLUBLE CORTICOID COMPOUNDS THAT DECOMPOSE IN PLASMA OR TISSUE FLUID WITH LIBERATION OF A FREE CORTICOID; AND PROCESS OF PRODUCING SAID COMPOUNDS
Carl Emil Vermehren and Thomas Ludvig Martin Vermehren, both of 8 Wiedersvej, Dragor, Denmark
No Drawing. Filed Apr. 6, 1966, Ser. No. 540,528
Int. Cl. C07c 167/28
U.S. Cl. 260—397.45 3 Claims

Monoalkali metal and monoammonium salts of di-corticord phosphates have the peculiar property that under certain circumstances they are able to react with free corticoids to form water-soluble compounds therewith whereby the solubility increases 300 to 600 times that of nonreacted corticoids and, in all cases tried, reaches a value of more than 0.2 mg. per ml., which allows the admission of therapeutic doses by way of injection of one or a few milliliters of water; and the bond secured is of loose character clearly demonstrated by removal of the free corticoid quantitatively upon shaking with water.

3,513,178
PRODUCTION OF ALPHA-NAPHTHOQUINONES
Louis A. Jeo, Johnson City, and Loren A. Bryan, Elizabethton, Tenn., assignors to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,276
Int. Cl. C07c 49/66
U.S. Cl. 260—396 5 Claims

This invention relates to a new process for the preparation of α-naphthoquinones from naphthalene and β-substituted naphthalenes. More particularly, it relates to a process according to which a naphthalene is oxidized to an α-naphthoquinone by means of an electrolytically regenerated hexavalent chromium compound previously reduced in the course of an identical oxidation process.

Naphthalene and β-substituted naphthalenes, fully or partially dissolved in an inert, water immiscible organic solvent having a boiling point not greater than about 100° C., are oxidized by an aqueous sulfuric acid solution of partly (30 to 80%) electrolytically regenerated hexavalent chromium compounds to yield up to 40% α-naphthoquinone and larger proportions of β-substituted naphthoquinones. The reaction takes place at 5 to 50° C. for 2 to 8 hours in the presence of excess hexavalent chromium and sulfuric acid and with a water content of 40 to 70% by weight in the aqueous phase.

3,513,179
CYANO SUBSTITUTED ESTRIOL DERIVATIVES
Eugene E. Galantay, Morristown, N.J., assignor to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware
No Drawing. Filed Feb. 29, 1968, Ser. No. 709,181
Int. Cl. C07c 169/08
U.S. Cl. 260—397.5 5 Claims

The compounds are cyano substituted estriol derivatives. They are prepared by treating a suitable 16α-substituted estrone with an alkyl aluminum cyanide and hydrolyzing the reaction product to obtain the corresponding cyano substituted estriol. The compounds have estrogenic/progestational activity.

3,513,180
PREPARATION OF CARBOXYLIC ANHYDRIDES
Donald M. Fenton, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed June 30, 1967, Ser. No. 650,263
Int. Cl. C07c 53/22, 63/06
U.S. Cl. 260—398 11 Claims

Prepartion of carboxylic anhydrides by dehydration of the corresponding carboxylic acid in the presence of a catalytic amount of a 1,2-dicarboxylic acid or anhydride.

3,513,181
METHOD OF PREPARING NEW QUATERNARY PHOSPHONIUM COMPOUNDS
Aart Noordermeer, Puister Willem, and Petrus Gerardus Johannes Wesselman, Van Houtenaan, Weesp, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 17, 1967, Ser. No. 644,751
Int. Cl. C07f 5/00, 7/00, 9/00
U.S. Cl. 260—429.5 31 Claims

Method of preparation of phosphonium compounds by the reaction of a trialkyl or triaryl phosphine with an electron acceptor and a compound of the formula

$$\begin{matrix} R'CH{-}OR_4 \\ | \\ R'_2 \end{matrix}$$

wherein R' is an α,β-unsaturated hydrocarbon moiety, R'_2 is hydrogen or a hydrocarbon moiety and R_4 is hydrogen, an acyl group or the radical of the reaction of a metal hydride and a carbonyl containing organic compound for example the radical $-Al(C_2H_5)_2$.

3,513,182
BICYCLIC-SUBSTITUTED SULFAMIDES
Hartmund Wollweber and Rudolf Hiltmann, Wuppertal-Elberfeld, Wolfgang Behrenz, Cologne, and Gerhard Müller, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed July 18, 1966, Ser. No. 565,673
Claims priority, application Germany, July 24, 1965, F 46,710
Int. Cl. A01n 9/16; C07c 143/80
U.S. Cl. 260—453 10 Claims

[(Optionally mono- to tri- methyl substituted)-bicyclo-(2,2,1 and 2,2,2)-alkyl-(C_{0-2} alkyl)]-substituted-[N-(optionally alkyl substituted)-N'-(optionally alkyl and alkoxy substituted)-N'-(alkyl)]-sulfamides which possess pest repellant properties and which may be prepared by conventional methods.

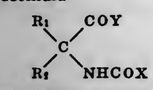
3,513,183
SILICONE SULFATES
Edward L. Morehouse, New City, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 304,988, Aug. 27, 1963. This application Aug. 24, 1966, Ser. No. 574,576
Int. Cl. C07f 7/08
U.S. Cl. 260—448.2 10 Claims

Siloxane containing the sulfatoorganoxyalkylsiloxy unit of the formula:

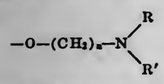
$$MO_3SOR'C_aH_{2a}SiO_{\frac{3-x}{2}}$$
$$\quad\quad\quad

3,513,187
NEW DERIVATIVES OF ESTERS OF N-SUBSTITUTED ALPHA-AMINO ACIDS
Paul Viennois, Lyon, France, assignor to Laboratoires Novalis, Oullins, Rhone, France, a French company
No Drawing. Filed Aug. 10, 1964, Ser. No. 388,711
Claims priority, application Great Britain, Aug. 3, 1963, 31,896/63
Int. Cl. C07c *101/104, 103/28*
U.S. Cl. 260—471 3 Claims

Compounds of formula



in which R_1 is an alkyl having at most three carbon atoms or a phenyl, R_2 is a phenyl, or a p-chlorophenyl, or R_1 and R_2 together form a five or a six member ring, Y is —OR_3 or —NH_2 or



wherein R_3, R and R' are an alkyl having at the most four carbon atoms, and *n* is equal to 2 or 3 and X is NHR_4 or R_5 or the trimethoxyphenyl, R_4 is hydrogen or a phenyl and R_5 is an alkyl of one to three carbon atoms, have tranquilizing, sedative activity and potentiate the hypnotic activity of nembutal. Very valuable is the compound ethyl α-phenyl-α-ethyl α-propionamido butyrate which is not toxic even at the dose of 1.0 g./kg. of body weight.

3,513,188
POLYOXAALKYLENE ETHERS OF PHENYL CARBOXYLIC ACIDS AND DERIVATIVES
Carl Smith, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Original application Mar. 9, 1964, Ser. No. 350,524, now Patent No. 3,393,229. Divided and this application Sept. 25, 1967, Ser. No. 679,279
Int. Cl. C07c *65/14, 69/76, 103/24*
U.S. Cl. 260—473 2 Claims

Polymerizable di or trifunctional monomers having terminal phenolic hydroxyl, glycidyl, or acrylate or methacrylate groups are provided. The bridging group is basically a polyoxyalkylene glycol chain with aromatic groups at each end. Each aromatic group may include two or one benzene ring. Single benzene rings at each end may also be substituted by carboxyl groups and derivatives thereof. Acrylate or methacrylate groups are joined to aromatic groups through glyceryl groups.

3,513,189
PREPARATION OF ACETOACETIC ESTERS
Erich Marcus, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 504,162, Oct. 23, 1965. This application Apr. 5, 1968, Ser. No. 719,256
Int. Cl. C07c *69/72*
U.S. Cl. 260—483 10 Claims

Azabicyclooctane compounds such as DABCO are excellent catalysts for preparing acetoacetic esters from alcohols and diketene. They provide high yields and productivity and result in a minimum of by-product formation as compared to previously used tertiary amines such as triethylamine. Polyhydric and monohydric alcohols having from 1–20 carbon atoms are reacted with diketene in the presence of the catalyst. The products obtained are useful in manufacturing and modifying amide type resinous polymers.

3,513,190
[(1-ORGANOTHIO-2,2-DIACYLETHYL) PHENOXY] ALKANOIC ACIDS
Edward J. Cragoe, Jr., and John B. Bicking, Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Jan. 11, 1967, Ser. No. 608,489
Int. Cl. C07c *103/26, 149/16*
U.S. Cl. 260—516 10 Claims

This invention relates to adducts which are synthesized by the addition of a mercaptan across the vinyl double bond of a [(2,2-diacylvinyl)phenoxy]alkanoic acid. The [(1-organothio - 2,2 - diacylethyl)phenoxy]alkanoic acid products thus obtained are useful as diuretic and saluretic agents which alleviate conditions associated with electrolyte and fluid retention.

3,513,191
2-AMINO-α-SUBSTITUTED-BENZYLIDENEAMINES AND METHODS FOR MAKING THE SAME
Stanley C. Bell, Penn Valley, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Original application July 25, 1963, Ser. No. 297,705. Divided and this application Aug. 8, 1966, Ser. No. 572,646
Int. Cl. C07c *101/44;* C07d *63/12*
U.S. Cl. 260—518 6 Claims

2-aminobenzylideneamines are prepared by cleavage of 1,3-dihydro-2H-1,4-benzodiazepin-2-ones. The cleavage products are pharmacologically active.

3,513,192
PROCESS FOR MANUFACTURING TEREPHTHALIC ACID BY OXIDATION OF PARA-XYLENE
Daniel Lumbroso, 30 Avenue du General de Gaulle 78, Le Vesinet, Yvelines, France
No Drawing. Continuation-in-part of application Ser. No. 588,720, Oct. 24, 1966. This application Aug. 13, 1969, Ser. No. 849,883
Int. Cl. C07c *63/02*
U.S. Cl. 260—524 6 Claims

The present invention relates to a method of obtaining improved yields of terephthalic acid by the oxidation of paraxylene in liquid phase by means of an oxygen-containing gas, in carboxylic acid solvents, at a temperature between 80 and 200° C., in the presence of a catalyst comprising a transition metal compound, said oxidation being effected in the presence of a mixture of 0.15 to 0.5 part, by weight, of a methylalkylketone having 3–20 carbon atoms and 0.0001 to 0.1 part, by weight, of a saturated aliphatic aldehyde having 2–20 carbon atoms, for each part, by weight of paraxylene.

3,513,193
PROCESS FOR THE PREPARATION OF TEREPHTHALIC ACID
Ewald Katzschmann, Witten-Bommern, Germany, assignor to Chemische Werke Witten G.m.b.H., Witten (Ruhr), Germany
No Drawing. Filed July 28, 1966, Ser. No. 568,385
Int. Cl. C07c *51/42, 63/26*
U.S. Cl. 260—525 12 Claims

Terephthalic acid of high quality is isolated from the oxidation products obtained by the air oxidation of a mixture of p-xylene and an excess of p-toluic acid methyl ester by heating said oxidation products, in the substantial absence of acetic acid, to a temperature of about 210° to 280° C., followed by a separation of the terephthalic acid from the reaction mixture.

3,513,194
PROCESS FOR PRODUCING ADIPIC ACID
Eizo Yasui, Takeo Kawaguchi, and Takashi Matsubara, Nagoya, and Noboru Hisanaga, Aichi-ken, Japan, assignors to Toa Gosei Chemical Industry Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed July 26, 1966, Ser. No. 567,859
Claims priority, application Japan, Nov. 15, 1965, 40/69,732
Int. Cl. C07c *51/28, 51/18*
U.S. Cl. 260—531 4 Claims

A process is provided for preparing adipic acid by oxidation in the liquid phase of cyclohexanol and cyclohexanone with an oxygen-containing gas in an acetic acid solvent in the presence of maganese catalyst; the procedure is characterized in that the oxidation is effected in the presence of cyclohexane, whereby adipic acid is produced in markedly high yields not only from cyclohexanone and cyclohexanol, but also from the cyclohexane.

3,513,195
PRODUCTION OF 2,2-DIMETHYLSUCCINIC ACID
Helmuth Hagen, Ludwigshafen (Rhine), and Friedrich Becke, Heidelberg, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Rhineland, Pfalz, Germany
No Drawing. Filed Nov. 28, 1967, Ser. No. 686,354
Claims priority, application Germany, Dec. 1, 1966, 1,568,210
Int. Cl. C07c *55/02, 69/40*
U.S. Cl. 260—537 8 Claims

Production of 2,2-dimethylsuccinic acid by reaction of methallyl chloride or methallyl bromide with two equivalents of an alkali or alkaline earth metal cyanide in the presence of about one equivalent of alkali or alkaline earth metal hydroxide and about three moles of water per mole of methallyl chloride or bromide at temperatures of 50° to 200° C., and recovering the free 2,2-dimethylsuccinic acid in the conventional way by adding strong mineral acid. 2,2-dimethylsuccinic acid may be reacted with diols to produce polyester resins.

3,513,196
METHOD FOR OBTAINING BROMINATED SALICYLANILIDES
Theodore E. Majewski, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 455,617, May 13, 1965. This application Nov. 15, 1967, Ser. No. 683,150
Int. Cl. C07c *103/26*
U.S. Cl. 260—559 2 Claims

An alkali metal or ammonium hydroxide is added to the alcoholic reaction medium in which salicylanilide is brominated to 3,4',5-tribromosalicylanilide after reaction is completed in amount sufficient to raise the pH to 1.5 to 6 prior to filtration. The filtration time is thereby reduced by at least 50 percent.

3,513,197
ISOTHIURONIUM SALTS
Werner Daum, Krefeld-Bockum, and Wilfried Paulus, Krefeld-Gartenstadt, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 24, 1967, Ser. No. 640,823
Claims priority, application Germany, May 26, 1966, F 49,295
Int. Cl. C07c *129/00;* A01n *9/20*
U.S. Cl. 260—564 3 Claims

3-benzyl-isothiuronium salt and a method for inhibiting algae in a media susceptible to growth thereof by treating with an active algicidal amount of said salt.

3,513,198
ARYLOXY- AND ARYLTHIO-ACETYLENIC AMINES AND THE SALTS THEREOF
Jay Philip O'Brien, Irvington, and Albert Israel Rachlin, Verona, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,534
Int. Cl. C07c *91/16, 91/28, 93/06, 93/08, 95/00, 97/00*
U.S. Cl. 260—570.5 27 Claims

Aryl ethers and aryl thioethers of 2-butynylamines, for example, N,N-diethyl-4-(2,4,5-trichlorophenoxy)-2-butynylamine, are prepared by alternative routes, viz, by aminating the appropriate arylalkynyl ether or arylalkynyl thioether, by treating an arylalkynyl ether or thioether with Grignard followed by an aliphatic amino halide or by treating an aryloxyhalopropyne or the corresponding thioether with an amine. The products inhibit monoamine oxidase.

3,513,199
SUBSTITUTED ANILINO BENZYL ALCOHOLS
Stephen T. Ross and Charles L. Zirkle, Berwyn, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed May 5, 1967, Ser. No. 636,259
Int. Cl. C07c *91/40;* A61l *27/00*
U.S. Cl. 260—571 4 Claims

2-(substituted anilino)-benzyl alcohols, the substituents being chlorine, trifluoromethyl, N,N-diloweralkylsulfamoyl or methyl, are useful as antipyretic and antiinflammatory agents. The compounds are generally prepared by reduction of the corresponding N-(substituted phenyl)-anthranilic acids.

3,513,200
PREPARATION OF TERTIARY AMINES
Giovanni Biale, Placentia, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Continuation-in-part of application Ser. No. 619,568, Mar. 1, 1967. This application Nov. 25, 1968, Ser. No. 778,745
Int. Cl. C07c *85/14*
U.S. Cl. 260—583 21 Claims

The invention relates to the preparation of tertiary amines by reaction of secondary amines with an ethylenically unsaturated compound, carbon monoxide and hydrogen in the presence of a complex catalyst comprising a Group VIII noble metal, a polycyclo, heterocyclic saturated amine, and a biphyllic ligand, e.g., an organic phosphine, arsine or stibine at temperatures between 50° and 200° C. and at pressures sufficient to maintain liquid phase conditions.

3,513,201
PROCESS FOR PREPARING 5-(3-ALKYLAMINO-PROPYL)-5H-DIBENZO[a,d]CYCLOHEPTENES
Max Tishler, Westfield, John M. Chemerda, Metuchen, and Janos Kollonitsch, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation of application Ser. No. 207,395, July 3, 1962. This application Oct. 25, 1966, Ser. No. 589,465
Int. Cl. C07c *85/02, 101/12, 101/16*
U.S. Cl. 260—570.8 2 Claims

Compounds prepared by the reaction of alkali metal derivatives of 5H-dibenzo[a,d]cycloheptene with N-(halopropyl)-N-methyl carbamic acid esters to form an intermediate 5 - [3 - (N-carbethoxy)-amino-N-methylpropyl]-5H-dibenzo[a,d]cycloheptene, followed by hydrolysis to produce the pharmacologically active 5 - (3 - alkylaminopropyl)-5H-dibenzo[a,d]cycloheptene.

3,513,202
ACETYLENIC KETONES AND USE AS A PARASITICIDE

Roland Chretien, Paris, and Georges Wetroff, Le Thillay, France, assignors to Produits Chimiques Pechiney-Saint-Gobain, Neuilly-sur-Seine, France

No Drawing. Filed June 24, 1966, Ser. No. 560,085
Claims priority, application France, June 29, 1965, 22,739
Int. Cl. C07c 49/20
U.S. Cl. 260—593 1 Claim

A conjugated unsaturated aliphatic ketone having the general formula R—CH=CH—CO—C≡C—R' in which R and R' represent an alkyl group of from 1 to 18 carbon atoms and particularly 2-heptene-5-yne-4-one and the method for the preparation of same and the use of same as a pesticide.

3,513,203
FLUORINATED KETONES AND PROCESS FOR THEIR PREPARATION

Dario Sianesi, Milan, Renzo Fontanelli, Rome, and Gerardo Caporiccio, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed July 5, 1967, Ser. No. 651,128
Claims priority, application Italy, July 11, 1966, 15,969/66; Dec. 16, 1966, 31,193/66
Int. Cl. C07c 49/16
U.S. Cl. 260—594 2 Claims

Compounds of the formula

$$CF_3-O-(C_3F_6O)_M-(CF_2O)_N-\left(\begin{matrix}CF-O\\ \downarrow\\ CF_3\end{matrix}\right)_L-CF_2-CO-CF_3$$

wherein M, N and L may each be zero or from 1 to 99, the sum of $M+N+L$ being zero or a number between 1 and 99, the ratio of

$$\frac{N+L}{M+1}$$

being between zero and 2.

Compounds prepared by heating specified perfluorinated polyethers.

3,513,204
HOMOGONANE DERIVATIVES

Eugene E. Galantay, Morristown, N.J., assignor to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 566,730, July 21, 1966. This application Dec. 20, 1966, Ser. No. 603,160
Int. Cl. C07c 171/02
U.S. Cl. 260—613 9 Claims

13β-(lower alkyl)-B-(6)-homogonenes have been found to possess properties useful for fertility control and in the therapy of menopausal problems. They are also useful for growth stimulation, postoperative recovery and healing of wounds and burns.

3,513,205
CYCLIC C_{18} AND C_{20} ALCOHOLS

Edward W. Bell and John C. Cowan, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 10, 1964, Ser. No. 350,917
Int. Cl. C07c 35/02; A61k 7/00
U.S. Cl. 260—617 7 Claims

Disubstituted cyclohexane monocarboxylic acids having 18 and 20 carbon atoms are catalytically reduced to the corresponding alcohols. The latter have high molecular weights and low melting points, are not readily subject to oxidative deterioration, and are useful as substitutes for palmityl alcohol and lanolin in cosmetic creams.

3,513,206
SYNTHESIS OF α-HYDROHEPTAFLUOROSTYRENE AND IMPROVED SYNTHESIS OF OCTAFLUOROSTYRENE

Leo A. Wall, Washington, D.C., and Joseph M. Antonucci, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,681
The portion of the term of the patent subsequent to Aug. 9, 1983, has been disclaimed
Int. Cl. C07c 29/00, 31/14, 31/34
U.S. Cl. 260—618 5 Claims

1. 2,3,4,5,6 - pentafluoro - α - (chlorodifluoromethyl) benzyl alcohol.

3. (2-chloro-1,2,2-trifluoroethyl) perfluorobenzene.

3,513,207
PROCESS FOR PREPARING ALLYL CHLORIDE AND ITS MONOMETHYL-SUBSTITUTION PRODUCTS

Lothar Hornig, Wilhelm Lendle, Gunther Mau, and Heinz Schmitz, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed June 1, 1965, Ser. No. 460,542
Claims priority, application Germany, June 6, 1964, F 43,107; Feb. 16, 1965, F 45,254
Int. Cl. C07c 21/00
U.S. Cl. 260—654 6 Claims

Method of reacting oxygen with (1) a C_3–C_4 olefin and hydrogen chloride, and/or (2) a C_3–C_4 monochloroparaffin over an elemental noble metal catalyst to form allyl chloride and monomethyl substitution products thereof.

3,513,208
PROCESS FOR PRODUCING HIGH PURITY CYCLODODECANE

Chien-Yung Lee, Kendall Park, N.J., assignor to Cities Service Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 2, 1968, Ser. No. 726,208
Int. Cl. C07c 5/02, 13/00
U.S. Cl. 260—666 9 Claims

Processes are described for minimizing the production of aromatic and unsaturated aliphatic by-products during the hydrogenation of a cyclododecatriene to the corresponding cyclododecane by conducting the hydrogenation reaction at a temperature below about 150 C. until a total of at least about two moles of hydrogen per mole of cyclododecatriene have reacted and completing the reaction at a temperature above 150° C. These cyclododecane products are suitable, without subsequent purification, for conversion to lactam or acyclic dibasic acid.

3,513,209
METHOD OF MAKING 1,4-CYCLOHEXADIENE

Robert Alton Clement, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 19, 1968, Ser. No. 753,717
Int. Cl. C07c 13/22, 3/60
U.S. Cl. 260—666 4 Claims

Butadiene reacts with acetylene at 80 to 300° C. and preferably at elevated pressures to yield substantial amounts of 1,4-cyclohexadiene. Cyclohexadiene is useful as a polymerizable monomer, as a chemical intermediate, as a hydrogen source for the reduction of organic compounds and as a molecular weight regulator in the preparation of butadiene oligomers.

3,513,210
HYDROGENATION OF CYCLODODECATRIENE

Lawrence Wayne Gosser, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 24, 1969, Ser. No. 801,841
Int. Cl. C07c 5/16
U.S. Cl. 260—666 10 Claims

1,5,9-cyclododecatriene can be selectively hydrogenated to cyclododecene by the action of hydrogen in the presence of a homogeneous catalyst of iridium trichloride, preferably in the presence of 1 to 5 parts of stannous chloride per part of iridium trichloride, and in the presence of an inert polar organic solvent.

3,513,211
PROCESS FOR HYDROGENATION OF AROMATIC HYDROCARBONS

Lowell D. Grinninger, Cincinnati, Ohio, assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Aug. 18, 1967, Ser. No. 661,720
Int. Cl. C07c 5/10; C08d 3/04; C08f 3/16
U.S. Cl. 260—667 7 Claims

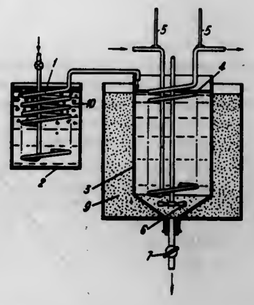
A process is provided for the hydrogenation of aromatic hydrocarbons having a benzene nucleus in liquid ammonia, using metallic sodium and lower aliphatic alcohol as the source of hydrogen, employing sodium in an average particle size within the range from about 0.5 to about 50 microns, dispersed in an inert diluent.

The product is useful as a molecular weight moderator in alfin polymerization, and a process for preparing alfin polymers is also provided employing the reaction product for this purpose.

3,513,212
RECOVERY OF PARAXYLENE CRYSTALS UNDER REFRIGERATION AND SONIC VIBRATION CONDITIONS

Jerzy Konrad Skrebowski and John Williamson, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, Millbank, London SW. 1, England, a corporation of Great Britain

Filed Aug. 15, 1966, Ser. No. 572,420
Claims priority, application Great Britain, Aug. 18, 1965, 35,367/65
Int. Cl. B01d 9/04
U.S. Cl. 260—674 8 Claims



Liquid comprising paraxylene and at least one other compound selected from other xylenes and ethyl benzene is contacted with a chilled surface which is subjected to sonic vibrations to produce a slurry comprising crystals of the paraxylene and the mother liquor.

3,513,213
HYDROCARBON SEPARATION

Rodney D. Beckham, Bridgeton, Herbert J. Gebhart, Jr., Ferguson, and Earle C. Makin, Jr., St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Apr. 24, 1968, Ser. No. 723,858
Int. Cl. C07c 7/10, 15/10
U.S. Cl. 260—674 10 Claims

A process for separating vinyl aromatic hydrocarbons from alkyl aromatic hydrocarbons employing a substantially anhydrous silver salt. The vinyl aromatic hydrocarbons are recovered from admixture with the silver salt by contacting the mixture with an olefin and/or diolefin hydrocarbon.

3,513,214
METHOD OF PRODUCING ACETYLENE AND CHLORINATED HYDROCARBONS

Henry O. Mottern, Far Hills, and Victor A. Sims, Bayonne, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 4, 1967, Ser. No. 628,309
Int. Cl. C07c 11/24, 17/08
U.S. Cl. 260—679 9 Claims

Acetylene is produced by heating a vapor mixture of methane, chlorine and oxygen to initiate the exothermic reaction, and maintaining the reaction mixture at not less than the initiation temperature for 0.005 to 0.05 second.

3,513,215
OXIDATIVE DEHYDROGENATION OF MONO-OLEFINS

Frank T. Ogle, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

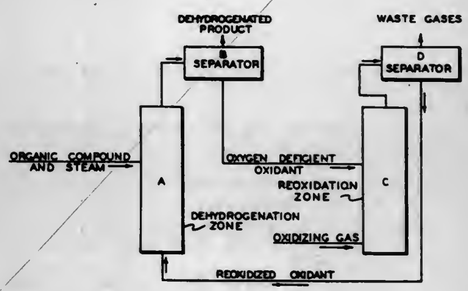
No Drawing. Filed Apr. 21, 1967, Ser. No. 632,526
Int. Cl. C07c 5/18
U.S. Cl. 260—680 9 Claims

In the oxidative dehydrogenation of mono-olefins, such as butenes, in admixture with steam and oxygen in contact with an oxidative dehydrogenation catalyst containing an alkali metal carbonate, CO is added to the reaction mixture to be oxidized to CO_2 to supply additional heat input and to preserve the carbonate in the catalyst.

3,513,216
DEHYDROGENATION PROCESS

Marvin Z. Woskow, Houston, Tex., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

Filed Mar. 28, 1968, Ser. No. 716,874
Int. Cl. C07c 5/18, 11/16, 11/18
U.S. Cl. 260—680 25 Claims



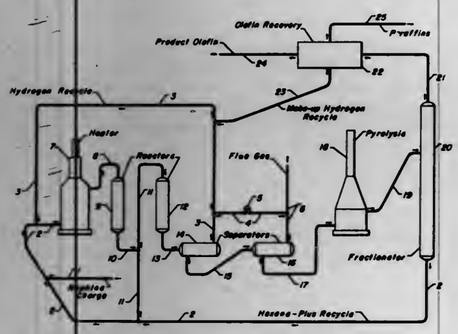
Dehydrogenation of organic compounds by reacting hydrogen removed from the organic compound with oxygen to form water. Oxygen is supplied by a solid oxidant

comprising a ferrite of magnesium, manganese, cobalt, nickel, zinc, cadmium and mixtures with boron which releases oxygen and is thereby converted to a composition diminished in oxygen.

3,513,217
OLEFIN PRODUCING PROCESS

Robert F. Raymond, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Sept. 16, 1966, Ser. No. 579,915
Int. Cl. C10g 23/00; C07c 11/02
U.S. Cl. 260—683 8 Claims



Olefins can be produced by catalytically hydrogenating an aromatics-containing feedstock and thereafter thermally cracking same.

3,513,218
OLEFIN DIMERIZATION

Volkert Faltings, Gelsenkirchen-Buer, Josef Ewers, Dorsten, Manfred Rolle, Neuhaussel uber Koblenz, and Franz-Josef Meyer, Gladbeck, Germany, assignors to Scholven-Chemie Aktiengesellschaft, Gelsenkirchen-Buer, Germany, a corporation of Germany

No Drawing. Filed Sept. 1, 1966, Ser. No. 576,536
Claims priority, application Germany, Sept. 6, 1965, Sch 37,679
Int. Cl. C07c 3/10
U.S. Cl. 260—683.15 12 Claims

A process of forming dimers of lower olefins, comprising bringing the monomeric olefins in contact, in a reaction zone, with a catalyst system comprising (a) a nickel compound, (b) an organoaluminum halide, and (c) an electron donor compound, in the presence of an organic solvent, and recovering the dimer after completion of the reaction, the organoaluminum compound having the formula

$$Al_2R_nR'X_m$$

wherein R is an aklyl group, R' is alkyl or alkoxy, X is halogen, m is a whole number and at least 2, and $n+m$ is equal to 5.

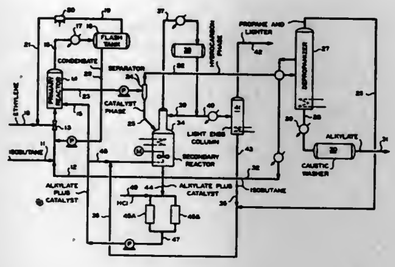
The process is particularly suited for the manufacture of ethylene and propylene dimers.

3,513,219
ALKYLATION PROCESS WITH RECYCLE OF ALKYLATE TO SEPARATE REACTION ZONES

Luther F. Mayhue, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 24, 1967, Ser. No. 677,654
Int. Cl. C07c 3/56
U.S. Cl. 260—683.53 6 Claims

Alkylation process comprising a primary reactor and secondary reactor with separation and fractionation of hydrocarbon phase from the effluent of the primary reactor and recycle of alkylate from the secondary reactor along with hydrogen halide through aluminum granule

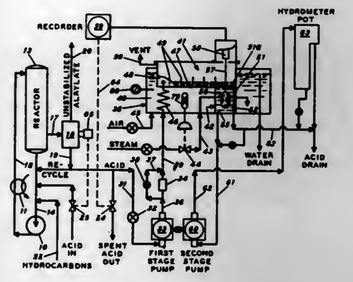


chambers to the primary reactor, which alkylate is subsequently recovered along with the effluent from the primary reactor.

3,513,220
SPECIFIC GRAVITY ANALYZER FOR CONTROL OF AN ALKYLATION PROCESS

Albert John Brandel, Long Beach, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Jan. 19, 1968, Ser. No. 699,108
Int. Cl. C07c 3/54
U.S. Cl. 260—683.59 3 Claims



The acid strength of a process stream associated with an alkylation process using a mineral acid catalyst, such as sulfuric acid, can be conveniently and continuously measured by determining the specific gravity of a sample of acid taken from the main process stream. The sample is pumped under positive and fixed flow rates into and from an analysis chamber by means of first and second pumping means, connected, respectively, to the inlet and outlet of the chamber. Prior to determining the gravity of the acid within the chamber, dissolved volatile hydrocarbons and high molecular weight, normally liquid, hydrocarbons are removed from the sample by stripping and settling chambers within the analysis chamber, the high molecular weight hydrocarbons flowing from the chamber by means of an overflow tube positioned in the settling chamber. The weight percent of the carbonaceous matter removed from the sample including the high molecular weight hydrocarbons is controlled by maintaining said second pumping means at a pumping rate less than that of said first pumping means.

3,513,221
CURABLE COMPOSITIONS CONTAINING EPOXY RESINS AND AMINE MODIFIED HYDROCARBON-ALDEHYDE RESINS

Ching Yun Huang, Minoo-shi, and Kazuo Ueno and Hisanori Tanabe, Ibaragi-shi, Japan, assignors to Japan Gas Chemical Company, Inc., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 10, 1967, Ser. No. 651,966
Claims priority, application Japan, July 21, 1966, 41/47,800
Int. Cl. C08g 45/06, 45/10
U.S. Cl. 260—830 5 Claims

Curable resin composition prepared by mixing an epoxy resin such as glycidyl polyether of polyhydric phenol with an amino modified aromatic hydrocarbon-aldehyde resin which is obtained by reacting an aromatic hydrocarbon-aldehyde resin with one or more of aliphatic amines and/or aromatic amines. As said hydrocarbon-aldehyde resin, for example, toluene formaldehyde resin, xylene formaldehyde resin, naphthalene acetaldehyde resin, etc. can be used. For example, diethylenetriamine, triethylenetetramine, hexamethylenediamine, etc. can be used as said aliphatic amine, and aniline, phenylene diamine, diaminodiphenylmethane as said aromatic amine. As said epoxy resin, for example, glycidyl polyether of polyhydric phenol, polyepoxy polyether, etc., obtained by reacting epichlorohydrin and polyhydric alcohol, are used. This cured resin is excellent in electric insulation, impact resistance, water resistance and chemical resistance compared with a cured resin of conventional epoxy resin-amine curing agent system.

3,513,222
COMPOSITION CONTAINING EPOXY RESINS, POLYVINYL CHLORIDE AND A DIESTER OF ACRYLIC ACID AND A GLYCOL

Rene Speitel, Maienweg 14, Rheinfelden, Switzerland, and Max R. Hegnauer, Im Steinacker, Aesch, near Basel, Switzerland

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,043
Claims priority, application Switzerland, Feb. 22, 1966, 2,541/66
Int. Cl. C08g 45/04
U.S. Cl. 260—836 8 Claims

Adherent corrosion-resistant coatings are produced upon substrates such as metal, glass, ceramic and earthenware, by coating with a polyvinyl chloride composition containing a small proportion, e.g. 5% of the weight of the polyvinyl chloride, of a solid precondensate of epichlorohydrin and a bis-phenol and, in addition, a cross-linking monomer which, under the conditions of use, acts as a solvent for the said reaction product and then stoving. When more than a surface coating of the polyvinyl chloride composition is required the said polyvinyl chloride compositions in dry blended form are subjected to a moulding operation to produce the desired form.

3,513,223
PHENOL-FORMALDEHYDE RESINS IN NEEDLE FORM

Charles L. Smart, Millington, and Gordon W. Calundann, Newark, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 13, 1967, Ser. No. 682,577
Int. Cl. C08g 37/06, 5/06
U.S. Cl. 260—838 12 Claims

Phenol-formaldehyde resin needles are produced by impregnating a low density oxymethylene polymer fiber with a hydroxy-aromatic compound such as phenol in the presence of an acid catalyst such as stannic chloride and then heating the resulting impregnated fiber to form phenol-formaldehyde resin needles.

3,513,224
MAR-RESISTANT POLYESTER RESINS

Allan Ellis Sherr, Martinsville, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Apr. 25, 1968, Ser. No. 724,288
Int. Cl. C08f 21/02
U.S. Cl. 260—872 3 Claims

A polyester resin composition composed of (1) the esterification reaction product of fumaric acid, triethylene glycol and 2,2-dimethyl-1,3-propanediol, (2) styrene and (3) an ethylene glycol dimethacrylate and lenses produced therefrom, are disclosed.

3,513,225
MAR-RESISTANT POLYESTER RESINS

Allan Ellis Sherr, Martinsville, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Apr. 25, 1968, Ser. No. 724,289
Int. Cl. C08f 21/02
U.S. Cl. 260—872 3 Claims

A polyester resin composition composed of (1) the esterification reaction product of fumaric acid, triethylene glycol and 2-ethyl-1,3-hexanediol, (2) styrene, (3) an ethylene glycol dimethacrylate and (4) methyl methacrylate, and lenses produced therefrom, are disclosed.

3,513,226
VINYLIDENE CHLORIDE COPOLYMER COMPOSITIONS

Tetsuya Hotta, Iwaki-shi, Japan, assignor to Kureha Kagaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

No Drawing. Filed Mar. 17, 1967, Ser. No. 623,804
Claims priority, application Japan, Mar. 26, 1966, 41/18,634
Int. Cl. C08f 19/08, 19/20
U.S. Cl. 260—876 4 Claims

By powder blending in a conventional blender a copolymer resin of vinylidene chloride and a monomer copolymerizable with vinylidene chloride, a "rubber plastic" prepared by polymerization of a mixture of at least one monomer, a divinyl cross-linking agent, and a latex containing a rubber component whose principal monomer constituent is a 1,3-conjugated diene, and a stabilizer and (or) plasticizer, it is possible to produce a copolymer composition which can be readily formed by an ordinary extruder into shaped articles such as films and bottles which are highly transparent and retain their toughness at low temperatures.

3,513,227
PROCESS FOR OBTAINING VINYLIC RESIN COMPOSITIONS IN THE FORM OF NON-STICKING POWDERS

Robert De Coene and Francois Lardinoit, Brussels, Belgium, assignors to Solvay & Cie, Brussels, Belgium, a Belgian corporation

No Drawing. Filed Dec. 29, 1967, Ser. No. 694,406
Claims priority, application Netherlands, Jan. 3, 1967, 6700053
Int. Cl. C08f 47/00
U.S. Cl. 260—887 7 Claims

A new resin product containing a mixture of 99–50% by weight of vinylic resin and 1–50% by weight of an elastomer in the form of a fine, non-sticky powder, easily transformable into a homogeneous gelatinized mass is obtained by a two stage treatment. The treatment involves coagulating a latex, the solid material of which is composed of an elastomer or a mixture of a elastomer and a

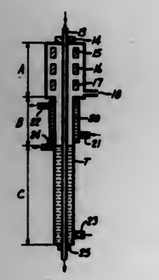
vinylic polymer, in an aqueous suspension of a vinylic resin obtained by means of polymerization in aqueous suspension, and coagulating a small quantity of a latex of a hard vinylic polymer by the addition thereof under agitation to the mixture obtained in the first stage. The aqueous phase of the mixture is then separated from the solid product.

3,513,228

METHOD OF CONTINUOUSLY CURING RUBBER OR PLASTIC COATED CONDUCTOR

Hirokazu Miyauchi, Osaka, and Yasuo Wakabayashi, Settsu, Japan, assignors to Sumitomo Electric Industries, Ltd., Osaka, Japan, a company of Japan

Filed June 7, 1967, Ser. No. 644,329
Claims priority, application Japan, June 11, 1966, 41/37,892; Apr. 20, 1967, 42/24,776, 42/24,777, 42/42,778, 42/32,743
Int. Cl. B29f 3/10
U.S. Cl. 264—25 2 Claims



In the curing of insulating material extruded upon the conductor to be insulated, the uncured coated wire is first passed through a heating zone so that the insulating material will be cured, as by vulcanizing or cross-linking and the cured conductor is thereafter cooled, the curing carried on within predetermined temperatures to prevent defects in curing and decomposition of the insulating material.

3,513,229

METHOD FOR PRESSING THIN WALLED BORON NITRIDE ARTICLES UTILIZING A LIQUID NITROGEN PRETREATMENT

Joseph J. Asbury, Knoxville, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Aug. 16, 1968, Ser. No. 753,049
Int. Cl. C04b 35/38
U.S. Cl. 264—28 4 Claims

A method of pressing boron nitride particles containing 0–77% B_2O_3 into thin walled configurations wherein the desired pressed density of greater than 1.75 gms./cc. is achieved by immersing the particles in liquid nitrogen, allowing the particles to warm up to about room temperature to evaporate essentially all of the liquid nitrogen, and then isostatically pressing the particles at about room temperature and about 30,000 p.s.i. A higher density of at least 2.00 gms./cc. can be achieved by a further step of hot pressing to 1100–1800° C. at pressures of 3000–5000 p.s.i.

ERRATUM

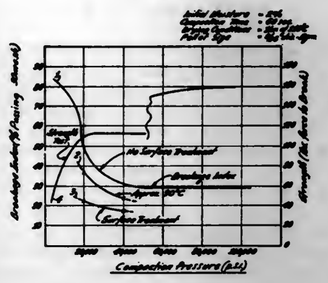
For Class 264—108 see:
Patent No. 3,513,067

3,513,230

COMPACTION OF POTASSIUM SULFATE

Raymond C. Rhees, Whittier, and Howard N. Hammar, Los Alamitos, Calif., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

Filed Apr. 4, 1967, Ser. No. 628,440
Int. Cl. B29j 1/00
U.S. Cl. 264—109 4 Claims



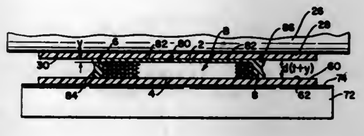
A process for improving the resistance to physical breakdown of potassium sulfate compacts formed by compacting particulate potassium sulfate feed material under pressure. The resistance to physical breakdown of such compacts is improved by controlling the moisture content of the feed material during compaction to between about 0.5% and 2.0% by weight and compacting the feed material at a pressure within the range of between about 12,000 and 40,000 p.s.i. The resistance of such compacts to physical breakdown is further improved by compacting the feed material at a temperature of approximately 90° C. The potassium sulfate compacts may be subjected to granulation to provide a quantity of granules having improved resistance to physical breakdown. The resistance of such granules to physical breakdown may be further improved by moistening the granules with water and thereafter evaporating the water from the moistened granules.

3,513,231

APPARATUS AND METHOD FOR COATING A FLAT WOVEN TAPE AND COATED TAPE PRODUCED THEREBY

Robert L. Bair, Ashland, N.J., and John F. Kelly, Broomall, Pa., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Sept. 30, 1966, Ser. No. 583,212
Int. Cl. B64c 25/68; B64f 1/02
U.S. Cl. 264—171 6 Claims



The invention disclosed is a method of making flat woven tape such as the tape used in aircraft arresting gear and aircraft launching gear. A tape is initially heated and conveyed to a coating station. The plastic coating material is also heated to a temperature above that of the tape. When the coating is applied it is passed to a mold cavity where the coating flows over the top surface of the tape and down the edges and forms a thick coating on the edge, substantially thicker than the desired thickness. The coated tape is then cured.

3,513,232

ANTIBIOTIC SL 2052

Hans-Peter Sigg, Binningen, Christian Stoll, Basel, and Zoltan Kis, Binningen, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

Continuation-in-part of application Ser. No. 598,088, Nov. 30, 1966. This application Nov. 30, 1967, Ser. No. 686,959
Claims priority, application Switzerland, Dec. 6, 1965, 16,790/65
Int. Cl. A61k 21/00
U.S. Cl. 424—122 1 Claim

A new antibiotic SL 2052 is provided. It is prepared by cultivating a new strain of the fungus species *Myrothecium roridum* Tode ex Fries. The antibiotic has fungistatic activity and is used as a disinfectant by, e.g. dusting a mixture of the antibiotic with inert, solid carriers onto a substrate contaminated with fungi.

3,513,233

USE OF ALLYLPHOSPHONODITHIOATES AS NEMATOCIDES

Erik K. Regel, Mission, Kans., and Marion F. Botts, Independence, Mo., assignors to Chemagro Corporation, Kansas City, Mo., a corporation of New York

No Drawing. Original application Feb. 15, 1967, Ser. No. 616,203, now Patent No. 3,467,736. Divided and this application Jan. 30, 1969, Ser. No. 823,209
Int. Cl. A01n 9/00, 9/24, 9/36
U.S. Cl. 424—219 8 Claims

S,S - dialkyl allylphosphonodithioates are prepared by reacting allylphosphonyl dichloride with a 2 to 4 carbon atom alkyl mercaptan in the presence of a tertiary amine. The products are useful as saprophytic and parasitic nematocides.

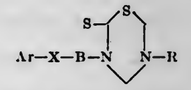
3,513,234

METHOD AND COMPOSITION FOR CONTROLLING MICROORGANISMS WITH TETRAHYDRO-1,3,5-THIADIAZINE-2-THIONES

Walter Traber, Riehen, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Original application Dec. 27, 1966, Ser. No. 604,641. Divided and this application Mar. 6, 1969, Ser. No. 831,798
Claims priority, application Switzerland, Dec. 29, 1965, 18,026/65
Int. Cl. A01n 9/12; A01k 29/00; A01l 13/00
U.S. Cl. 424—246 5 Claims

Tetrahydro-1,3,5-thiadiazine-2-thiones of the formula



wherein Ar represents an unsubstituted or substituted aromatic radical, B represents a lower aliphatic bridging member having 2 or 3 chain members, R represents an aliphatic hydrocarbon which is unsubstituted or substituted by a hydrophilic group, and X represents oxygen, sulphur, sulphinyl or sulphonyl, which are useful as agents for controlling bacteria and fungi, compositions containing them and organic materials and articles of manufacture protected by these agents and compositions against attack by bacetria or fungi.

3,513,235

METHOD OF CONTROLLING ASCITES TUMORS WITH CHLORPHENIRAMINE MALEATE

Teruta Matsunaga, 5, 2-chome, Kosasebo-cho, Nagasaki, Sasebo-shi, Japan

No Drawing. Continuation-in-part of application Ser. No. 686,327, Nov. 28, 1967. This application May 2, 1969, Ser. No. 821,475
Int. Cl. A61k 27/00
U.S. Cl. 424—263 1 Claim

This invention relates to a method for controlling Ehrlich ascites tumor with chlorpheniramine maleate.

3,513,236

5-[(ARYLDEHYDROPIPERIDINYL- AND ARYLDEHYDROPYRROLIDINYL) - LOWER - ALKYL] - 2-OXAZOLIDINONES IN TRANQUILIZING COMPOSITIONS AND METHODS

Carl D. Lunsford and William J. Welstead, Jr., Richmond, Va., assignors to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia

No Drawing. Original application June 13, 1966, Ser. No. 556,872. Divided and this application Aug. 26, 1968, Ser. No. 755,370
Int. Cl. A61k 27/00
U.S. Cl. 424—267 24 Claims

5-[(Aryldehydropiperidinyl- and aryldehydropyrrolidinyl)-lower-alkyl]-2-oxazolidinones compositions and method of treating therewith. Useful as major tranquilizers.

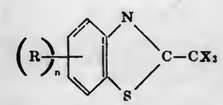
3,513,237

PESTICIDAL 2-TRIHALOMETHYLBENZOTHIAZOLES

David T. Manning, South Charleston, W. Va., and Anthony A. Sousa, Raleigh, N.C., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Feb. 8, 1965, Ser. No. 431,198. Divided and this application Mar. 28, 1967, Ser. No. 626,405
Int. Cl. A01n 9/12, 9/20
U.S. Cl. 424—270 13 Claims

A method of combatting plant pests by using a pesticidal amount of a 2-trihalomethylbenzothiazole of the formula:



wherein R is selected from the group consisting of hydrogen, halogen, nitro, trihalomethyl and alkyl having from one to twelve carbon atoms; X is halogen, wherein the halogen molecules are the same or different; and *n* is an integer from 0 to 4 inclusive, is disclosed.

3,513,238

ANTI-MICROBIAL COMPOSITIONS AND METHODS EMPLOYING N-(5-NITRO-2-FURFURYLIDENE)-3-AMINO-2-OXAZOLIDONE

Rolf Benno Kuhn, Mannheim-Gartenstadt, Peter Rieckmann, Mannheim-Waldhof, and Manfred Specker, Goppingen, Germany, assignors to Boehringer Mannheim Gesellschaft mit beschrankter Haftung, Mannheim-Waldhof, Germany, a corporation of Germany

No Drawing. Filed Jan. 28, 1966, Ser. No. 523,518
Claims priority, application Germany, Mar. 27, 1965, B 81,211
Int. Cl. A61k 27/00
U.S. Cl. 424—272 9 Claims

N-(5-nitro-2-furfurylidene)- 3 - amino-2-oxazolidone as an antimicrobial, antibacterial and anti-viral agent.

3,513,239

PHARMACEUTICAL COMPOSITIONS CONTAINING 2-AMINOALKYL COUMARAN DERIVATIVES AND METHODS OF TREATING DEPRESSION THEREWITH

George Lawrence Willey, Harpenden, and Anthony Maitland Roe, Hatfield, England, assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 15, 1967, Ser. No. 623,235

Int. Cl. A61k *27/00*

U.S. Cl. 424—285 9 Claims

Dosage unit pharmaceutical composition and methods for producing antidepressant activity in depressed or potentially depressed subjects. The active chemical ingredients are 2-aminoalkylcoumarans some of which are known to the art. The active ingredients are prepared by reaction of an amine with a 2-halomethylcoumaran or by N-alkylation of a 2-aminoalkylcoumaran.

3,513,240

CONTROLLING BEETLES WITH 3,5-DIMETHYL-4-DIMETHYLAMINOMETHYLPHENYL - N - METHYLCARBAMATE

Hendricus Bernardus Antonius Welle, Utrecht, and Jacques Meltzer, Van Houtenlaan, Weesp, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Original application July 15, 1965, Ser. No. 472,328, now Patent No. 3,388,151, dated June 11, 1968. Divided and this application Oct. 9, 1967, Ser. No. 719,798

Claims priority, application Netherlands, July 17, 1964, 6408165

Int. Cl. A01n *9/00, 17/00, 17/08*

U.S. Cl. 424—300 1 Claim

Method of combatting beetles with 3,5-dimethyl-4-dimethylaminomethylphenyl-N-methylcarbamate.

3,513,241

FUNGICIDAL AND FUNGISTATIC N-(DIALKYLAMINOALKYL) - CARBAMIC ACID AND THIOCARBAMIC ACID ESTERS

Georg-Alexander Hoyer and Ernst Albrecht Pieroh, Berlin, Germany, assignors to Schering AG Berlin & Bergkamen, Berlin, Germany

No Drawing. Filed Dec. 11, 1967, Ser. No. 689,310

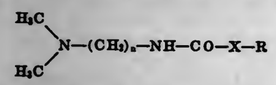
Claims priority, application Germany, Dec. 17, 1966, Sch 39,978

Int. Cl. A01n *7/00, 9/12, 9/20*

U.S. Cl. 424—300 1 Claim

Compounds containing N - (dialkylaminoalkyl) - carbamic acid esters and/or N-(dialkylaminoalkyl)-thiocarbamic esters are used either per se or in conjunction with other ingredients for use as fungicides or fungistats.

It has been found that compounds of the general formula:



in which R is an aliphatic hydrocarbon radical, preferably containing 1 to 8 carbon atoms, X oxygen or sulfur, and *n* an integer from 1 to 5, exhibit a fungicidal and fungistatic action and therefore are suitable preferably for the control of phytopathogenic fungi.

3,513,242

PESTICIDAL COMPOSITIONS CONTAINING ALKOXYALKOXYPHENYL - N - METHYLCARBAMATES

Kurt Gubler, Riehen, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

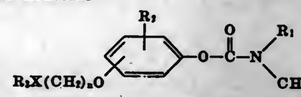
No Drawing. Original application June 20, 1966, Ser. No. 558,557. Divided and this application Mar. 25, 1969, Ser. No. 833,224

Claims priority, application Switzerland, June 25, 1965, 8,940/65

Int. Cl. A01n *9/20*

U.S. Cl. 424—300 5 Claims

Pesticidal compositions containing carbamate acid esters having the structure



in which R_1 is hydrogen or methyl; R_2 is hydrogen, halogen, nitro, C_{1-4} alkyl, or C_{1-4} alkoxy; R_3 is C_{1-4} alkyl, or halogenated C_{2-4} alkyl; X is oxygen or sulphur; and *n* represents the number 1 or 2; methods for combatting pests, particularly insects and spiders employ these compositions.

3,513,243

NEW ANTIBIOTIC AND FUNGICIDAL AGENTS

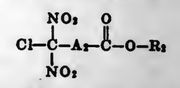
Marvin Gold, Sacramento, and Henry J. Harcus, West Covina, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Original application Nov. 26, 1963, Ser. No. 326,286, now Patent No. 3,359,334, dated Dec. 19, 1967. Divided and this application May 20, 1965, Ser. No. 487,942

Int. Cl. A01n *9/24*

U.S. Cl. 424—311 4 Claims

A process for controlling the growth of bacteria and fungus comprising treating the bacteria or fungus with an effective amount of a compound of the formula:



wherein A_2 is lower alkylene and R_2 is lower alkyl.

3,513,244

METHODS OF LOWERING BLOOD PRESSURE IN ANIMALS BY ADMINISTERING SECONDARY AND TERTIARY AMINES

Maurice Ward Gittos, Slough, John William James, Langley, and Leslie Frederick Wiggins, Wargrave, England, assignors to Aspro-Nicholas Limited, London, England, a limited company of Great Britain

No Drawing. Filed July 10, 1967, Ser. No. 652,028

Claims priority, application Great Britain, July 16, 1966, 32,067/66

Int. Cl. A61k *27/00*; A61l *13/00*

U.S. Cl. 424—320 13 Claims

A number of secondary and tertiary aminoindanes and amino-1,2,3,4-tetrahydronaphthalenes are disclosed. They have useful pharmacological properties in that, when administered to hypertensive animals, including humans, they lower the blood pressure of these animals. Pharmaceutical compositions containing these compounds may be administered orally, rectally or parenterally in dosage unit form, each dosage unit containing from 1 to 150 mg. of active ingredient. Up to 2 or 3 dosage units may be administered 4 times daily. Reduced dosages may be used for maintenance therapy.

ELECTRICAL

3,513,245

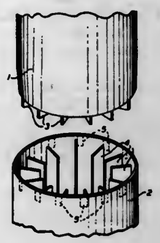
METHOD AND APPARATUS FOR JOINING SHELL SECTIONS OF SODERBERG ELECTRODES

Cornelius J. Sullivan, Berkeley Heights, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 22, 1968, Ser. No. 778,104

Int. Cl. H05b *7/10, 7/06*

U.S. Cl. 13—14 19 Claims



A "Soderberg" type electrode for electric arc furnaces made in sections, each section having a steel cylindrical jacket or shell, feed continuity being achieved by joining to the existing electrode top section, a new shell section, and each shell having complementary internal radial fins that have offset self-positioning tabs that locate the shells in a continuous column. Corresponding fins of upper and lower shells overlap, with one fin having a flange for making with the overlapping fin, a horizontal welding trough. A welding rod is inserted through a preformed bore-hole opposite the trough and a welding arc is started at the far end of the trough; the rod without further manipulation burns back along the trough, following the "firecracker" weld technique. When the electrode has burned to the end of the trough, the electrode is withdrawns and the bore-hole filled with weld metal.

3,513,246

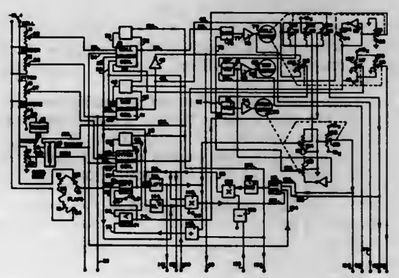
ANALOG COMPUTER

Stephen R. Fisch, Binghamton, and Lynn A. Staples, Greene, N.Y., assignors to Singer-General Precision, Inc., a corporation of Delaware

Filed Apr. 24, 1967, Ser. No. 633,054

Int. Cl. G06g *7/16, 7/14, 7/32*

U.S. Cl. 35—10.2 6 Claims



The flight computer of this invention is a small, lightweight, inexpensive, special-purpose analog computer for fixed-base aviation trainers, and it utilizes solid-state electronic components rather than the servo motor systems used as analog computers in earlier systems. This computer is designed to generate electrical signals representative of various airplane responses to change the conditions produced by both a student trainee and an instructor while the trainee is performing control operations on a simulated aircraft. The composite signals generated by the computer are used to control both the motion of the trainer and the instruments within it.

3,513,247

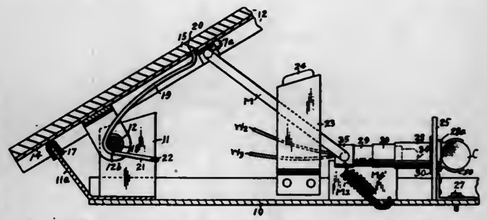
PHOTORESISTOR SWELL CONTROL FOR A MUSICAL INSTRUMENT

Walter J. Anderson, Elgin, and Alberto E. Knlepkamp, Chicago, Ill., assignors to Chicago Musical Instrument Company, a corporation of Delaware

Filed May 2, 1967, Ser. No. 635,493

Int. Cl. G10h *1/02*

U.S. Cl. 84—1.18 3 Claims



A swell control for an electrical musical instrument embodies a photoresistor coupling the tone signal output to the signal reproducing means of the instrument. An incandescent light bulb is energized by direct current of low voltage to emit light the luminous intensity of which is insufficient per se to excite the photoresistor. The bulb is selectively movable in a housing and disposed to emit light the luminous intensity of which selectively energizes the photoresistor to control conduction of the signal output to the reproducing means and secure variation in the volume of sound thereat.

3,513,248

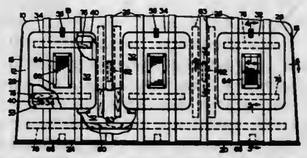
ENCLOSURE FOR PAD MOUNTED ELECTRICAL EQUIPMENT AND THE LIKE

William L. Bright, Herbert N. Steinmeyer, and James D. Coon, Portland, Oreg., assignors to Western Power Products, Inc., Portland, Oreg., a corporation of Oregon

Filed Feb. 19, 1968, Ser. No. 706,550

Int. Cl. H05k *5/00*

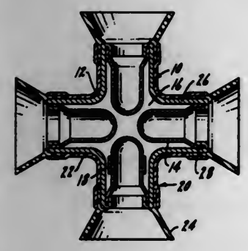
U.S. Cl. 174—52 10 Claims



The enclosure of the invention includes a housing having side and top walls. The housing is open at the bottom whereby it is arranged to seat over and protect pad mounted equipment. The housing is constructed of a nonconductive, high strength, corrosion free material such as glass fiber. The housing has front and back lift off doors for easy access to the interior and includes a novel arrangement of reinforcing structure in the form of ribs molded in its walls. These ribs can enclose rigid strips

for further reinforcement. To further reinforce the housing, the side walls thereof are inclined to form an upwardly tapered structure. The top wall is arched for this same purpose. The housing also has bracket means molded into its walls for supporting parts of the equipment being enclosed. The enclosure can take the form of a single housing unit or it can take the form of an elongated unit having multiple doors. The housing has novel doors in that the latter interlock with the housing to prevent open seams. The doors lift out for maximum access to the interior of the housing and are arranged to suitably ventilate the interior of the housing.

3,513,249
EXPLOSION CONNECTOR WITH IMPROVED INSULATING MEANS
David T. James, Dekalb, Ill., assignor to Ideal Industries Inc., Sycamore, Ill., a corporation of Delaware
Filed Dec. 24, 1968, Ser. No. 786,726
Int. Cl. H01r 5/10; H02g 15/18
U.S. Cl. 174—72 **8 Claims**



An explosion connector for mechanically or electrically joining the ends of wires, cables or the like including a substantially non-deformable outer jacket, at least one deformable inner shell, explosion means located between the outer jacket and the inner shell to cause the shell to deform into crimping contact with the wires, cables or the like, and insulating means to prevent electrical shock.

3,513,250
SOLID INSULATED CONDUCTOR
Roger J. Schoerner, Carrollton, Ga., assignor to Southwire Company, Carrollton, Ga., a corporation of Georgia
No Drawing. Continuation-in-part of application Ser. No. 795,055, Jan. 29, 1969. This application Apr. 7, 1969, Ser. No. 814,182
Int. Cl. B21c 1/00; C22f 1/04
U.S. Cl. 174—110 **14 Claims**

A solid insulated conductor prepared from an aluminum alloy wire having an electrical conductivity of at least sixty-one percent based on the International Annealed Copper Standard and unexpected properties of increased ultimate elongation, bendability and fatigue resistance when compared to conventional EC wire of the same tensile strength. The aluminum alloy wire contains substantially evenly distributed iron aluminate inclusions in a concentration produced by the addition of more than about 0.30 weight percent iron and no more than 0.15 weight percent silicon to an alloy mass containing less than about 99.70 weight percent aluminum and trace quantities of conventional impurities normally found within a commercial aluminum alloy. The substantially evenly distributed iron aluminate inclusions are obtained by continuously casting an alloy consisting essentially of less than about 99.70 weight percent aluminum, more than 0.30 weight percent iron, no more than 0.15 weight percent silicon and trace quantities of typical impurities to form a continuous aluminum alloy bar, hot-working the bar substantially immediately after casting in substantially that condition in which the bar is cast to form continuous rod which is subsequently drawn into wire without intermediate anneals, annealed after the final draw and insulated. After annealing, the wire has the aforementioned novel and unexpected properties of increased ultimate elongation, electrical conductivity of at least sixty-one percent of the International Annealed Copper Standard and increased bendability and fatigue resistance.

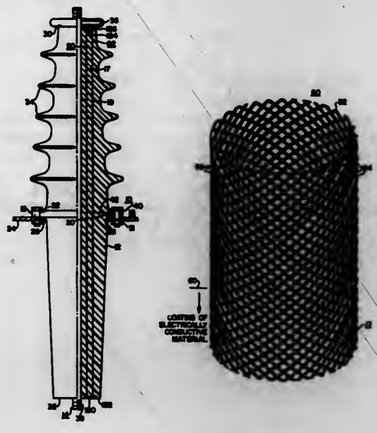
3,513,251
MULTIFILAMENT CONDUCTOR
Roger J. Schoerner, Carrollton, Ga., assignor to Southwire Company, Carrollton, Ga., a corporation of Georgia
No Drawing. Continuation-in-part of application Ser. No. 779,376, Nov. 27, 1968, which is a continuation-in-part of application Ser. No. 730,933, May 21, 1968. This application Apr. 7, 1969, Ser. No. 814,198
Int. Cl. B21c 1/00; C23f 1/04
U.S. Cl. 174—110 **18 Claims**

An insulated multifilament conductor prepared from aluminum alloy having an electrical conductivity of at least sixty-one percent (61%) based on the International Annealed Copper Standard and unexpected properties of increased ultimate elongation, bendability and fatigue resistance when compared to conventional EC wire of the same tensile strength. The aluminum alloy wires contain substantially evenly distributed iron aluminate inclusions in a concentration produced by the addition of more than about 0.30 weight percent iron to an alloy mass containing less than about 99.70 weight percent aluminum, no more than 0.15 weight percent silicon, and trace quantities of conventional impurities normally found within a commercial aluminum alloy. The substantially evenly distributed iron aluminate inclusions are obtained by continuously casting an alloy consisting essentially of less than about 99.70 weight percent aluminum, more than 0.30 weight percent iron, no more than 0.15 weight percent silicon and trace quantities of typical impurities to form a continuous aluminum alloy bar, hot-working the bar substantially immediately after casting in substantially that condition in which the bar is cast to form continuous rod which is subsequently drawn into wire without intermediate anneals and annealed after the final draw. After annealing, the wire has the aforementioned novel and unexpected properties of increased ultimate elongation, electrical conductivity of at least sixty-one percent (61%) of the International Annealed Copper Standard, and increased bendability and fatigue resistance.

3,513,252
INSULATED ALUMINUM ALLOY MAGNET WIRE
Roger J. Schoerner, Carrollton, Ga., assignor to Southwire Company, Carrollton, Ga., a corporation of Georgia
No Drawing. Continuation-in-part of application Ser. No. 795,038, Jan. 29, 1969, which is a continuation-in-part of application Ser. No. 779,376, Nov. 27, 1968, which in turn is a continuation-in-part of application Ser. No. 730,933, May 21, 1968. This application Apr. 7, 1969, Ser. No. 814,201.
Int. Cl. B21c 1/00; C22f 1/04
U.S. Cl. 174—110 **14 Claims**

An insulated solid magnet wire, prepared from an aluminum alloy wire having an acceptable electrical conductivity of at least sixty-one percent (61%) based on the International Annealed Copper Standard and a minimum of fifteen percent (15%) ultimate elongation, has improved physical properties of increased tensile strength and fatigue resistance when compared to conventional magnet wire. The aluminum alloy wire contains substantially evenly distributed iron aluminate inclusions in a concentration produced by the addition of more than about 0.30 weight percent iron and no more than 0.15 weight percent silicon to an alloy mass containing less than about 99.70 weight percent aluminum and trace quantities of conventional impurities normally found within a commercial aluminum alloy. The substantially evenly distributed iron aluminate inclusions are obtained by continuously casting an alloy consisting essentially of less than about 99.70 weight percent aluminum, more than 0.30 weight percent iron, no more than 0.15 weight percent silicon and trace quantities of typical impurities to form a continuous aluminum alloy bar, hot-working the bar substantially immediately after casting in substantially that condition in which the bar is cast to form continuous rod which is subsequently drawn into wire without intermediate anneals and annealed after the final draw. After annealing, the wire has the aforementioned novel and unexpected properties of a minimum of fifteen percent (15%) ultimate elongation, electrical conductivity of at least sixty-one percent (61%) of the International Annealed Copper Standard and increased tensile strength, bendability and fatigue resistance.

3,513,253
CAST CONDENSER BUSHING HAVING TUBULAR METAL COATED MESH PLATES
Edmund E. Woods, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 24, 1968, Ser. No. 747,307
Int. Cl. H01b 17/28; B32b 31/06, 31/12
U.S. Cl. 174—143 **7 Claims**



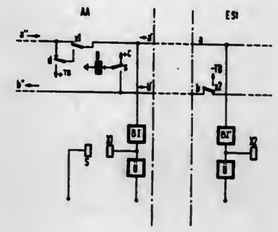
A condenser type bushing assembly, and methods of manufacturing same, having a generally cylindrical body portion formed of a cast solid insulation system, a conductor stud, and one or more capacitor plates. The capacitor plates are formed of tubular members having different inside diameters, which are embedded in the cast body portion, in spaced, concentric relation about the conductor stud. The tubular members each have a wall formed of electrical insulating strands of filaments, which are bonded together to form an open mesh. The required capacitive relationships are provided by metallic coatings disposed on predetermined portions of the tubular members, while maintaining the open mesh characteristic of the wall.

3,513,254
LOCKING DEVICE FOR PIN AND SOCKET INSULATOR CONNECTIONS
Leopold Leblanc, Victoriaville, Quebec, Canada, assignor of fifty percent to Jean Moisan, Arthabaska, Quebec, Canada
Substituted for abandoned application Ser. No. 773,457, Nov. 5, 1968. This application Aug. 15, 1969, Ser. No. 850,374
Int. Cl. H01b 17/08
U.S. Cl. 174—150 **2 Claims**



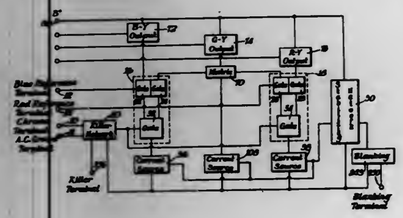
This is a locking device for use in the pin and socket connections between the electrical insulators in the strings thereof which are used for the suspension of high tension power lines; it provides a slug-like obstruction to the passage of the pin head from the socket through the slotted passage; it is inserted in position without stress or strain and secured therein by snap releasing a simple locking mechanism.

3,513,255
CONTROL SIGNALS FOR USE WITH TELETYPEWRITER APPARATUS
Henrik Muller, 5 Nonnenhornstrasse, 8 Munich 60, Germany
Filed Aug. 24, 1967, Ser. No. 663,081
Claims priority, application Germany, Aug. 25, 1966, S 105,518
Int. Cl. G08c 19/22
U.S. Cl. 178—2 **13 Claims**



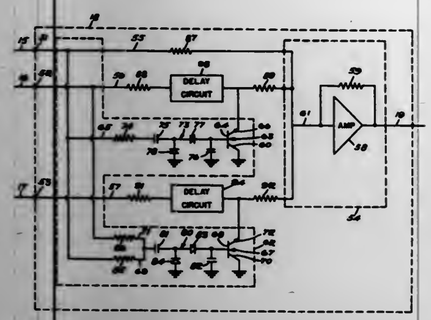
A circuit wherein additional stations may be connected to an existing connection between a calling subscriber station and a called subscriber station. Clearing signals are employed to effect connection of desired additional subscriber stations to the existing connection. Additional subscriber stations can be connected to the existing connection without requiring the calling or called subscriber station that requests their connection to the existing connection to provide separate entry control signals. Each additional subscriber station comprises means to effect a connection to the existing connection, if a clearing signal is received which is indicative of a request by one of the connected subscriber stations that a particular additional station be connected to the existing connection.

3,513,256
SYNCHRONOUS DEMODULATOR FOR COLOR TELEVISION SIGNALS
Alberto Bilotti, Buenos Aires, Argentina, assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 657,410, July 31, 1967. This application Mar. 7, 1969, Ser. No. 805,151
Int. Cl. H04n 9/50
U.S. Cl. 178—5.4 11 Claims



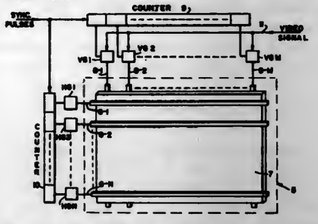
Each of a pair of fully balanced gate detectors are driven by the color subcarrier and one of two color reference signals. One color difference signal is taken from each detector and the third color difference signal is derived in a matrix which combines the antiphase output of each detector. Thermal drift is minimized by a stabilizing network which automatically varies gate current to compensate for thermal variations in the quiescent output voltage.

3,513,257
DUAL IMAGE REGISTRATION SYSTEM WITH ATTENUATION OF HIGH FREQUENCY ERROR SIGNALS CONTROLLED BY LOW FREQUENCY ERROR SIGNALS
Gilbert L. Hobrough, Woburn, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Feb. 28, 1968, Ser. No. 708,931
Int. Cl. H04n 7/18, 9/54; H01j 39/12
U.S. Cl. 178—6.5 16 Claims



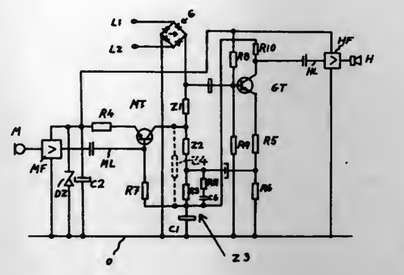
A dual image registration system wherein video signals representing image detail along corresponding scanning paths in a pair of images are correlated to produce multichannel error signals indicative of relative displacement between common image detail in the paths. Before combination of the error signals, a signal transformation circuit attenuates higher frequency error signals in response to reception of given lower frequency error signal values thereby preventing undesirable system control by nonsense signals.

3,513,258
ELECTROLUMINESCENT TELEVISION SYSTEM
Michael I. Rackman, 542 Ocean Parkway, Brooklyn, N.Y. 11218
Filed June 13, 1967, Ser. No. 645,743
Int. Cl. H04n 3/12
U.S. Cl. 178—7.3 4 Claims



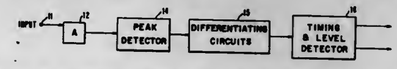
An electroluminescent television system having horizontal and vertical arrays of parallel conductors with an electroluminescent phosphor film interposed between them. The vertical conductors are connected at spaced intervals to a delay line having a delay sufficient for the delay line to represent an entire line of the picture signal. Successive lines of the video signal are fed into the right end of the delay line. The signals travel down the delay line to the left end. Just at the instant when a complete line of the picture signal is within the delay line between the leftmost and the rightmost vertical conductors, one of the horizontal conductors is momentarily energized. This causes a complete line of the picture signal to be displayed. The horizontal conductors are sequentially energized to form the complete display. Each line of the display is formed as a unit at the end of the reception of a complete line of the video signal. In this manner the vertical conductors need not be sequentially energized during each line cycle as in prior art electroluminescent display systems.

3,513,259
HYBRID CIRCUIT WITH ELECTRON VALVE SEPARATING ELEMENT
Owe Lindgren, Farsta, Gunnar Kjellander, Hagersten, and Lennart Skoog, Farsta, Sweden, assignors to Aktiebolaget Gylling & Co., Stockholm, Sweden, a corporation of Sweden
Filed Nov. 9, 1966, Ser. No. 593,188
Claims priority, application Sweden, Dec. 16, 1965, 16,307/65
Int. Cl. H04m 9/08
U.S. Cl. 179—1 10 Claims



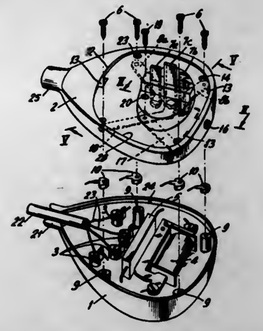
A hybrid circuit connecting a two-conductor signal transmission line to a transmitting device and to a receiving device. The hybrid circuit includes an electron valve, e.g., a transistor, having three electrodes, and has circuits (a) for applying first signal voltages developed by said transmitting device to the base and emitter electrodes with substantially equal phase and equal amplitude and (b) for supplying the second signal voltages originating from the transmission line to the base and emitter electrodes with greater amplitudes than the first signal voltages. The electron voltage valve providing an output signal at the collector electrode controlled by the voltage applied between said base and emitter electrodes and a coupling circuit enables applying the output signal to the receiving device.

3,513,260
SPEECH PRESENCE DETECTOR
George A. Hellwarth, Gardner D. Jones, and Albert C. Ruocchio, Raleigh, N.C., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 13, 1967, Ser. No. 675,230
Int. Cl. G10l 1/04
U.S. Cl. 179—1 3 Claims



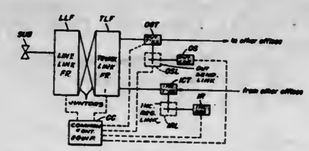
A speech presence detector in which the speech signal is applied to a peak detector the output of which is twice differentiated to accentuate the alternating component and block the direct component of the signal which results from background noise and the double differentiated output derived is used to operate a timing circuit for rapidly detecting and indicating the presence of speech.

3,513,261
TELEPHONE CONNECTOR
Giorgio Dal Monte, and Eros Mignani, Milan, Italy, assignors to Societa Italiana Telecommunicazioni Siemens S.p.A., Milan, Italy, a corporation of Italy
Filed Oct. 20, 1967, Ser. No. 676,919
Claims priority, application Italy, Oct. 21, 1966, 29,135/66
Int. Cl. H01r 33/00
U.S. Cl. 179—1 10 Claims



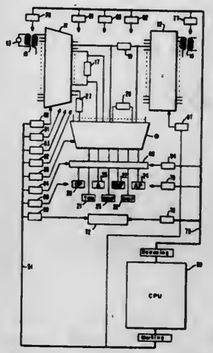
Plug-in connector, particularly for telephone cords, with a cup-shaped housing receiving a removable insert which carries a set of outwardly projecting prongs receivable in an associated socket, the prongs being conductively joined to respective tabs which upon assembly overlie respective conductor terminals within the housing and are traversed, together with these terminals, by screws serving to secure the insert to the housing whereby a conductive connection is established between the prongs and the conductors assigned thereto; substitution of inserts with different arrays of prongs allows use of the connector with different types of socket. A buzzer or bell may be mounted within the housing on the cup bottom and may be optionally connected in circuit by a special screw interlinking two of the tabs.

3,513,262
ALL-BUSY TRUNK SIGNALLING IN COMMON-CONTROL TELEPHONE SWITCHBOARDS
Reijiro Fukutomi, Kanazawa-shi, Yoshihito Iwai, Toshio Ando, Takeo Kontani, Hiroshi Nakamura, and Iwao Kameyama, Tokyo-to, Sadayuki Hiragi, Shigeaki Kurahashi, Satoai Takemori, Yokohama-shi, and Tomoo Okada, and Akira Izeki, Kawasaki-shi, Japan, assignors to Nippon Telegraph & Telephone Public Corporation, Nippon Electric Company, Limited, Oki Electric Industry Co., Ltd., Hitachi Ltd., all of Tokyo-to, Japan and Fujitsu Limited, Kanagawa-ken, Japan
Filed Apr. 11, 1967, Ser. No. 629,940
Claims priority, application Japan, Apr. 14, 1966, 41/23,686
Int. Cl. H04q 3/56
U.S. Cl. 179—18 7 Claims



An all-busy signal arrangement is provided for a telephone central office embodying an incoming register link and/or an outgoing sender link, each link including a plurality of primary crossbar switches and a plurality of secondary crossbar switches interconnected by a plurality of other links. Each primary switch in the incoming register link or in the outgoing sender link is provided with a plurality of off-normal contacts which are closed, when all other links of a particular primary switch are busy, to actuate the signal arrangement to send all-busy signals through the incoming or outgoing trunks connected therewith to the preceding telephone central office to cause thereat the selection of another idle route or to a marker of the particular office to cause thereat the selection of another idle route.

3,513,263
PRIVATE BRANCH TELEPHONE SWITCHING SYSTEM
Michel Bastian, St. Jeannet, Pe Pai Chu, Bernard Corby, Andre James, and Robert Le Blanc, Vence, and Andrzej Milewski, Lagaude, France, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 31, 1967, Ser. No. 679,375
Claims priority, application France, Nov. 4, 1966, 8,128
Int. Cl. H04m 3/42
U.S. Cl. 179—27 1 Claim



A Private Branch Telephone Exchange (PBX) controlled by a Central Processing Unit (CPU) and comprising voice circuits, control circuits, and a number of opera-

tor consoles. The voice circuits are switching matrices to internal and external phones and are controllable to enable selected interconnections. An auxiliary network enables the CPU to connect service units for dial tone, ringing, conference call, etc. to the phones.

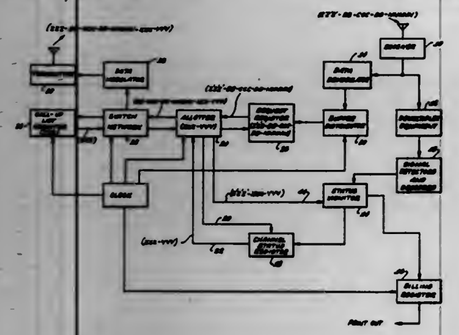
The CPU is connected to each of the voice circuits by sensing lines and by circuit control lines to enable detection of a circuit condition change and the making of a response thereto. The operator consoles comprise some control keys and indicator lights and are controlled by the CPU as if they were special inputs.

3,513,264

CONTROLLED RANDOM MULTIPLE ACCESS COMMUNICATION SYSTEM

Joseph Rosr, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed May 13, 1966, Ser. No. 550,054
Int. Cl. H04j 3/06; H04m 7/00
U.S. Cl. 179—41 **14 Claims**



In a multichannel communication system, a station desiring to communicate with another station is assigned a transmit channel and a receive channel by a routing center that permits random multiple access to the channels while preventing mutual interference due to several stations attempting to operate on the same channel. The routing center monitors the status of the channels, and also provides billing information.

3,513,265

CROSS FIELD TRANSDUCER HEAD WITH HOUSING AS CROSS FIELD RETURN PATH

Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, Chicago, Ill., a corporation of Illinois

Continuation-in-part of applications Ser. No. 126,121, July 24, 1961, Ser. No. 344,075, Feb. 11, 1964, Ser. No. 389,021, Aug. 12, 1964, and Ser. No. 401,832, Oct. 6, 1964. This application Oct. 29, 1964, Ser. No. 407,442
Int. Cl. G01d 15/12; G11b 5/20
U.S. Cl. 179—100.2 **19 Claims**



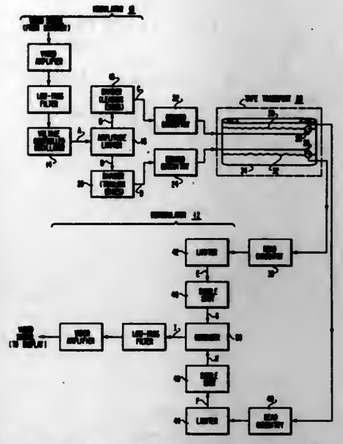
A magnetic transducer head having a magnetic core and having a housing enclosing the core except at the coupling gap, windings in the housing establishing the usual longitudinal field, and also a cross field whose return path is through the housing. A cross field defining member at the opposite side of the tape is optional.

3,513,266

MAGNETIC RECORDING SYSTEM FOR WIDEBAND SIGNAL MULTIPLEXING BY FREQUENCY MODULATION

William T. Frost, Los Gatos, and Charles T. Masters, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Feb. 27, 1967, Ser. No. 618,692
Int. Cl. G11b 5/04, 5/44; H04n 5/78
U.S. Cl. 179—100.2 **9 Claims**



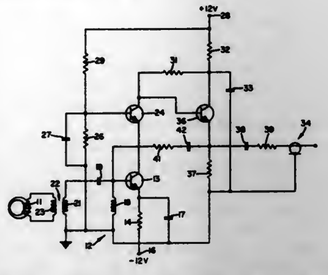
A recording system wherein a source of frequency modulated video signals is converted to a square wave signal. This square wave signal is fed to a first bistable circuit which is responsive only to the leading edges of the signal to change state. The square wave signal also is fed to a second bistable circuit which is responsive only to the trailing edges of the square wave signal to produce a third signal. The second and third signals are recorded on separate tracks so that the bandwidth of the individual track is half that required for the original square wave signal. When these signals are read out, they are combined, passed through a low pass filter and thence to a video display.

3,513,267

LOW INPUT IMPEDANCE PLAYBACK PREAMPLIFIER FOR SWAMPING OUT HEAD RESONANCE IN A VIDEO TAPE REPRODUCING SYSTEM

Allen J. Trost, Santa Clara, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Continuation of application Ser. No. 550,305, May 16, 1966. This application Apr. 25, 1969, Ser. No. 819,225
Int. Cl. G11b 5/44; H03f 1/42
U.S. Cl. 179—100.2 **6 Claims**



A video tape reproducing system having a low input impedance playback preamplifier connected in parallel

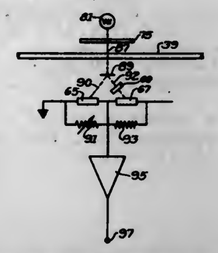
with the magnetic video head of the system to swamp out head resonance.

3,513,268

OPTICAL RECORDING AND REPRODUCING SYSTEMS INCLUDING NOISE REDUCING MEANS

Robert S. John, Jr., Deerfield, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 30, 1966, Ser. No. 576,145
Int. Cl. G11b 7/16
U.S. Cl. 179—100.3 **4 Claims**



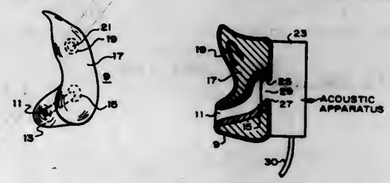
This disclosure describes a method and apparatus for reducing noise in an optical recording and reproducing system. The optical recording medium is a film strip having photosensitive interior and exterior layers. The information to be recorded is recorded on the interior layer only and not on the exterior layer. To reproduce the information, the interior and exterior layers are scanned and the exterior layer is scanned alone. The results of the two scannings are subtractively combined so that the information recorded on the interior layer is reproduced.

3,513,269

EARFORM MOLD FOR SUPPORTING ACOUSTIC APPARATUS ON A WEARER'S EAR AND METHOD OF MAKING THE MOLD

Donald R. Wilson, Santa Cruz, Calif., assignor to Pacific Plantronics, Inc., Santa Cruz, Calif., a corporation of California

Filed Jan. 26, 1967, Ser. No. 612,018
Int. Cl. H04r 25/00
U.S. Cl. 179—107 **5 Claims**



An earform casting which conforms to the shape of the wearer's outer ear and which includes potting means within a generally preshaped self-contained sack to simplify the custom casting of the shape of the wearer's outer ear.

3,513,270

MICROPHONE DIAPHRAGM INCLUDING SPACER MEANS BETWEEN DIAPHRAGM AND VOICE COIL

Paul-Friedrich Warning, Bissendorf, Hannover, Germany, assignor to Sennheiser Electronic, Wennebostel, Germany

Filed May 9, 1966, Ser. No. 548,445
Claims priority, application Germany, May 8, 1965, 1,266,814
Int. Cl. H04r 9/04
U.S. Cl. 179—115.5 **18 Claims**

A microphone diaphragm including a central diaphragm portion, an annular linking portion surrounding this central diaphragm portion, an outer attaching portion surrounding the linking portion integral with the latter, a voice coil, and at least two spacer means secured to the voice coil. Said spacer means extending between and interconnecting the intersection line of the diaphragm and the



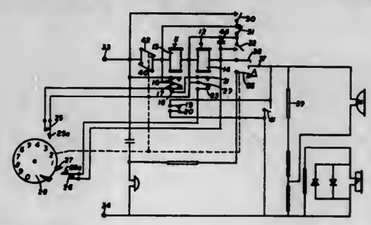
front edge of the voice coil so as to provide openings between the intersection line and the front edge of the voice coil permitting sound and air to pass from the space rearwardly of the linking portion to the space rearwardly of the central diaphragm portion.

3,513,271

TELEPHONE INSTRUMENT HAVING LONG DISTANCE CALL-BLOCKING APPARATUS

Christos A. Stathacopoulos, 7 Ioan, Michael St., Thessaloniki, Greece

Filed Nov. 25, 1966, Ser. No. 596,935
Int. Cl. H04m 1/66
U.S. Cl. 179—189 **12 Claims**



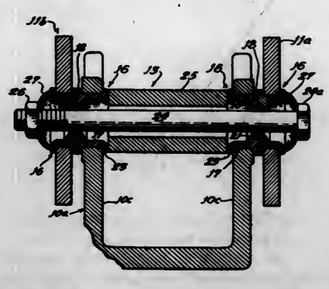
Telephone instrument which may be blocked when desired, as by use of a subscriber's key, to prevent other persons having access to the instrument from making long distance calls, while permitting local calls as well as reception of incoming calls whether local or long distance. An arrangement of relays and dial contacts responds only to initial dialing of a long distance code to prevent transmission of the corresponding signals. Cradle switch enables the circuit when the receiver goes off-hook.

3,513,272

ELECTRIC DISCONNECT SWITCH AND METHOD OF MAKING SWITCHES

Ronald P. Bridges, 2451 Wisconsin St., Downers Grove, Ill. 60515

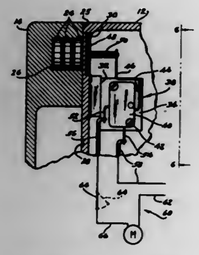
Filed Nov. 29, 1968, Ser. No. 779,951
Int. Cl. H01h 1/50, 31/00
U.S. Cl. 200—48 **15 Claims**



An electric disconnect switch for high voltage and amperage service in which the switch body and blade are made of a metal such as aluminum which has high electri-

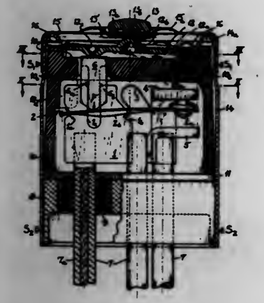
cal conductivity with a surface that has low electrical conductivity, in which the switch body and blade are provided with contacts of a high electrical conductivity material such as silver that are joined to the body and blade through copper studs in such a way as to minimize galvanic corrosion, and to maintain a tight fit between the contacts and the switch body and blade in spite of the different temperature coefficients of expansion of copper and aluminum; and a method of making such switches.

3,513,273
MAGNETICALLY-CONTROLLED SAFETY SWITCH FOR FOOD SLICERS
Harold J. Qualheim, 111 S. Vincennes Circle, Racine, Wis. 53402
Filed Sept. 19, 1968, Ser. No. 760,772
Int. Cl. H01h 3/16
U.S. Cl. 200—61.62 1 Claim



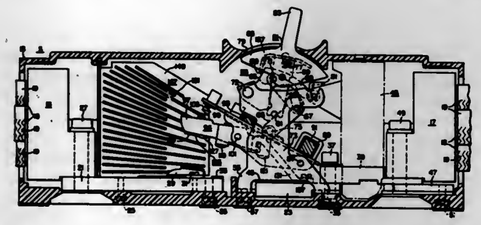
A means of controlling the motor circuit of a food slicer. The slicer has a magnet mounted in the cover thereof, and a switch is positioned in the frame. When the cover is closed, the magnetic field of the magnet actuates the switch to close the motor circuit. When the cover is opened the magnetic field is withdrawn, permitting the switch to open and interrupt the circuit.

3,513,274
ELECTRIC SWITCHING DEVICE
Jean Julien-Davin, Valence, France, assignor to Crouzet, Paris, France, a French company
Filed Nov. 17, 1967, Ser. No. 683,975
Claims priority, application France, Nov. 23, 1966, 737
Int. Cl. H01h 13/48
U.S. Cl. 200—67 8 Claims



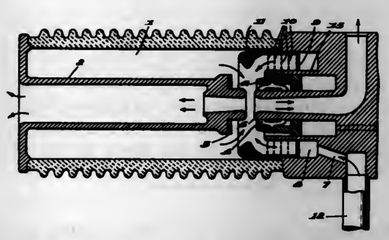
A switching device comprising a metal casing in which is disposed a snap-action switching mechanism of the over-centre type. The switching mechanism comprises a common conducting support on which a flexible strip is pivotally mounted and provides a contact-carrying member which is capable of taking up one of two positions defined by two stationary contact members. A spring cooperates with the strip and to which the operating pressure is transmitted by means of an insulating push-rod provided with guide grooves permitting the push-rod to slide freely within a guide recess formed in the stationary conducting support for guiding the push-rod and the strip. The three conducting members are attached to conducting pins which traverse a circular metal base through openings filled with heat-resistant insulating material to form a hermetic seal.

3,513,275
CIRCUIT BREAKER WITH IMPROVED CURRENT PATH AND CONTACT MEANS
Albert R. Cellerini, Beaver, and Louis N. Ricci, Beaver Falls, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 542,536, Apr. 14, 1966. This application Oct. 4, 1968, Ser. No. 765,143
Int. Cl. H01h 9/38, 33/12
U.S. Cl. 200—146 9 Claims



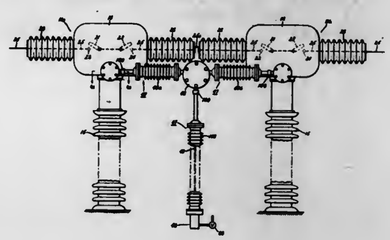
A circuit breaker comprises an improved curent path and contact means that provides a rigid conducting main current path structure between a pair of spaced stationary conductors in the closed position of the contacts.

3,513,276
COMPRESSED GAS ACTUATED CIRCUIT BREAKER
Janis Vitins, Wettingen, Switzerland, assignor to Aktiengellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint stock company
Filed Apr. 4, 1967, Ser. No. 628,486
Claims priority, application Switzerland, July 27, 1966, 10,856/66
Int. Cl. H01h 33/86
U.S. Cl. 200—148 1 Claim



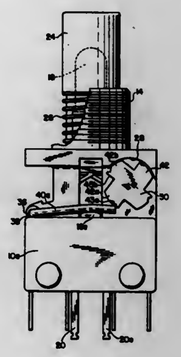
A gas blast switch includes a switch chamber which is continuously filled with pressurized gas by way of a replenishment pipe line from a pressurized gas storage tank. Inside of the switch chamber are located a pair of separable contacts, at least one of which is hollow and a blast valve which when opened for a brief period at the same time as the contacts separate serves to discharge the gas from the switching point through the hollow contact to atmosphere. An annular flow duct surrounding the blast valve leads in the pressurized gas from an inlet located at the side of the switch chamber and is provided with means for steadying the gas flow before it combines with the other gas already in the switch chamber.

3,513,277
ELECTRIC CIRCUIT BREAKER COMPRISING SERIES-CONNECTED INTERRUPTING UNITS
Philip Sciacione, Havertown, Pa., assignor to General Electric Company, a corporation of New York
Filed Feb. 13, 1968, Ser. No. 705,040
Int. Cl. H01h 33/86
U.S. Cl. 200—148 8 Claims



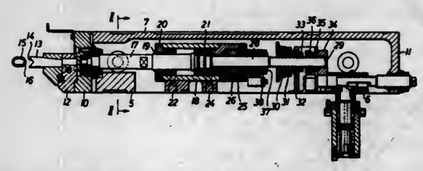
A high voltage circuit breaker comprising spaced-apart high voltage enclosures respectively mounted atop horizontally spaced-apart insulators, circuit interrupters within the enclosures, and control valves at high voltage respectively located adjacent the interrupters for controlling their operation. A hollow insulating housing extends between the enclosures in the high voltage region of the breaker; and a linkage interconnecting the valves is located within said insulating housing. The valves are simultaneously operated through said linkage by a single operating rod extending between the linkage and motive means at ground potential.

3,513,278
ALTERNATE ACTION MECHANISM
Phillip M. Elliott, Schiller Park, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,701
Int. Cl. H01h 19/14
U.S. Cl. 200—156 8 Claims



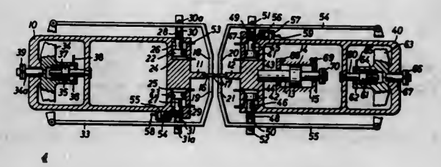
An alternate action meachanism for a control device, such as a switch, wherein a toothed ratchet member and a lobed cam member are mounted for rotation in unison and wherein a depressor, such as a push button, is movable between actuating and non-actuating positions and carries a flexible pawl member in normal position to engage a ratchet tooth for rotating the ratchet and cam members a given increment upon depression thereof to actuating position with permissive flexing of the pawl member out of engagement with the previously engaged ratchet tooth upon overtravel of the depressor without further rotation of the ratchet and cam members beyond the given increment of rotation, and wherein the cam member depresses a lever actuator for the control device or switch and maintains the depressed position of the lever upon return of the depressor to its initial non-actuating position without distributing the previous rotated position of the ratchet and cam members.

3,513,279
DEVICE FOR ACTUATING UPSETTING STEELS
Toni Wüst, 15 Hauschensweg, 5 Cologne-Bickendorf, Germany
Filed Aug. 23, 1967, Ser. No. 662,793
Claims priority, application Germany, Dec. 13, 1966, M 71,999
Int. Cl. B21l 3/02
U.S. Cl. 219—51 2 Claims



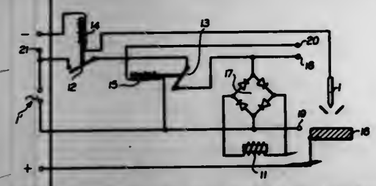
The upsetting steel of a singeing and welding machine is moved to an operative position by a device which includes a cylinder actuated by a pressure medium and a damping cylinder, and a damping piston which become operative during the last portion of the feed movement.

3,513,280
PROCESS AND APPARATUS FOR WELDING C-SHAPED WORKPIECES
Toni Wuist, Cologne-Bickendorf, Germany, assignor to Meyer, Roth & Pastor, Cologne-Raderberg, Germany, a firm of Germany
Filed Aug. 11, 1967, Ser. No. 659,967
Int. Cl. B21l 3/00
U.S. Cl. 219—52 9 Claims



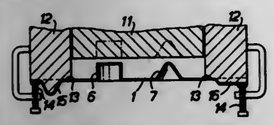
A C-shaped workpiece, such as a chain link is welded by using clinching steels for centering the workpiece, then withdrawing the steels while connecting electrodes to the ends of the workpiece and supplying current thereto and finally clinching the workpiece by the clinching steels. The apparatus for carrying out the welding preferably includes a clinching steel fixed to the casing and another clinching steel carried by a frame movable by a pressure medium. Each pair of electrodes is joined by a yoke actuated by the pressure medium. Spring-actuating clamping means are used to provide a connection of the electrodes to the workpiece.

3,513,281
SWITCHING ARRANGEMENT AND DEVICE FOR THE AUTOMATIC LIFTING OF ARC PLASMA TORCHES
Lothar Hesse, and Rudolf Pochert, Dresden, Germany, assignors to Kjellberg Elektroden & Maschinen GmbH in Verwaltung, Finsterwalde, Germany, a corporation of Germany
Filed Aug. 15, 1966, 572,340
Int. Cl. B23p *1/00*
U.S. Cl. 219—69 2 Claims



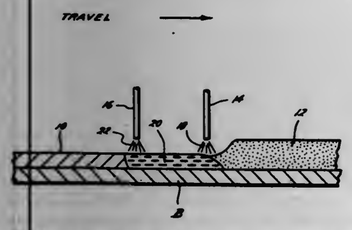
A circuit arrangement and apparatus for automatic lifting of arc plasma torches, in particular for cutting, which comprises a switching member disposed in the arc circuit. An adjustable time lag member is electronically or electromechanically controlled by the switching member during the flow of current of a main arc and thereby limiting timely the lifting of the arc burner head.

3,513,282
ELECTRODE FOR SPARK EROSION APPARATUS
Austin Leslie Fox, London, England, assignor to Molins Machine Company Limited, London, SE. 8, England, a corporation of Great Britain
Filed Sept. 19, 1966, Ser. No. 580,441
Claims priority, application Great Britain, Sept. 22, 1965, 40,397/65
Int. Cl. B23p *1/04, 1/08*
U.S. Cl. 219—69 2 Claims



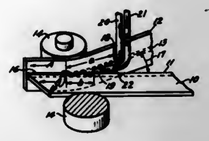
An electrode for use in spark erosion apparatus comprises a main portion having a forward-facing working surface of desired contour and at least one laterally extending integral locating portion having a locating surface also facing forward, the locating portion including means such as perforations to permit lateral location of the electrode.

3,513,283
TANDEM ARC WELDING METHOD
Roman F. Arnoldy, Houston, Tex., assignor to R. I. Patents, Inc., Houston, Tex., a corporation of Texas
Filed May 8, 1968, Ser. No. 727,485
Int. Cl. B23k *9/18, 25/00*
U.S. Cl. 219—73 5 Claims



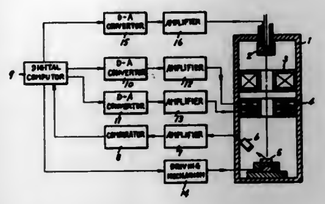
A method of welding a base metal by placing a layer of alloy granules on the surface of the base metal and then simultaneously moving at least two consumable electrodes in tandem in a generally linear direction along the layer of alloy granules while maintaining an arc from the lead electrode to the edge of the granules adjacent the puddle formed by the arc from the lead electrode and an arc from the trailing electrodes to the same puddle, the arcs being free of contact with the surface of the base metal.

3,513,284
HIGH FREQUENCY WELDING APPARATUS
James N. Snyder, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed July 19, 1967, Ser. No. 654,581
Int. Cl. B23k *11/02*
U.S. Cl. 219—102 5 Claims



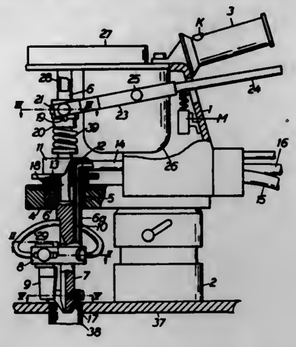
High frequency resistance heating apparatus, for welding the edge of a web member to the face of a flange member, which includes contacts, that are connected to a source of high-frequency current, and an electrically conductive element. The members are joined at a weld point ahead of which they form a V-shaped gap. The contacts are spaced from one another and from the weld point, and each contact slidably engages and conducts heat to one of the members. The electrically conductive element is secured, adjacent one end, to one of the spaced contacts and extends in the V-shaped gap formed by the members toward the other contact so as to cause current to flow along the desired weld path of the flange member.

3,513,285
METHOD AND MEANS FOR ADJUSTING ELECTRON BEAM TREATING POINTS
Shingo Imura, Tokyo, Japan, assignor to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Aug. 14, 1967, Ser. No. 660,432
Claims priority, application Japan, Aug. 16, 1966, 41/53,826
Int. Cl. B23k *15/00*
U.S. Cl. 219—121 7 Claims



Method and apparatus for accurately focusing an electron beam onto a workpiece treating point by a computor in which the coordinate of the treating point has been stored such that a signal derived from a datum point on the workpiece causes the computor to establish the coordinate of the treating point and to control the deflection of the electron beam or to rotate the workpiece support.

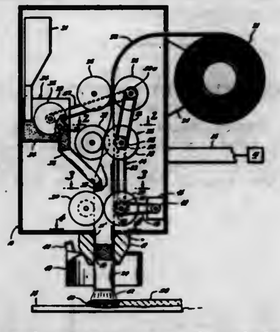
3,513,286
APPARATUS FOR WELDING TUBES TO A TUBE PLATE
Jürgen Siegfried Puls, Laxa, Sweden, assignor to Elektriska Svetsningsaktiebolaget, Goteborg, Sweden, a corporation of Sweden
Filed Apr. 12, 1968, Ser. No. 720,944
Claims priority, application Sweden, July 7, 1967, 10,369/67
Int. Cl. B23k *9/12*
U.S. Cl. 219—125 8 Claims



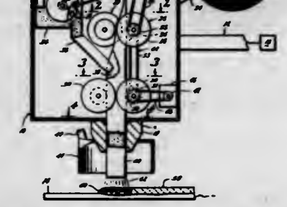
Apparatus for welding a circular joint between a tube and a tube plate, comprising a body or frame having a base provided with an electromagnet for attaching the body or frame to a magnetic supporting member, a welding head supported in said body by bearing means permitting the welding head to rotate about an axis extending at right angles to a plane defined by the pole faces of the electromagnet, a motor and gear means for rotating said welding head about said axis, a centering shaft guided in said body for movement along said axis, a centering member attached to the front extremity of said shaft, said centering member being adapted to engage the work so as to establish or check the required alignment of the axis of rotation of the welding head with the axis of the tube to be welded, spring means urging said centering shaft towards an inoperative position in which the centering member is remote from the work, a handle on said body, a control lever disposed beside said handle, and actuating means operatively connecting said control lever with said centering shaft so as on movement of said control lever towards said handle to shift said centering member from the inoperative position to an operative position in which the centering member engages the work.

3,513,287
WELDING APPARATUS AND METHOD UTILIZING COMPRESSIBLE ELASTIC ELECTRODE
Roman F. Arnoldy, Houston, Tex., assignor to R. I. Patents, Inc., Houston, Tex., a corporation of Texas
Continuation-in-part of application Ser. No. 528,126, Feb. 17, 1966. This application Apr. 8, 1969, Ser. No. 814,327
Int. Cl. B23k *9/00*
U.S. Cl. 219—137 4 Claims

A method of welding in which a compressible elastic tubular electrode is passed through a passageway in an electrode nozzle which passageway has a lesser cross-sectional dimension than that of the tubular electrode prior to entry of the electrode into the passageway whereby the tubular electrode is compressed and makes electrical contact with a wall of the passageway. A welding apparatus including a welding head suspended over a surface to be welded and carrying a compressible elastic tubular electrode, an electrode nozzle having a passageway therethrough of lesser cross-sectional dimension than that of the tubular electrode prior to its entry into the passageway, and means to move the tubular electrode through the passageway.



3,513,288
ANNULAR ARC BULK WELDING APPARATUS AND METHOD
Roman F. Arnoldy, Houston, Tex., assignor to R. I. Patents, Inc., Houston, Tex., a corporation of Texas
Continuation-in-part of application Ser. No. 528,126, Feb. 17, 1966. This application Apr. 8, 1969, Ser. No. 814,354
Int. Cl. B23k *9/00*
U.S. Cl. 219—137 8 Claims



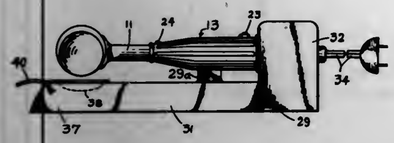
A method of bulk welding utilizing a hollow consumable electrode formed on a welding device and passing granular alloy material through the hollow electrode for deposition on the surface to be welded while maintaining an arc from the electrode. A welding apparatus including a welding head suspended over a surface to be welded, hollow electrode forming means and material carried by the welding head, means to feed the hollow electrode toward the surface to be welded, and means for passing granular alloy material through the hollow electrode onto the surface to be welded during welding operations.

3,513,289
ARC WELDING ELECTRODES
Paul Desmond Blake, Bishops Stortford, and Roy Douglas Johnston, Ware, England, assignors to Murex Welding Processes Limited, Waltham-Cross, Hertfordshire, England, a British company
No Drawing. Filed Dec. 12, 1967, Ser. No. 689,802
Claims priority, application Great Britain, Dec. 29, 1966, 58,184/66
Int. Cl. B23k *35/22*
U.S. Cl. 219—146 5 Claims

A tubular automatic or semi-automatic arc welding electrode consisting of a mild steel sheath enclosing a

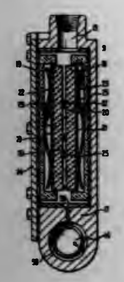
core containing, in proportions by weight of the electrode, 0.4–2.5% aluminum, 0.2–1.3% manganese, 0.2–0.7% fluorides and 0.1–0.4% of a potassium, rubidium or caesium compound.

3,513,290
AUTOMATICALLY HEATED ICE-CREAM SCOOP WITH STAND
Wallace L. Burley, Santa Ana, Calif. (Rte. 3, Box 141, Troutdale, Oreg. 97060), and Hrand M. Muncheryan, 1135 N. Morningside, Orange, Calif. 92667
Filed Apr. 20, 1967, Ser. No. 637,862
Int. Cl. A47j *43/28*; H05b *1/02*
U.S. Cl. 219—242 8 Claims



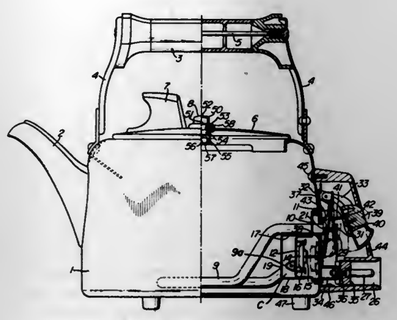
A cordless electrically heated ice-cream scoop is provided with a stand to horizontally support the scoop when not in use. The stand includes a receptacle for catching ice-cream drippings from the scoop. In one embodiment, the handle and the ladle of the scoop are provided with electric heating elements surrounded by a filling of granular heat-retaining electrical insulation material such as diatamaceous earth or mica flakes. The stand incorporates an electric outlet cooperating with terminals in the handle to transmit current to the heating element. A thermostat is provided in the handle to maintain the scoop at a desired temperature. In a second embodiment, only the ladle is electrically heated and the handle contains rechargeable batteries for supplying current to the heating means. The stand includes electric outlet means for recharging the batteries.

3,513,291
CONTROL SYSTEM FOR ELECTRIC WATER HEATER
John M. Mamoulides, Metairie, La., and Orey L. Riley, Los Angeles, Calif., assignors to Louisiana Hydrolec, Inc., Metairie, La., a corporation of Louisiana
Filed Aug. 3, 1966, Ser. No. 569,916
Int. Cl. H05b *3/60*
U.S. Cl. 219—285 6 Claims



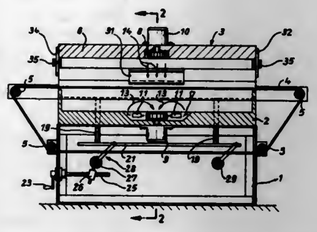
An instant water heater having a heating chamber within a housing with an inlet and an outlet for water, a pair of spaced electrodes in the heating chamber which heat water which passes from the inlet to the outlet, and an externally hand-operable adjusting means including handle means projecting from the housing which means are adapted to vary the space between the electrodes, and temperature sensing means at the outlet of the heater to control the flow of current to the electrodes.

3,513,292
ELECTRIC KETTLE
Yoshiaki Sano, Kobe, and Yoshiaki Maeda, Nishinomiyashi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Apr. 25, 1966, Ser. No. 544,989
Claims priority, application Japan, Apr. 30, 1965, 40/26,055; May 8, 1965, 40/27,811
Int. Cl. F24h *1/00*
U.S. Cl. 219—331 7 Claims



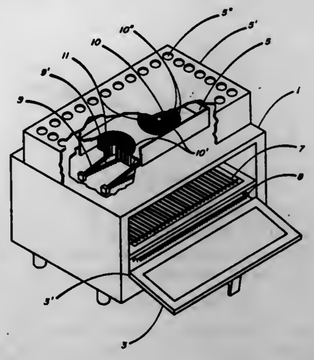
In an electric kettle equipped with an electric heater and a switching means which stops the energization of the heater when the water boils, an improved switching means comprising a thermally actuated element attached on the kettle wall opposite to a portion of the heater, said portion of the heater being covered by an enclosure. The enclosure is provided with at least one small hole for allowing the steam vapor generated within said enclosure to emerge through the hole and thereby said thermally actuated element is acutely heated to cause a distinct actuating action.

3,513,293
HEATABLE SHRINKING TUNNEL
Hans Beck, Urbanstrasse 27, Nurtingen, Wurttemberg, Germany
Continuation of application Ser. No. 746,611, July 22, 1969. This application July 3, 1969, Ser. No. 845,620
Int. Cl. F27b *9/06*; F27d *11/02*
U.S. Cl. 219—388 6 Claims



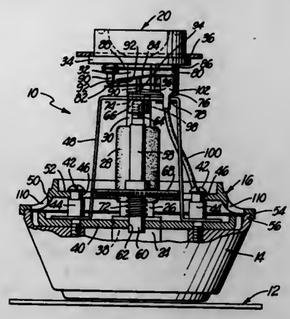
A longitudinal hot-air tunnel has an inverted U-shaped hood which telescopes vertically over the base to vary the effective cross-sectional area, and is provided with adjustable plates for the end openings.

3,513,294
ELECTRIC COOKING OVEN
Peter A. Goolkasian, Concord, Mass., assignor to Prototech Company, a division of Bolt Beranek and Newman Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 8, 1968, Ser. No. 719,661
Int. Cl. F27d *11/02*
U.S. Cl. 219—393 4 Claims



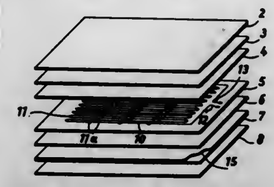
An electric cooling oven for cooling food articles having electrical heating elements and a catalyst support disposed above said articles, said catalyst being heated by said heating elements. Air, carrying smoke and related uncombusted products from cooked food articles and heated by the heating elements is passed through openings in the heating elements and into the catalyst support, the air being then exhausted as a clean effluent stream.

3,513,295
DEVICE FOR HEATING A COMPOSITION AND MAINTAINING THE HEATED COMPOSITION AT A SUBSTANTIALLY CONSTANT TEMPERATURE
Alvis R. Knowles, Los Angeles, Calif., assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Sept. 16, 1968, Ser. No. 759,859
Int. Cl. F27b *14/06*; F27d *11/02*
U.S. Cl. 219—425 7 Claims



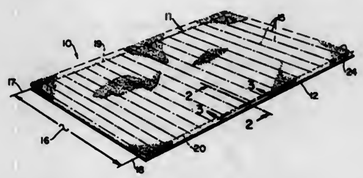
A device is disclosed for heating a composition and for maintaining the heated composition at a substantially constant temperature. The device has a base which holds a replaceable electric heating element and an adjustable thermostat. The heating element and the thermostat are conneced in series so that the thermostat regulates the operation of the heating element. A container is located so as to receive heat from the element and so as to transmit heat to the thermostat. A rotatable ring is mounted on the base for use in mechanically adjusting the thermostat. Preferably this ring forms a part of the cover or housing for the completed device.

3,513,296
ELECTRIC WARMPLATE
Helmut Brangs, Hardt, Wurttemberg, and Kurt Liebke, Wendlingen (Neckar), Germany, assignors to Presswerk Koengen G.m.b.H., Koengen am Neckar, Germany
Filed Dec. 8, 1967, Ser. No. 689,131
Claims priority, application Germany, Dec. 10, 1966, P 28,405; July 5, 1967, P 42,521
Int. Cl. H05b *3/68*; H01c *3/00*
U.S. Cl. 219—438 6 Claims



An electric warmplate in the form of a tray, composed of a number of layers of kraft paper which is impregnated with a thermosetting plastic resin. One of the inner layers holds a heating wire, and the entire assembly is pressed together under heat.

3,513,297
HEAT RADIATING ARTICLES
John Paul Jordan, Highland Park, N.J., assignor to Gulton Industries Inc., Metuchen, N.J., a corporation of New Jersey
Filed May 31, 1967, Ser. No. 642,534
Int. Cl. H05b *3/34*; H01c *3/04*; D03d *15/00*
U.S. Cl. 219—545 26 Claims

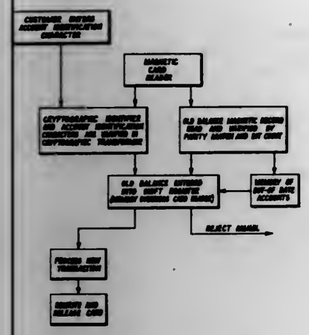


Heat-radiating fabrics are described containing filaments of a plastic electrical resistance material which has a nonlinear positive temperature coefficient of resistance. The filaments are self-regulating and automatically vary their local resistivity according to the heat load in local areas and thereby adjust themselves automatically to limit their temperature in such local areas. The filaments have their maximum dielectric loss factor in the temperature range where maximum generation of heat is desirable.

3,513,298
HIGH SECURITY CREDIT CARD SYSTEM
John B. Riddle, 14228 Amherst Court, Los Altos Hills, Calif. 94022, and Robert B. McLaughlin, 538 Madison Way, Palo Alto, Calif. 94303
Filed Aug. 5, 1964, Ser. No. 387,695
Int. Cl. G06k *7/00*
U.S. Cl. 235—61.11 1 Claim

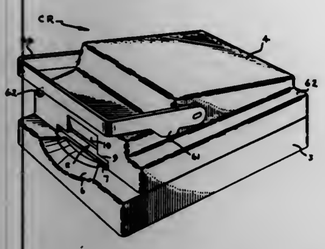
Means for reading digital information recorded on parallel magnetic recording tracks including a pair of mag-

netic heads for reading the tracks simultaneously, an or-circuit connected to the heads for generating a self-clocking timing signal; a shift register for combining the output of one of the heads and the clock signal to register information read by the one head, a multivibrator con-



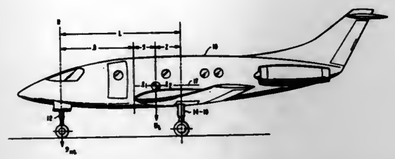
nected to the clock signal to generate a reject signal responsive to each clock pulse, and an exclusive or-circuit connected to a hold terminal of the multivibrator and to both of the recording heads but preventing generation of the rejection signal when one, but not both, of the recording heads reads a bit of information.

3,513,299
CREDIT CARD READER
Winfield Warren Loose, Reading, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 19, 1965, Ser. No. 441,179
Int. Cl. G06k 7/06; H01h 43/08; H05b 39/00
U.S. Cl. 235—61.11 11 Claims



A card reader comprises stationary and movable contact means between which is provided a card-receiving area in which a data card is to be disposed. The movable contact means is provided with contact members disposed between an insulating block with the contact members defining plate means having leg members extending outwardly at an acute angle with respect to the plate means and contact feet at the free ends of the leg members. The contact feet are disposed in alignment with respective contact elements on the stationary contact means. Operating means is connected to the movable contact means to move the movable contact means towards the stationary contact means with the edges of the contact feet wipingly engaging respective contact elements of the stationary contact means and the contact feet and leg members are movable in the same containing the plate means.

3,513,300
AIRCRAFT WEIGHT AND CENTER OF GRAVITY COMPUTER
Jack Asher Elfenbein, 260 Summit Ridge Drive, Beverly Hills, Calif. 90210, and Manfred Carl Mueller, Los Angeles, Calif.; said Mueller assignor to said Elfenbein.
Filed Aug. 23, 1967, Ser. No. 662,737
Int. Cl. G06f 7/12; G01m 1/12
U.S. Cl. 235—150.2 10 Claims

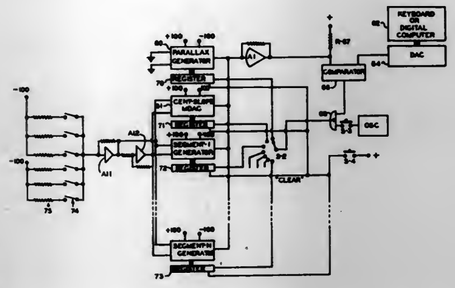


This invention is characterized by the use of strain gauges mounted in the struts of the landing gear of an airplane. The strain gauges are connected to a computing circuit which can solve the problem

$$A+B+C=0$$

where B and C represent known voltage characteristics of a particular airplane and A represents an adjustable voltage calibrated in terms of percent MAC. By adjusting the value of A until a null meter in a circuit indicates zero, a percent MAC can be directly determined. The adjustable voltage represented by the symbol A represents a three branch voltage divider which is calibrated in terms of percent MAC. Summing amplifiers are in the circuit to sum the voltage values of $A+B+C=0$.

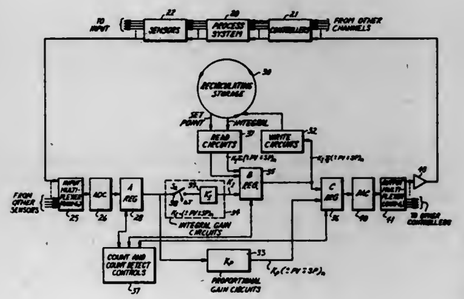
3,513,301
ELECTRONIC FUNCTION GENERATION
Robert M. Howe, Ann Arbor, Mich., assignor to Reliance Electric Company, a corporation of Delaware
Filed Oct. 26, 1967, Ser. No. 678,411
Int. Cl. G06g 7/26
U.S. Cl. 235—150.53 33 Claims



Electronic arbitrary function generators using biased diodes which derive and sum currents weighted in accordance with a digital code to provide slope incremental functions, with compensation for diode temperature coefficient, simple and rapid set-up, with applicability to multiplying function generation, function generation at arbitrarily-spaced breakpoint values and multi-variable function generation. This invention relates to electronic analog function generation, and more particularly to means for generating arbitrary non-linear functions of one or more analog input voltages at low cost with high precision and bandwidth, using automatic means, such as a digital com-

puter or card reader, for converting stored data points into digital signals to produce a desired function. The invention is applicable to both single independent variable and multivariable function generation.

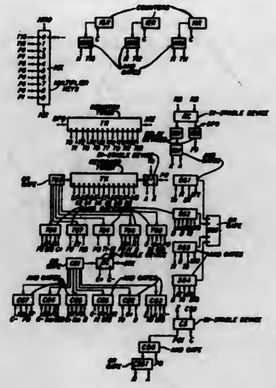
3,513,302
CLOSED LOOP CONTROLLER HAVING DIGITAL INTEGRATOR WITH VARIABLE GAIN
James O. Jacques, Boulder, Colo., Paul A. Kuckein, Burlingame, and Richard K. Oswald, San Jose, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 17, 1966, Ser. No. 520,934
Int. Cl. G06f 15/46, 7/38
U.S. Cl. 235—151.1 17 Claims



A two term process control system that generates an output control signal from successive digital error signals by dividing the error signals in accordance with a selected integral gain term, and adding the divided quantities to provide an integral value, while also providing a proportional value with a different gain term, and combining the two values to provide the output control signal.

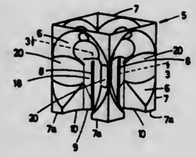
3,513,303
DESK CALCULATOR FOR PERFORMING ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION
Norbert Kitz, John G. Lloyd, and James J. Drage, London, England, assignors to Bell Punch Company Limited, London, England, a British company
Filed Mar. 22, 1965, Ser. No. 441,736
Claims priority, application Great Britain, Mar. 21, 1964, 12,036/64
Int. Cl. G06f 15/02
U.S. Cl. 235—160 25 Claims

A calculating machine having a plurality of pulse-operated counting devices forming a register includes a cyclically operable pulse generator, a common pulse entry line, a plurality of orders of keys, a cyclically operable register timing device having plural outputs for coupling the common pulse entry line to the register counting devices successively, a cyclically operable keyboard timing device having plural outputs for actuating the orders of keys successively in controlling the application of pulses from the pulse generator to the pulse entry line, means to select a timing device stepping the pulse from each cycle of the pulse generator, and at least two timing gates controlling access of the stepping pulse to at least one of the timing devices whereby the relative timing of the outputs from the timing device may be changed to advance the outputs of either timing device with respect to the outputs from the other and thereby to alter toward either higher or lower orders in the register the destination of pulses appearing on the common entry line under control of the various orders of keys. The machine is capable of multiplying a multiplicand entered on the keys by a multi-digit multiplier entered in the upper end of the register with the aid of a buffer counter into which multiplier digits of successively higher order are transferred for control of iterated addition into the lower end of the register of at least the most significant digits of the multiplicand. The



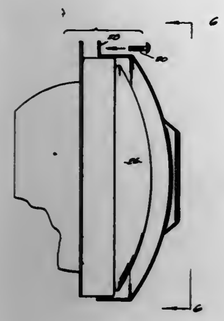
machine performs division by causing the timing devices to slip with respect to each other in the opposite direction so as to perform iterated addition of a divisor, set on the keyboard, into successively lower orders of the register as successive quotient digits are extracted. Apparatus for correct positioning of the decimal point and for left and right shift in the register of numbers already set therein is also disclosed.

3,513,304
ROTATABLE SUPPORT FOR PHOTO-FLASH LAMPS
Wolfgang Ott, Augsburg, Germany, assignor to Patent-Treuhand-Gesellschaft fur Elektrische Gluhlampen mbH, Munich, Germany, a corporation of Germany
Filed Sept. 13, 1967, Ser. No. 667,596
Claims priority, application Germany, Sept. 28, 1966, P 28,014
Int. Cl. G03b 15/02
U.S. Cl. 240—1.3 4 Claims



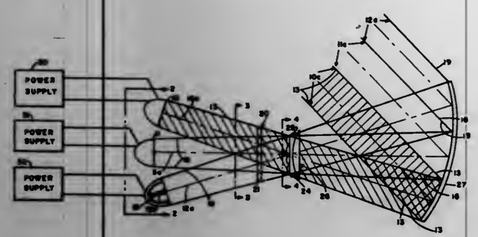
A rotatable support carrying several photo-flash lamps for successive use. The support consisting of a body member having a generally cubical shape. The member is stable and self-supporting. It has hollows or recesses shaped to provide reflector surfaces. Each reflector surface is directed toward an opposite respective side of the cubical member that is in front of the reflector surface. Lamps are located in the reflector hollows or recesses. A protective light-passing sleeve surrounds the several upright sides and the top of the member thereby enclosing the lamps and reflectors. The member has slits at the backs of the reflectors. As a result, the member is flexibly resilient and affords resilient pressure toward and against the upright corners of the sleeve tending to stretch the sleeve circumferentially.

3,513,305
DIFFUSING SCREEN FOR A SEAL BEAM LIGHT
Phillip M. Joncas, 3617 Penn Mar Ave., El Monte, Calif. 91732
Filed Sept. 5, 1967, Ser. No. 665,533
Int. Cl. F21v 9/08
U.S. Cl. 240—9.5 1 Claim



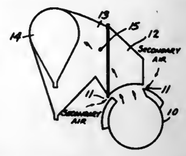
A diffusion screen for seal beam light units having an embossed screen disposed upon or over the lens of the seal beam units to provide improved use of light projected from the seal beam and to produce a superior white light. The diffusion screen includes a pie-shaped metal sheet with a plurality of square apertures in the central portion thereof, and an overlying screen with its square apertures rotated by an angle of 45° with respect to the apertures of the metal sheet. The screens have polarized transparent sheets covering their respective apertures for adjusting the transmissibility of light from the seal beam.

3,513,306
MULTIMODULAR COLLIMATED LIGHT PROJECTION SYSTEM
Allan D. Le Vantine, Tarzana, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed July 24, 1967, Ser. No. 655,475
Int. Cl. F21v 7/00; 9/02, 13/04
U.S. Cl. 240—41.3 29 Claims



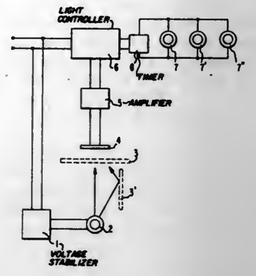
A radiant energy collimating system having discrete light sources, the radiant energy from which is distributed onto a collimator, through mosaic lenses and an aligning lens in discrete, uniform fields of light to form one continuous, uniform field. The system has several discrete light sources each in combination with a single lens and a single reflecting collimator in which a discrete uniform field of light is distributed by said collimator for each of said light sources, thereby producing and forming a single continuous field from all of said discrete light sources.

3,513,307
COPPER SMELTING CONVERTER HAVING AN INFRARED ANALYZER FOR DETERMINING THE CONCENTRATION OF SULFUR DIOXIDE IN THE FLUE GAS
Earl Howard Dudgeon, Ottawa, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a Canadian corporation
Filed Nov. 14, 1966, Ser. No. 594,187
Claims priority, application Canada, Nov. 29, 1965, 946,504
Int. Cl. H01j 37/00
U.S. Cl. 250—43.5 1 Claim



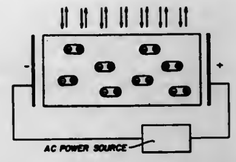
A copper smelting converter having means for sampling the flue gas discharged therefrom to determine the concentration of sulphur dioxide in the gases so as to control the timing of the final interruption of air blowing through the smelter. A probe projects into the path of travel of the flue gas and a means is provided for drawing a main flow of sample gas from the probe, dividing a subsidiary flow therefrom and passing it at a substantially constant pressure and temperature past an infra-red analyser to indicate the concentration of sulphur dioxide therein.

3,513,308
METHOD AND APPARATUS FOR CONTROLLING DUPLICATING PROCESS ACCORDING TO OPTICAL DENSITY OF DEVELOPED DUPLICATING MATERIAL
Matsich Tajima, and Tutomu Kimura, Ashigara-Kamigun, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan
Filed Nov. 22,1966, Ser. No. 596,118
Claims priority, application Japan, Nov. 22, 1965, 40/71,474
Int. Cl. G03b 27/76; G05d 25/02
U.S. Cl. 250—65 5 Claims



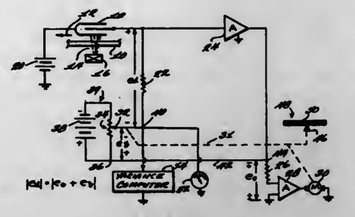
A method of controlling a duplicating process is disclosed. The method consists of forming a visible image on a duplicating material by electromagnetic radiation exposure, submitting the image to radiation from a collimated constant intensity light source, generating an electrical signal indicative of the amount of radiation received by detecting the intensity of radiation either transmitted or reflected by the image on a radiation sensitive means that generates an electrical signal, and controlling the radiation exposure of subsequent materials by means of the generated electrical signal.

3,513,309
PIEZOELECTRIC UNITARY DEVICE FOR EMITTING FLUORESCENCE AND AMPLIFYING RADIATION UNDER STIMULATION IN OPPOSITE DIRECTIONS
Günter O. Hehemann, Starnberg, Germany (% Michael Wahl, 42 W. 88th St., New York, N.Y. 10024)
Filed Jan. 29, 1968, Ser. No. 701,816
Int. Cl. G01n 29/00
U.S. Cl. 250—71 25 Claims



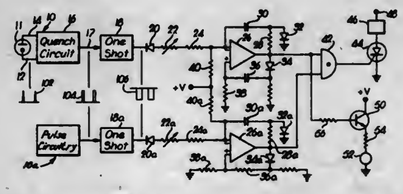
A piezoelectric unitary device for emitting fluorescence and amplifying radiation comprises a transparent piezoelectric crystal doped with ions of atoms heterogeneous to those of the crystal lattice. A piezo driving body is adjacent and forms a single unitary body with the crystal. The driving body is mechanically coupled to the crystal and applies mechanical pressure to the crystal to provide a direct piezoelectric effect. The piezo axis of the driving body is oriented relative to that of the crystal to provide in the crystal a converse piezoelectric effect. The direct piezoelectric effect and the converse piezoelectric effect are opposed to and work against each other in the crystal. Alternating current is supplied to the crystal and to the driving body.

3,513,310
HIGH-SPEED NUCLEONIC MEASURING SYSTEM
Henry R. Chope, Columbus, James L. Griffith, Worthington, and David A. Spitz, Rex W. Dewey, and Paul H. Troutman, Columbus, Ohio, assignors to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Mar. 10, 1967, Ser. No. 622,346
Int. Cl. G01t 1/16
U.S. Cl. 250—83.3 26 Claims



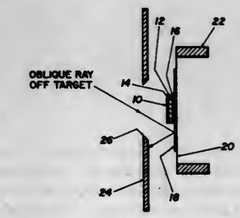
In a null self-balancing system for measuring a material characteristic, such as basic weight with a radiation gauge, use is made of the summation of the slow or mechanical feedback voltage or its counterpart and the fast or electronic output voltage from an amplifier receiving the transducer signal, to obtain from the summation voltage a fast response signal which represents information concerning the characteristic of the material being measured. The signal is obtained at a rate faster than a signal having similar information can be obtained from the mechanical feedback. The summation voltage is provided in a variety of ways including directly from the circuit itself, or from an additional slidewire electrically connected across the measuring slidewire, or from an independent slidewire the output of which is applied to a summing circuit in conjunction with an output from the amplifier. Variations in span may be compensated for in various ways including regulation of the amount of amplifier output voltage or of the other voltage summed, and source standardizing variations in the summed voltage are compensated for in various ways, so that the fast response signal is fully calibrated and can be used to indicate values of the material characteristic or to control that characteristic while the material is being manufactured for example.

3,513,311
RADIATION SENSITIVE APPARATUS FOR ACTIVATING A FIRE OR EXPLOSION PROTECTION SYSTEM
Charles D. McAlister, Blue Springs, Mo., and James R. Arrington, Muskego, Wis., assignors to Fike Metal Products Corporation, Blue Springs, Mo., a corporation of Missouri
Filed Feb. 29, 1968, Ser. No. 709,428
Int. Cl. G01j 5/30
U.S. Cl. 250—83.3 15 Claims



Dual channel ultraviolet radiation sensing by ionization discharge tubes is employed to activate a fire or explosion protection system. In one embodiment each channel is separately integrated and then fed to a respective input of an AND gate. One integrator responds to the maximum expected background radiation level and energizes a warning light, while the other integrator responds only to a higher radiation level indicative of a danger condition. In a second embodiment the channels are first fed to an AND gate, the output of the gate being delivered to a single integrator. In either arrangement the dual sensing tubes minimize the possibility of simultaneous exposure to stray radiation to permit high speed operation of the apparatus without the hazard of inadvertent activation. A single channel version with dual integrators as above is also disclosed.

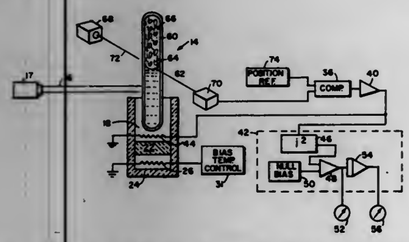
3,513,312
PYROELECTRIC INFRARED RADIATION DETECTION SYSTEM FOR THE ELIMINATION OF STRAY RADIATION ABSORPTION
Seymour L. Weiner, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed Nov. 27, 1968, Ser. No. 779,331
Int. Cl. G01t 1/16
U.S. Cl. 250—83.3 1 Claim



A pyroelectric detector is mounted on a membrane or solid support behind an aperture which is larger than the detector area. The membrane on which the detector is

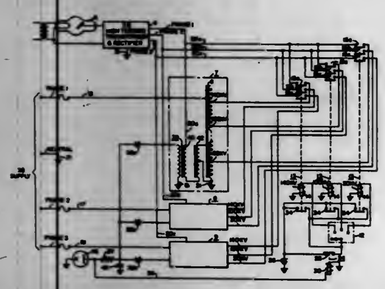
mounted is coated with a thin layer of reflective material in which the area of the reflective material is larger than the aperture that admits radiation to the detector. Oblique rays of energy which pass through the aperture but do not strike the detector area are reflected, and the detector responds only to energy that falls on its area.

3,513,313
RADIATION DETECTION APPARATUS
Jacob Schwartz, Arlington, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Dec. 6, 1968, Ser. No. 781,870
Int. Cl. G01j 1/44
U.S. Cl. 250—83.3 3 Claims



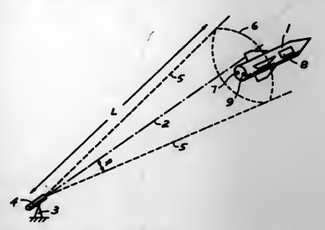
An improved radiation detection device in which a two phase detector element that undergoes a phase transition in response to a temperature change is employed. The detector is placed in a temperature regulator circuit that provides a thermal bias via a feedback loop such that a preselected extensive thermodynamic variable is maintained substantially constant and the effects of hysteresis are substantially eliminated from the output of the apparatus.

3,513,314
HIGH VOLTAGE RELAY CONTROL CIRCUIT FOR X-RAY APPARATUS PREVENTING ACTIVATION THEREOF IN RESPONSE TO RELAY MALFUNCTION
Robert L. Wright, Jr., North Linthicum, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 22, 1967, Ser. No. 685,134
Int. Cl. H05g 1/32
Int. Cl. 250—103 5 Claims



X-ray apparatus wherein kilovoltage level of energization of an X-ray tube is adjusted by selective closure of kilovoltage-determining relay contacts affiliated with different turns of an autotransformer in the primary circuit of a high tension transformer. A protection circuit sensitive to a closed condition of any one of such relay contacts prevents contact-closing operation of any of the relays.

3,513,315
SYSTEM FOR DETERMINING THE DISPLACEMENT OF AN OBJECT FROM A LINE OF SIGHT
Erik Wilhelm Sundstrom and Sven Torsten Lind, Karlskoga, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden
Filed Nov. 7, 1967, Ser. No. 681,178
Claims priority, application Sweden, Nov. 14, 1966, 15,518/66
Int. Cl. G01j 1/20; H01j 3/14, 39/12
U.S. Cl. 250—203 22 Claims



A system for determining by use of visible or infrared light the displacement of an object from a line of sight extending from a remote reference point, in which from the reference point a beam of light is emitted so as to nutate conically about the line of sight without rotating about its own axis. Adjacent the object of the beam of light produces an image of a pattern consisting of luminous and dark portions and having a geometry, which is rotationally unsymmetric about a centre in the pattern and defines at least two radial directions from the centre of the pattern, which directions are displaced 180° from each other. A photocell is mounted on the object for producing an output signal pulse modulated in dependence of the movement of the pattern relative to the photocell and this output signal is analysed for determining the time intervals between the instants when said directions in the pattern pass the photocell, said time intervals being representative of the displacement of the object. By using a pattern having a geometry defining at least also a third radial direction from the centre of the pattern, said third direction being displaced 90° from said first and second directions, it is possible to determine from the pulsed output of the photocell the displacement of the object in two mutually perpendicular directions from the line of sight. By mounting a second photocell on the object spaced from the first photocell and measuring the time intervals between the instants when a predetermined direction in the pattern passes the two photocells it is possible to determine also the distance between the object and the reference point.

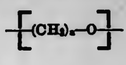
3,513,316
ATR DEVICE HAVING TRANSPARENT SLAB ON WHICH IS DEPOSITED AN ULTRA-THIN PHOTOCATHODE
Tomas Hirschfeld, Thousand Oaks, Calif., assignor to Block Engineering, Inc., a corporation of Delaware
Filed Dec. 7, 1967, Ser. No. 688,891
Int. Cl. H01c 7/08
U.S. Cl. 250—211 3 Claims



An improved photosensitive device having an optically transparent slab or window in which multiple attenuated total internal reflection of an input beam can occur, and an ultra-thin photoemissive cathode film disposed on a reflecting surface of the window. For film exhibiting peak sensitivity to radiation of wavelength λ, the ratio of thickness H to λ is less than 0.03.

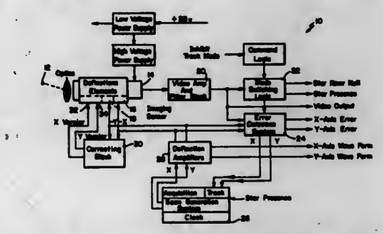
3,513,317
HIGH-IMPEDANCE PHOTOSENSITIVE DEVICES COMPRISING ELECTRODES OF POLYOLEFIN OXIDE
Albert Edward Binks, Limerick, Pa., and Allan Sharples, Edinburgh, Scotland, assignors to Ilford Limited, Essex, England, a British company
No Drawing. Filed June 21, 1968, Ser. No. 738,867
Claims priority, application Great Britain, June 21, 1967, 28,727/67; July 31, 1967, 35,029/67
Int. Cl. H01j 39/12; H01b 1/00; H01c 1/00
U.S. Cl. 250—211 6 Claims

This application describes a photosensitive device which comprises a photosensitive element, which is either a photosensitive substance or a photosensitive junction, having attached thereto electrodes the improvement which comprises providing that the electrodes are composed of a polyolefin oxide which is composed of units of the general formula:



where *n* is 2, 3 or 4.

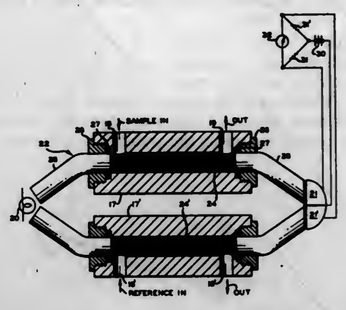
3,513,318
OBJECT LOCATING SYSTEM USING IMAGE CENTROID MEASUREMENT
Morris M. Birnbaum, Pasadena, and Phil M. Salomon, Tujunga, Calif., assignors to Hycon Mfg. Company, Monrovia, Calif.
Filed May 1, 1968, Ser. No. 725,699
Int. Cl. G01j 1/20
U.S. Cl. 250—214 18 Claims



In an object locating system, the signals representing location are sampled at the "leading edge" of an object representing signal and again at the trailing edge of the same object representing signal. The two sets of location representing signals are "averaged" to provide a representation of the location of the centroid of the object. When used in combination with an imaging sensor, the accuracy of the location representing signals is improved by correcting for non-orthogonality of deflecting circuits and for misalignments of the optical axis relative to a deflection "null" axis.

3,513,319
REFRACTOMETER HAVING SPACED LIGHT CONDUCTING RODS
Arthur B. Broerman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 19, 1968, Ser. No. 706,411
Int. Cl. G01n 21/26
U.S. Cl. 250—218 8 Claims

A refractometer comprises a bundle of radiation transparent tubes extending from a radiation source to a detector. The central sections of the tubes extend through a vessel which contains the liquid being analyzed. The outer sections of the tubes are clad with material having lower refractive indices than the tubes. A differential refractometer employing two such tube bundles and vessels is also provided. This refractometer is used as a detector in a chromatographic analyzer.



3,513,320
ARTICLE IDENTIFICATION SYSTEM DETECTING PLURALITY OF COLORS DISPOSED ON ARTICLE
Roger J. Weldon, Tucson, Ariz., assignor to Markstems, Inc., Whittier, Calif., a corporation of California
Filed Oct. 31, 1966, Ser. No. 590,862
Int. Cl. G06k 9/00
U.S. Cl. 250—219 7 Claims

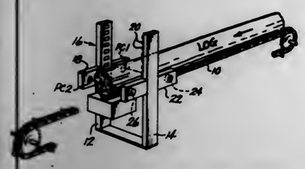


A system for identifying articles employs indicia means for the articles comprising colorants to be applied to each article in such a way that the colorants may be sensed in predetermined sequence during movement of the article past a scanning means regardless of the horizontal orientation of the indicia during said movement, regardless of the lateral placement of the article on a conveying means, and regardless of the plane and conformation of the surface of the indicia provided only that the indicia can be fully sensed by the sensing means.

3,513,321
LOG TALLY SYSTEM WITH MINIMUM DIAMETER MEASURING MEANS
Charles A. Sherman, Tacoma, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a Washington company
Filed Aug. 3, 1967, Ser. No. 658,130
Int. Cl. G01n 21/30
U.S. Cl. 250—219 14 Claims

This application discloses an improved and simplified log tally unit particularly well suited for use in a small log mill wherein the minimum diameter and total length of each log must be known. Once the minimum diameter and length of a log are known, the number of usable board feet in the log can be easily calculated, and the saw blades in the framesaw can be spaced in accordance with

the minimum diameter information in order to obtain the maximum lumber yield from the log. In the illustrated system a bank of photocells are located adjacent the path of travel of a log in the system with associated light sources being disposed on the opposite side of the log. As the log travels lengthwise between the photocells and light sources it will interfere with the passage of light to the photocells in a manner such that the number of darkened cells will be proportional to the diameter of the log. A self-actuated stepping switch coupled with the photocell bank serves to scan the photocells starting with the cell corresponding to the maximum diameter of any

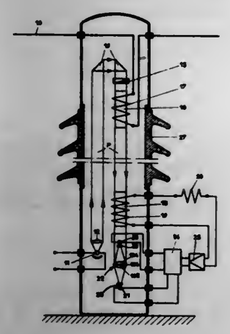


log to be measured. The scanner switch continues in its sampling of the photocells until a darkened cell is reached. It then remains in that stepped condition until such time as the observed diameter of the moving log decreases to cause the then darkened cell to receive light from its associated source. When this occurs the stepping switch automatically continues its scan of the photocells until a darkened cell is again reached. The setting of the stepping switch after the log has completed its traverse of the photocell bank then provides an indication of the minimum diameter of the log. The system further includes a length-measuring unit as well as various protective control arrangements.

3,513,322
ELECTRO-OPTICAL MEASUREMENT DEVICE FOR AN AERIAL HIGH VOLTAGE CONDUCTOR HAVING SEMI-REFLECTING MIRROR SITUATED PERPENDICULARLY TO DIRECTION OF LIGHT BEAM

Georges Bernard, Saint-Egreve, France, assignor to Merlin Gerin, Grenoble, France

Filed May 24, 1968, Ser. No. 731,961
Claims priority, application France, May 27, 1967, 108,156
Int. Cl. H01j 39/12
U.S. Cl. 250—220 5 Claims

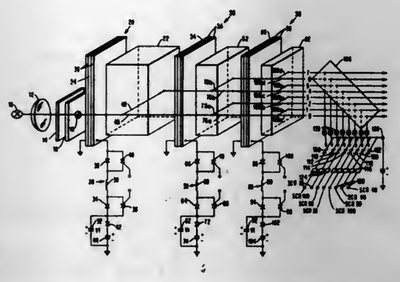


An electro-optical device for the measurement of an electrical current or voltage of an aerial high-voltage conductor comprises a system compensating the disturbances due for instance to variations in the light flux emitted by the light source. The light beam is divided into two elementary beams by a semi-reflecting plate arranged in such a way that the angle of incidence of the beam is zero, the photo-electric cells and associated analyzers, respectively collecting said elementary beams, being symmetrically located with respect to said semi-reflecting plate.

3,513,323
LIGHT BEAM DEFLECTION SYSTEM

Glenn T. Sincerbox, and Jerry L. Reynolds, Wappingers, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 13, 1965, Ser. No. 513,241
Int. Cl. G02f 1/18, 1/24
U.S. Cl. 250—225 3 Claims

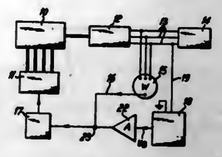


This specification describes means for positioning a light beam in a number of different output locations in a preset scanning sequence. This is accomplished by an optical beam deflector and light sensitive devices. The light sensitive devices detect the light beam in any of the output locations of the optical deflector and vary control circuits for the deflector so as to cause the light beam to change to another of the output positions. This causes the light beam to continually move from output position to output position in accordance with a preset scanning sequence.

3,513,324
FREQUENCY CONTROL CIRCUIT FOR AN A-C GENERATOR DRIVEN BY A PRIME MOVER HAVING ADJUSTABLE FUEL SUPPLY

Helmut Domann and Peter Gunsser, Stuttgart, Germany, assignors to Robert Bosch GmbH., Stuttgart, Germany, a limited liability company of Germany

Filed June 8, 1967, Ser. No. 644,580
Claims priority, application Germany, July 20, 1966, B 88,073
Int. Cl. H02p 9/04
U.S. Cl. 290—40 15 Claims



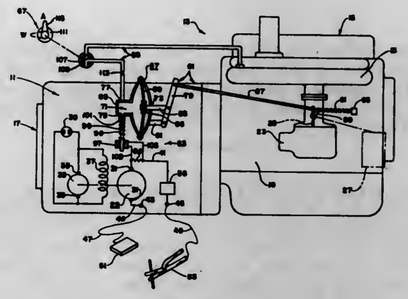
The output voltage of the generator is applied, phase shifted 90°, to an amplifier which includes a frequency

sensitive negative feedback circuit; the output, which will have a phase position with respect to the generator voltage which is strongly dependent on frequency, is taken directly, as well as 180° out of phase and compared in a rectifier circuit with the generator voltage to deliver a control signal for the fuel controller of the generator drive.

3,513,325
ELECTRIC WELDING MACHINE SPEED CONTROL MEANS

Leon O. Tharp, 4574 Weaver Road, Memphis, Tenn. 38109

Filed May 27, 1968, Ser. No. 732,237
Int. Cl. H02p 9/04
U.S. Cl. 290—40 3 Claims



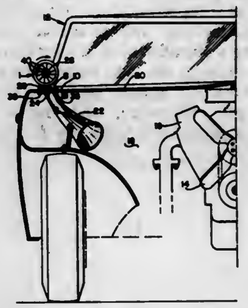
An improvement in a gasoline engine powered portable type electric welding machine having dual electric current outlet means for energizing respectively either the electric arc welding electrodes or a power tool plugged in and connected with the exciter circuit of the welding generator—the improvement including control means for regulating the speed of the engine-generator respectively for high constant speed operation when utilizing exciter circuit current for power tool operation or for high and low fluctuating speed operation when the welding circuit is being utilized for welding. The control means includes electro-vacuum means for causing automatic speed control operation and hand valve means interposedly fitted in the vacuum supply line of the electro-vacuum means for selective operation of the welding machine either for welding or for supplying current for a power tool.

3,513,326
WIND MOTOR WHEEL

Harold S. Potts, P.O. Box 514, Healdton, Okla. 73438

Filed May 22, 1967, Ser. No. 640,263
Int. Cl. F03d 9/00
U.S. Cl. 290—55 3 Claims

A wind motor wheel which preferably drives an electrical generator, in one form of the invention, to receive air pressure generated by the motor fan, particularly while the vehicle is standing still and the motor is running, to operate the wind wheel to generate electrical current, and to receive air pressure axially of the wind wheel while the vehicle is moving over the terrain, over the water, or through the air, to provide additional power to drive an electrical generator to provide a source of electricity independently of the battery system of the vehicle. A modified form of the invention shows the use of a motor to drive a wind wheel to exhaust air from

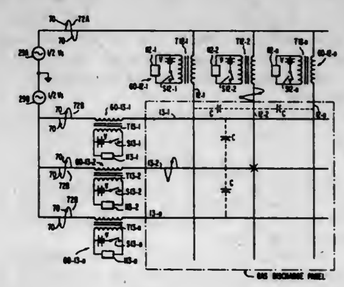


beneath the hood of the vehicle, which motor may be driven by a source of electricity connected to the wires extending therefrom.

3,513,327
LOW IMPEDANCE PULSE GENERATOR

William E. Johnson, Temperance, Mich., assignor to Owens-Illinois, Inc., a corporation of Ohio

Continuation-in-part of application Ser. No. 699,170, Jan. 19, 1968. This application Aug. 14, 1968, Ser. No. 752,626
Int. Cl. H04b 3/32
U.S. Cl. 307—89 20 Claims



An improved pulse generator circuit primarily for multiple discharge gaseous display and/or memory panels having cross-talk eliminating means. A low level voltage signal from an addressing logic system is inductively translated to a high voltage unidirectional pulse and added to a periodic alternating sustaining voltage at selected times to control "on"-"off" states of selected discharge units. The improvements relate to utilization of an electronic switching circuit responsive to a spurious voltage signal to provide a low impedance to voltages induced or capacitively coupled to display lines associated therewith from other conductors.

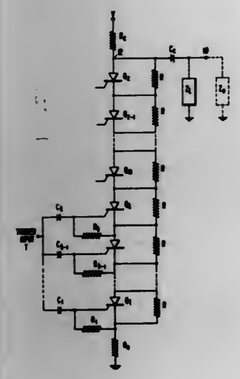
3,513,328
PULSE GENERATING CIRCUIT UTILIZING AVALANCHE FIRING OF SERIES CONNECTED SCR'S

Mederic E. Auger, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed May 6, 1968, Ser. No. 726,666
Int. Cl. H03k 17/72
U.S. Cl. 307—108 4 Claims

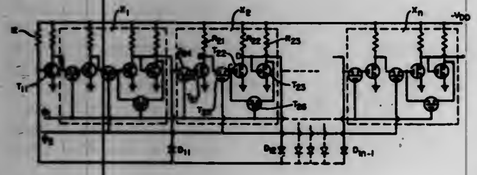
A pulse generating circuit for production of high-energy pulses suitable for use in applications such as radar modu-

lators, linear accelerator modulators and ultrasonic testing includes a high voltage source, a load impedance across which the pulse is to be developed, energy storage elements such as a capacitor, a charging resistor coupling the capacitor to the high voltage source and a switching circuit including a plurality of SCR's for completing a discharge circuit through the load impedance and capacitor upon closure. One or a number of the SCR's are fired by conventional gate triggering, and the remainder are placed into a conducting conditon by forward avalanche



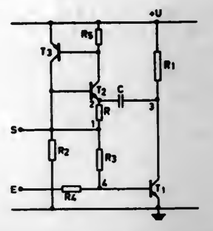
breakdown whereby the initial waveshape of the pulse developed across the load impedance has a fast rise time and a high peak magnitude. The subsequent shape of the pulse depends on the load impedance used, and examples including a resistor, a coaxial cable and an L-C network are illustrated.

3,513,329
N-NARY COUNTER
Isamu Washizuka, Osaka, and Hitoshi Hanahara and Kunio Yoshida, Nara-ken, Japan, assignors to Hayakawa Denki Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
Filed Aug. 21, 1967, Ser. No. 661,952
Claims priority, application Japan, Sept. 1, 1966, 41/58,018
Int. Cl. H03k *21/00, 23/08*
U.S. Cl. 307—223 8 Claims



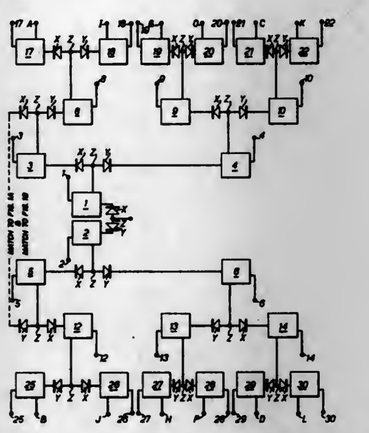
An N-nary counter comprising *n* delay memory elements connected in series so that the input terminal and the output terminal of any memory element is connected to the output side of the preceding element and to the input side of the succeeding element for shifting the state successively to succeeding elements including a logic state to which the states of any two or more memory elements are applied as inputs and which is connected to the input side of the memory element in the first stage only.

3,513,330
ELECTRONIC FREQUENCY DIVIDER
Jean Claude Berney, Lausanne, Switzerland, assignor to Bernard Golay S.A., Lausanne, Switzerland
Filed Nov. 21, 1966, Ser. No. 595,915
Claims priority, application Switzerland, June 16, 1966, 8,728/66
Int. Cl. H03k *21/00*
U.S. Cl. 307—225 3 Claims



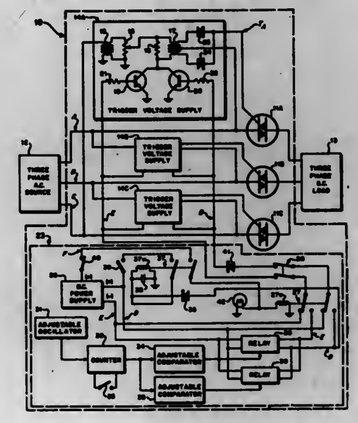
An electronic frequency divider is described. Circuit components include solid state devices with cross-connected transistors having a negative resistance characteric and a RC network in the emitter circuit of an input transistor.

3,513,331
SAMPLING CIRCUIT INCLUDING A PAIR OF GATES FOR SUCCESSIVELY SAMPLING SIGNALS
Ronald Arthur Tyler, Essex, England, assignor to The Marconi Company Limited, English Electric House, London, England, a British company
Filed Aug. 5, 1966, Ser. No. 570,635
Claims priority, application Great Britain, Sept. 10, 1965, 38,845/65
Int. Cl. H03k *17/00*
U.S. Cl. 307—241 4 Claims



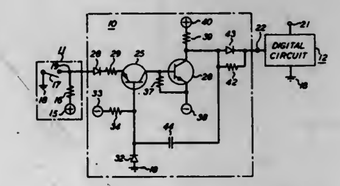
A sampling circuit having a number of pairs of gates for successively sampling a plurality of signals is disclosed. Each gate contains a transistor with its emitter at anchored potential. The signals to be sampled are applied to respective collectors of the transistors through resistors. A predetermined bias potential is applied to the bases of the pair of transistors and two switching voltage levels are superimposed on the bias. A pair of oppositely sensed diodes are connected between the collectors of the pair of transistors. An output appears at the junction of the two diodes which may, in turn, be connected to the collector of another transistor associated with a further pair of gates.

3,513,332
POLYPHASE POWER INTERRUPTION APPARATUS INCLUDING BIDIRECTIONAL SEMICONDUCTORS
Franklin B. Snyder, Feasterville, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 27, 1967, Ser. No. 656,630
Int. Cl. H03k *17/00*
U.S. Cl. 307—252 10 Claims



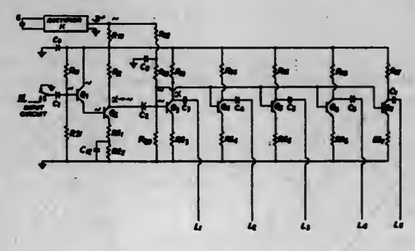
A three-phase power interruption apparatus which includes a controllable bidirectional semiconductor interposed in each respective phase between a source of power and a load. Each of the semiconductors is controlled by a respective trigger voltage supply which is connected to receive a voltage from the source having a relatively leading phase. An oscillator driven counter and associated relay circuitry causes the trigger supplies to cease providing the trigger voltage for a predetermined interval so that the semiconductors correspondingly interrupt the provision of power to the load during that interval.

3,513,333
CONTACT CLOSURE CONVERSION CIRCUIT
Robert P. Andersen, Brooklyn, N.Y., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Oct. 14, 1966, Ser. No. 586,776
Int. Cl. H03k *3/284*
U.S. Cl. 307—273 8 Claims



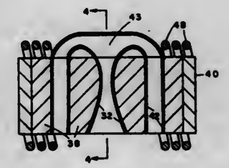
A two-transistor circuit has an RC feedback path for clamping the circuit in an "off" state for a predetermined period commencing with an input switch contact closure and terminating after switch contact bounce ceases. Both transistors are cut off in response to the initial contact closure. A capacitor feeds a resulting output signal transition and subsequent decaying transient voltage back to the input transistor thereby establishing a decaying turn-on threshold voltage which prevents turn-on until the contact bounce ceases.

3,513,334
CIRCUIT FOR SUPPRESSING UNDESIRABLE A.C. SIGNALS SUPERIMPOSED ON THE POWER SUPPLY VOLTAGE
Arthur C. Brunner, St. Petersburg, and Eric C. Heinrich, Seminole, Fla., assignors to Electronic Communications, Inc., St. Petersburg, Fla., a corporation of New Jersey
Filed Dec. 5, 1966, Ser. No. 599,274
Int. Cl. H03k *1/02, 1/10*
U.S. Cl. 307—296 6 Claims



Undesirable A.C. signals superimposed on the power supply voltage are eliminated in a circuit including a transistor amplification stage connected in phase reversal configuration between its input and output electrodes and deriving its energization from the power supply. Means including a transistor connected in the emitter follower configuration apply a portion of the undesirable A.C. signals to the input electrode of the transistor connected in phase reversal configuration. A portion of the undesirable A.C. signals are also applied in phase to the output of said latter transistor, with the gain of the transistor adjusted to suppress the noise.

3,513,335
MAGNETOHYDRODYNAMIC GENERATOR AND CYCLE
Robert Gordon, Sierra Madre, and David E. Deutsch, Walnut Creek, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Jan. 6, 1966, Ser. No. 519,056
Int. Cl. H02n *4/02*
U.S. Cl. 310—11 10 Claims



A method and apparatus relating a a nuclear powered magnetohydrodynamic generator. A compressed gaseous working fluid is heated to a non-ionizing temperature and then directly subjected to a source of nuclear fission fragments to effect non-thermal ionization of the working fluid. The ionized working fluid is then expanded through a magnetic field to generate electrical energy.

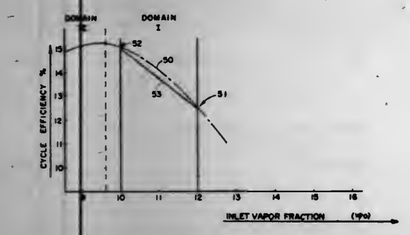
3,513,336
METHOD FOR CONTROLLING A POWER GENERATING SYSTEM

Lawrence L. Frem, Tarzana, Calif., assignor to North American Rockwell Corporation

Continuation-in-part of application Ser. No. 295,125, July 15, 1963. This application July 13, 1967, Ser. No. 653,142

Int. Cl. H02n 4/02

U.S. Cl. 310—11 9 Claims



A method for controlling variation of electrical energy output with time from a power-generating system in which a heat source supplies a decreasing thermal energy output with time to a magnetohydrodynamic system for the conversion of thermal energy to electrical energy utilizing a conductive fluid moving in a transverse magnetic field. By preselecting the initial vapor content of the utilized fluid to have a desired value of negative conversion effect in which overall thermal-to-electrical conversion efficiency varies inversely with initial vapor content of the fluid, a decrease in supplied thermal energy which would ordinarily result in a decrease of electrical energy output is compensated for by a simultaneous increase in the overall conversion efficiency so that variation in the resultant output of electrical energy with time is minimized.

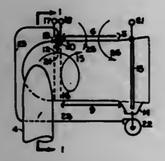
3,513,337
ELECTROMAGNETIC GAS-DYNAMIC ENERGY CONVERTER

Henry Greber, 225 W. 86th St., Apt. 8-D, New York, N.Y. 10024

Filed Sept. 6, 1968, Ser. No. 757,992

Int. Cl. H02n 4/02

U.S. Cl. 310—11 4 Claims



An electromagnetic device for direct conversion of the kinetic energy of a fluid, particularly of a gas, into electric energy. This is accomplished by ionizing the gas molecules, so that ions of a given sign are carried by the gas stream from an electrode of opposite sign to a collecting electrode installed downstreams. The gas is introduced transversally into a tube, by means of a nozzle perpendicular to the axis of that tube, or through directing vanes, so that it rotates in the tube. The rotating gas is exposed to the influence of a magnetic flux perpendicular to the direction of the gas rotation, so that an induced electromotoric force acting on said ions is directed in the same way as is the potential gradient due to the removal of the same ions from the oppositely charged electrode. If three pairs of ionizing electrodes and three collecting electrodes are installed along the gas duct, the device can function as a converter of kinetic gas power into three-phase power. This converter can also function as an asynchronous generator at commercial power frequencies, or at high frequencies as a traveling wave amplifier or oscillator. The application of this device for the reduction of the sonic boom and drag of aircraft is given.

3,513,338
VEHICLES WITH LINEAR INDUCTION MOTORS

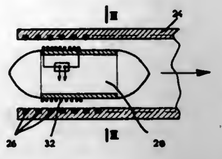
Michel Polujadoff, Grenoble, France, assignor to Merlin Gerin (Societe Anonyme), Grenoble, France

Filed Nov. 7, 1968, Ser. No. 774,060

Claims priority, application France, Nov. 17, 1967, 128,777

Int. Cl. H02k 41/02, 41/04

U.S. Cl. 310—13 1 Claim



Vehicle propelled by an electric linear motor having an elongated stationary inductor producing a magnetic travelling field. A coil is located in the vehicle to be traversed by the flux of said field and to furnish the auxiliary service power in the vehicle.

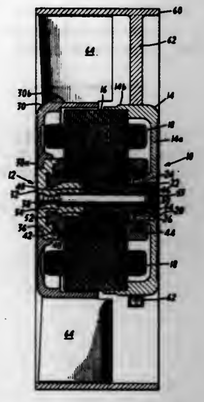
3,513,339
ELECTRIC MOTOR CONSTRUCTION

Dwight E. Harris, Woodstock, and Donald S. Wilson, Elnora, N.Y., assignors to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York

Filed Dec. 7, 1966, Ser. No. 599,855

Int. Cl. H02k 5/16

U.S. Cl. 310—90 7 Claims



An improved motor construction, particularly adapted for use in tubeaxial fans is described. An annular stator is carried in a housing which also carries a tubular bearing support concentric with the stator. The rotor, also annular in form, is supported in a hub and revolves in the annular space between the tubular bearing support and the stator. The motor shaft is supported cantilever fashion from the rotor hub concentrically with the rotor

and is journalled in a sleeve bearing in the bearing support. The annular design and air gap around the bearing support minimize transfer of motor heat to the bearing and thereby extend its life.

3,513,340
HOMOPOLAR ELECTRIC MACHINES

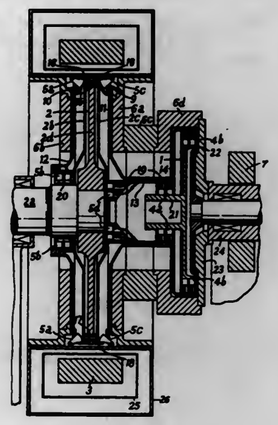
Anthony Derek Appleton, Newcastle upon Tyne, England, assignor to International Research & Development Company Limited, Newcastle upon Tyne, England

Filed Jan. 6, 1967, Ser. No. 607,784

Claims priority, application Great Britain, Jan. 12, 1966, 1,530/66

Int. Cl. H02k 31/00, 47/14

U.S. Cl. 310—113 10 Claims



A homopolar machine is disclosed having two rotors in a common magnetic field, preferably provided by a superconducting coil, one of the rotors being driven by an external prime mover, such as an electric motor, and acting as a generator which supplies current to the other rotor which serves as a motor giving a low-speed high torque output.

3,513,341
PERMANENT MAGNET ROTOR FOR AN ELECTRIC MACHINE

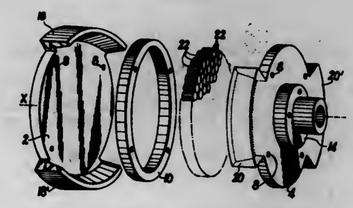
Jean Louis Gratzmuller, 66 Blvd. Maurice Barres, Neuilly-sur-Seine, Hauts-de-Seine, France

Filed Mar. 31, 1967, Ser. No. 627,365

Claims priority, application France, Apr. 4, 1966, 56,228

Int. Cl. H02k 21/12

U.S. Cl. 310—156 4 Claims



A permanent magnet rotor is provided in which at least two axially spaced pole plates with peripheral pole pieces are secured together with an interposed coaxial spacer ring of non-magnetic material to form an enclosed cylindrical chamber which is filled by a plurality of permanent bar magnets in side-by-side relation extending lengthwise between the pole plates and oriented such that their north poles contact one plate and their south poles contact the other plate. A housing of non-magnetic material is secured to the outer face of one plate for connection with a rotary shaft.

3,513,342
ROTOR FOR ALTERNATING-CURRENT MACHINES

Todor Sabev, Nuremberg, Germany, assignor, by mesne assignments, to Todor Sabev, Nuremberg, Germany

Filed Feb. 3, 1966, Ser. No. 524,728

Claims priority, application Germany, June 25, 1965, S 97,815; Feb. 6, 1965, S 95,347

Int. Cl. H02k 3/06, 17/16, 9/00

U.S. Cl. 310—211 19 Claims



A rotor for an alternating current machine comprises a ferromagnetic rotor body and ferromagnetic electrically conducting rods fixedly joined with the rotor body and providing a smooth rotor surface while preventing currents to flow in tangential direction. The ferromagnetic rods are in electrically conducting connection with each other at their axial ends. The rods are approximately trapezoidal in cross section and have a considerably smaller spatial expansion in tangential direction than in radial direction.

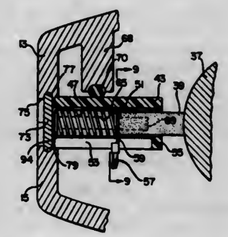
3,513,343
BRUSH HOLDER ASSEMBLY

David E. Harvey, Baltimore, and Claudius C. Elmore, Jr., Timonium, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland

Filed Mar. 11, 1968, Ser. No. 712,270

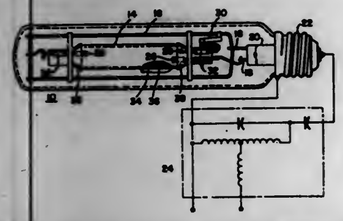
Int. Cl. H01r

U.S. Cl. 310—247 15 Claims



A brush holder assembly including an elongated body supported upon a motor housing and having a through passage. A brush in the passage is normally biased toward one end while the other end is covered by a member spaced from the body and supported upon the housing. The member is movable from outside the housing to uncover the passage and allow brush inspection.

3,513,344
HIGH PRESSURE MERCURY VAPOR DISCHARGE LAMP CONTAINING LEAD IODIDE
Daniel A. Larson, Cedar Grove, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1967, Ser. No. 691,772
Int. Cl. H01j 61/12, 61/20, 61/34
U.S. Cl. 313—25 2 Claims



A high-pressure, mercury-vapor, (HPMV) discharge lamp of the additive type which includes, in addition to a small quantity of inert ionizable starting gas and about 3.0 milligrams of mercury per cubic centimeter of arc tube volume, a quantity of lead iodide (PbI) of about 0.5 to 1.5 milligrams per cubic centimeter of arc tube volume in the discharge sustaining fill. The lamp produces strong radiations at about 4058 angstrom units and between about 3600 and 3740 angstrom units and is particularly adapted for photocopying or as a black light radiator for the illumination of fluorescent signs.

3,513,345
HIGH SPEED ELECTRON MULTIPLIER
Gene R. Fenster, Elmira, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 13, 1967, Ser. No. 690,297
Int. Cl. H01j 39/14
U.S. Cl. 313—95 10 Claims

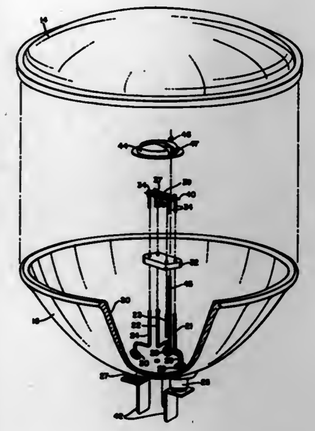


This invention relates to ultrahigh speed electron multipliers and includes in one illustrative embodiment an electron discharge device having a photocathode element for converting incident radiation into a corresponding pattern of electrons, suitable electron multiplying transmission dynode elements, and a coaxial termination for providing a suitable electromagnetic output signal in response to the multiplied electrons directed thereon, and a suitable radiation delay means which may take the form of an optical lens having its peripheral portions of greater thickness than its central portions.

3,513,346
PHOSPHORS AND PROCESS OF PRODUCING THE SAME
Kenzo Awazu and Kazu Matsunaga, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan
Filed June 24, 1966, Ser. No. 560,335
Claims priority, application Japan, June 30, 1965, 40/39,150
Int. Cl. C09k 1/36
U.S. Cl. 313—108 4 Claims

A phosphor material is disclosed which is comprised of an orthophosphate of barium, strontium or a mixture thereof as the base matrix and divalent europium as an activator, and wherein the molar ratio of barium and/or strontium to phosphorous is substantially 3:2. The present phosphor material provides a maximum light output at a wavelength of from 4,000 to 4,200 A. upon excitation with ultraviolet and cathode ray radiation having a wavelength of 2537 A. The material is suitable for use in mercury vapor discharge lamps such as those used in duplicating apparatuses.

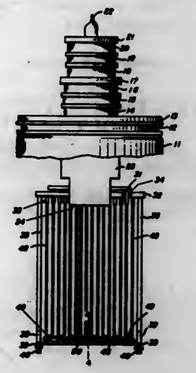
3,513,347
PREFOCUSED FILAMENT-MOUNT STRUCTURE FOR SEALED-BEAM TYPE INCANDESCENT LAMP AND METHOD OF MANUFACTURE
Max Murray, Fairmont, W. Va., and John J. Zecca, Belleville, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 24, 1967, Ser. No. 663,125
Int. Cl. H01k 1/18, 3/06
U.S. Cl. 313—115 7 Claims



A coiled-coil filament is supported in prefocused relationship with the glass reflector component of the envelope by rigid stub-like connector leads of predetermined length that are seated in notches formed in the ends of the lead wires, and the latter are held in proper orientation by an apertured force-fitted ceramic insulator. The connector-leads are clamped to the ends of the filament coil to form a separate subassembly that is mounted on and spot welded to the trimmed and notched ends of the lead wires of a conventional reflector-lead assembly after the insulator is threaded over and anchored to said wires.

3,513,348
FILAMENT STRUCTURE HAVING ARC SUPPRESSING MEANS
Jacob A. Randmer, Wilton, and Erich C. Peter, Cos Cob, Conn., assignors to The Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Connecticut
Filed Dec. 7, 1967, Ser. No. 688,931
Int. Cl. H01j 1/94, 19/48
U.S. Cl. 313—278 4 Claims

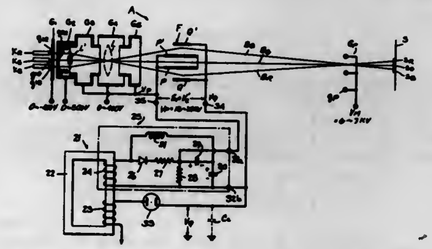
A filament support structure for an electron tube comprising a linear array of parallel, U-shaped, filament wires extending longitudinally in an axial plane of the tube, a crossbar at the bight end of the filaments having extension tabs which grazingly touch the opposed sides of the bight ends of the filaments at the midpoints and a wire connected to the bight ends of the filaments and attached at each end to the crossbar.



3,513,349
DISCHARGE TUBE
Hideo Mizuno, Takatsuki-shi, Hidezo Akutsu, Suita-shi, Eiziro Moriguchi, Kyoto, Katsuyuki Yamashita, Takatsuki-shi, Shigeru Kamiya, Hirakata-shi, and Koshi Iwata, Takatsuki-shi, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan
Filed Dec. 28, 1966, Ser. No. 605,327
Claims priority, application Japan, Jan. 8, 1966, 41/1,408
Int. Cl. H01j 1/14
U.S. Cl. 313—311 5 Claims

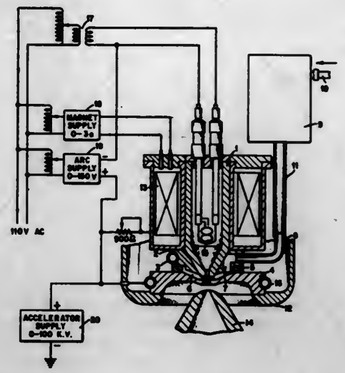
A coating for electrodes of discharge tubes including iron boride, a high-melting reducing metal such as zirconium, hafnium, niobium or tantalum, and electron emissive materials. The coating reduces R.F. emission in the 535–1605 kHz. range and is particularly adapted for low-pressure mercury-vapor discharge tubes.

3,513,350
CONVERGENCE DEFLECTION SYSTEM FOR A COLOR PICTURE TUBE
Akio Ohgoshi and Minoru Morio, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Apr. 4, 1968, Ser. No. 718,730
Claims priority, application Japan, Apr. 6, 1967, 42/22,175; Apr. 6, 1967, 42/29,178
Int. Cl. H01j 29/50, 29/70
U.S. Cl. 315—13 12 Claims



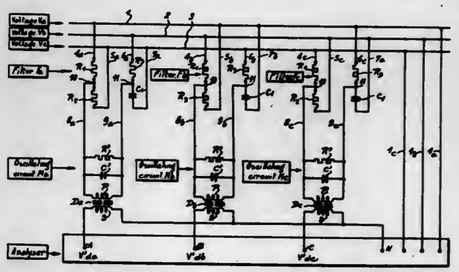
This invention discloses an electron beam deflection voltage generator, for use in color picture tube systems of the single-gun, plural-beam type, which generates both a static electron beam convergence voltage and a horizontal dynamic electron beam convergence voltage and which functions to simultaneously apply these voltages to the system electron beam deflection plates. In addition, variations in the anode voltage applied to the color picture tube are controlled in order to maintain substantially or effect upon electron beam convergence.

3,513,351
DUOPLASMATRON-TYPE ION SOURCE INCLUDING A GAS RESERVOIR
George G. Kelley, Kingston, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 26, 1968, Ser. No. 740,208
Int. Cl. H01j 7/24, 27/00
U.S. Cl. 315—108 3 Claims



The effective volume of the region between the intermediate electrode and the anode of a duoplasmatron-type ion source is made large compared to that of the prior art to reduce current transients caused by ion pumping of the arc passing therethrough. This is effectively accomplished by providing an external reservoir that communicates with that region and, furthermore, by introducing the source gas into that reservoir.

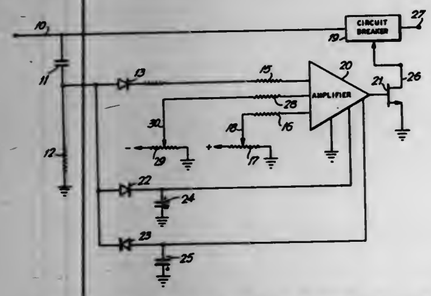
3,513,352
DEVICES FOR PROTECTING THREE-PHASED ELECTRIC LINES
Michel Henry Pierre Souillard, Fontenay-Aux-Roses, France, assignor to Compagnie des Compteurs, Paris, France, a company of France
Filed Apr. 22, 1968, Ser. No. 723,174
Claims priority, application France, May 3, 1967, 105,001
Int. Cl. H02h 3/26, 1/04
U.S. Cl. 317—27 5 Claims



The device for temporarily memorising the direct components of the voltages of a polyphase network for detect-

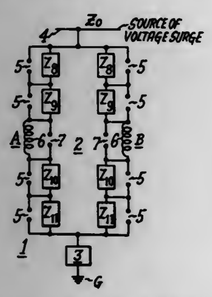
ing faults of this network comprises as many filters as there are phases of the network and respectively supplying the direct component of the voltage belonging to each phase, oscillating circuits being electrically connected to said filters and comprising a mutual inductance having at least one secondary winding and one at least of said secondary windings being electrically connected to one of the secondary windings of the other mutual inductances in a star-pattern connection.

3,513,353
VOLTAGE MONITORING CIRCUIT
John L. Lanoch, Elm St., Upper Nyack, N.Y.
Filed Aug. 17, 1967, Ser. No. 661,404
Int. Cl. H02h 3/22
U.S. Cl. 317—31 5 Claims



A voltage monitoring circuit for sensing the change in voltage magnitude of AC line by detecting a portion of the voltage through a capacitive coupling and comparing that voltage with one or more fixed reference voltages so that departures from the reference voltage will cause the circuit to rapidly disconnect the line from the load. The circuit utilizes a reference amplifier which compares the rectified peak line voltage with a reference voltage and turns on a silicon control rectifier when the line voltage departs from the reference voltage so that the silicon control rectifier may actuate a circuit breaker to interrupt the power in the AC line.

3,513,354
LIGHTNING ARRESTER WITH HIGH SURGE ENERGY ABSORBING CAPABILITY
Eugene C. Sakshaug, Lanesborough, and James S. Kresge, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 553,413, May 27, 1966. This application Mar. 20, 1967, Ser. No. 624,297
Int. Cl. H02h 3/22, 9/06
U.S. Cl. 317—61 31 Claims



A high energy surge absorbing lightning arrester comprising a pair of current limiting gaps connected in parallel circuit relation to produce a flip-flop mode of operation. Valve resistance may be common to and in series with the parallel circuits or distributed serially in the parallel circuits or both. A common non-current limiting gap may also be connected in series with the parallel circuits.

3,513,355
FIXED SEQUENCE MULTIPLE SQUIB CONTROL CIRCUIT
Roy R. Shanks, Royal Oak, Mich., assignor to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware
Filed Dec. 27, 1968, Ser. No. 787,476
Int. Cl. F23g 7/02
U.S. Cl. 317—80 9 Claims



A squib control circuit network for sequentially firing a series of squib elements connected in individual branch circuits B1, B2, B3 . . . Bn extending between a common point and individual voltage input points is provided including preferably similar threshold switch devices D2, D3 . . . Dn respectively interposed between the voltage input points of the branch circuits and a threshold switch device D1 interposed between the input to the network and the first branch circuit. Voltage divider-forming resistors R1, R2, R3 . . . Rn respectively are connected across the threshold switch devices D1, D2, D3 . . . Dn and most advantageously have the following relative values: $R2=C(R1+R2)$,

$$R3=C(R1+R2+R3) \ldots$$

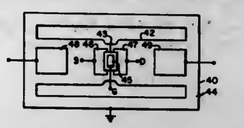
$$Rn=C(R1+R2+R3 \ldots Rn)$$

where C is preferably a constant much greater than 0.5 and less than 1.0. The input to the network is connected to a source of squib-blowing initiating voltage pulses. The threshold switch devices are triggered from a normal high resistance blocking condition to a low resistance conducting condition upon the application of a voltage thereacross which exceeds a threshold voltage value thereof which conducting condition persists until the current therethrough drops below a given holding current level. The resistors shunting the threshold switch devices have a resistance much less than the high resistance of the threshold switch devices but much higher than the resistance of the squib elements so each branch circuit is not loaded by the other branch circuit connected thereto. The above circuit operates to blow the squib elements in a predetermined sequence when the threshold voltage value of the threshold switch devices is less than C times the amplitude of the squib-blowing initiating voltage pulses.

3,513,356
ELECTROMECHANICAL TUNING APPARATUS PARTICULARLY FOR MICROELECTRONIC COMPONENTS
William E. Newell, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 27, 1967, Ser. No. 649,214
Int. Cl. H03h 7/10
U.S. Cl. 317—101 1 Claim

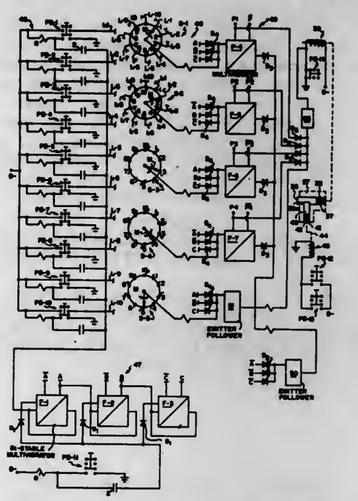
Tuning apparatus is described including a vibratory member on which layers of piezoelectric material are disposed for input and output transducers. The vibratory member may have a flat surface on which the piezoelectric layers are disposed making the structure amenable

to fabrication by techniques used for fabrication of microelectronic components. The vibratory member may be a body of semiconductive material. In addition to acting as



an electromechanical tuning element, the vibratory member, when of semiconductive material, may contain elements such as an integrated amplifier circuit with frequency selective properties without external tuning means.

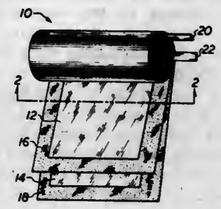
3,513,357
DOOR LOCK
Maylin H. Dittmore, 697 Meadowlark St., Livermore, Calif. 94550
Filed Sept. 13, 1967, Ser. No. 667,483
Int. Cl. E05b 47/02, 49/02
U.S. Cl. 317—134 8 Claims



A door lock comprising an electronic circuit that makes it possible to release a door latching bolt by entering a pre-set sequence into a series of pushbutton switches from outside the door. The latching bolt is also releasable by actuating a single pushbutton switch from inside the door. The bolt can be set by a single pushbutton switch from either outside or inside the door. The circuit includes an electronic counting mechanism that is activated by the pushbutton switches and provides sequential signals to a logic network that deciphers them and generates a signal to the latch releasing mechanism if, and only if, the proper code has been entered on the pushbutton switches.

3,513,358
CAPACITOR HAVING UNIFORMLY RESISTIVE ELECTROLYTE AND SEPARATOR MATERIAL BETWEEN ELECTRODES
Paul H. Netherwood, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Oct. 27, 1967, Ser. No. 678,680
Int. Cl. H01g 9/02
U.S. Cl. 317—230 7 Claims

A semiresistive material having electronic conductivity is utilized as a separator between a cathode electrode and a filmed valve metal electrode in the presence of an electrolyte to provide an electrolytic capacitor having rela-



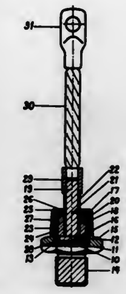
tively uniform resistance parameters over a wide temperature range.

3,513,359
PRESSURE CONTACT SEMICONDUCTOR DEVICES
Colin Bright Lewis, Nettleham, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Nov. 29, 1967, Ser. No. 686,483
Claims priority, application Great Britain, Dec. 2, 1966, 54,137/66
Int. Cl. H01l 1/14, 5/02
U.S. Cl. 317—234 11 Claims



A semiconductor device in which electrical connection to a wafer of semiconductor material is provided by pressure contact on a pair of electrodes, one of which is a backing plate on which the wafer is mounted and the other is a surface electrode on the opposite face of the wafer, the surface electrode being constituted by a layer of conductive material applied to the surface of a diffused region of the wafer.

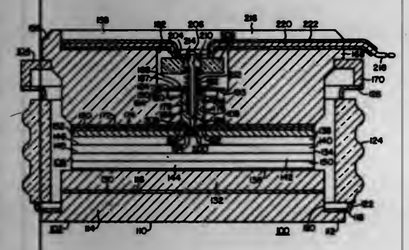
3,513,360
SEMI-CONDUCTOR DEVICE
Nils Eric Andersson and Goran Lilja, Ludvika, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Dec. 26, 1967, Ser. No. 693,538
Claims priority, application Sweden, Dec. 27, 1966, 17,734/66
Int. Cl. H01l 1/14
U.S. Cl. 317—234 8 Claims



A semi-conductor device includes a semi-conductor system arranged on a base and a counter electrode which is held pressed against the side of the semi-conductor device

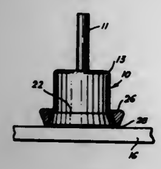
facing away from the base by a clamping device. A body of rigid insulating material is arranged between the clamping device and the counter electrode, which body transfers the pressure of the clamping device to the counter electrode and the semi-conductor system. The counter electrode, the insulating body and the clamping device are enclosed in a cap arranged above and joined to the base. A sealing ring of an elastic, electrically insulating material is arranged inside the cap between the clamping device and the semi-conductor system and compressed between the insulating body and the adjacent wall of the cap, which ring separates an inner space containing the semi-conductor system from the clamping device.

3,513,361
FLAT PACKAGE ELECTRICAL DEVICE
Alfred Meyerhoff, Greensburg, and Peter M. Guzanick, Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 9, 1968, Ser. No. 727,875
Int. Cl. H01l *1/06*
U.S. Cl. 317—234 5 Claims



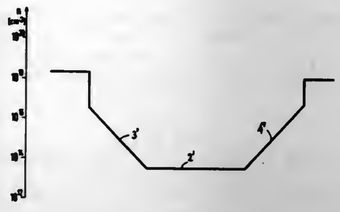
A gate lead electrically connected to the base region of a semiconductor element of a flat package electrical device extends downwardly through the top surface of the device and through an aperture in an electrical contact in physical contact with another region of semiconductivity of the element.

3,513,362
SEMICONDUCTOR DEVICE WITH SUPPORT BLOCK SECURED ON HEAT DISSIPATION PLATE
Isamu Yamamoto, Itami, Japan, assignor to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan
Filed May 9, 1968, Ser. No. 727,900
Claims priority, application Japan, May 16, 1967, 42/40,952
Int. Cl. H01l *1/12*
U.S. Cl. 317—234 2 Claims



A metallic support block secured on one end surface of a semiconductor device is put in intimate contact with a heat dissipation plate by a retaining metallic annulus complemental in configuration to the support block and provided on the periphery of one end with an axial projection welded to the plate with a gap betweei the block and the plate filled with a soft metal.

3,513,363
THYRISTOR WITH PARTICULAR DOPING
Adolf Herlet, Pretzfeld, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed July 28, 1966, Ser. No. 568,640
Claims priority, application Germany, July 30, 1965, S 98,547
Int. Cl. H01l *11/10*
U.S. Cl. 317—235 8 Claims



Described is a semiconductor controlled rectifier for power current, comprising a substantially monocrystalline silicon body having four sequential regions of alternately opposed types of conductivity and having in one of the two inner regions a substantially uniform dopant concentration lower than the dopant concentration in each of the three other regions. This one inner region has a thickness of 200 to 300 microns and a dopant concentration of $2.5 \cdot 10^{13}$ to $1.5 \cdot 10^{14}$ atoms per cm.^{3}.

3,513,364
FIELD EFFECT TRANSISTOR WITH IMPROVED INSULATIVE LAYER BETWEEN GATE AND CHANNEL
Frederic P. Heiman, Cranbury, N.J., assignor to RCA Corporation, a corporation of Delaware
Continuation of application Ser. No. 222,019, Sept. 7, 1962. This application Feb. 10, 1967, Ser. No. 629,340
Int. Cl. H01l *11/14*
U.S. Cl. 317—235 3 Claims

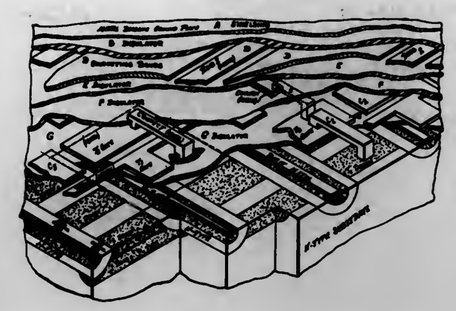


An insulated gate field effect transistor has an insulating layer intermediate overlapping portions of its source and drain and gate electrode, respectively, which provides capacitance between the overlapping portions which is less than the capacitance between the gate electrode and the charge carrier channel of the transistor. A layer of the semiconductive material immediately beneath the gate insulator has a lower resistivity than the remainder of the semiconductive material.

3,513,365
FIELD-EFFECT INTEGRATED CIRCUIT AND METHOD OF FABRICATION
Mark W. Levi, 6 Knollwood Road, New Hartford, N.Y. 13413
Filed June 24, 1968, Ser. No. 739,235
Int. Cl. H01l *19/00*
U.S. Cl. 317—235 29 Claims

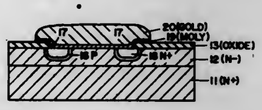
An integrated circuit operating at about 77° Kelvin having first and second field-effect transistors, a digital terminal being connected to the source of each transistor

and capacitively coupled to the drain of the first transistor and the gate of the second transistor. A first read terminal is connected to the drain of the second transistor and capacitively coupled to the drain of the first transistor while a second read terminal is capacitively



coupled to the drain of the first transistor. The method of fabrication makes use of stray capacitance in the laying of the layers.

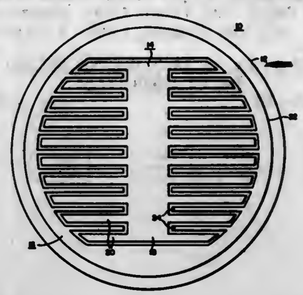
3,513,366
HIGH VOLTAGE SCHOTTKY BARRIER DIODE
Lowell E. Clark, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 21, 1968, Ser. No. 754,325
Int. Cl. H01l *9/12*
U.S. Cl. 317—235 10 Claims



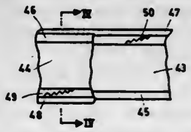
In the fabrication of a passivated surface barrier (Schottky) diode wherein the breakdown voltage is improved by the use of an annular region of P-type conductivity at the periphery of the metal barrier, carrier injection from the P-type region is suppressed by the use of a double-diffusion technique whereby an N+ region is formed within the P-type ring. Alignment of the Schottky barrier electrode with the diffused annular region is thereby rendered essentially non-critical since the close proximity of the two PN junctions formed by the double-diffusion technique sharply increases the resistance to current flow from the metal barrier to the P-type ring.

3,513,367
HIGH CURRENT GATE CONTROLLED SWITCHES
Elden D. Wolley, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 710,846, Mar. 6, 1968. This application June 30, 1969, Ser. No. 837,732
Int. Cl. H01l *11/10*
U.S. Cl. 317—235 14 Claims

A four region gate controlled switch consisting of first emitter, first base, second base and second emitter regions, has a large first emitter area to which a high current capacity electrical contact can be affixed. A selected area of the switch beneath a predetermined portion of the high current capacity electrical contact to the first emitter region has the minority carrier lifetime selectively reduced in order to lower the transport factor, or factors, in either one, or both of the base regions of the switch.

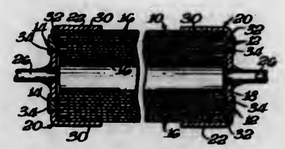


3,513,368
ELECTRIC CONDENSER WITH RESISTANCE INCORPORATED THEREIN
Pierre Boyer, Fribourg, and Hans Blumer, Marly-le-Grand, Switzerland, assignors to Condensateurs Fribourg S.A., Fribourg, Switzerland, a company of Switzerland
Filed June 7, 1968, Ser. No. 735,387
Claims priority, application Switzerland, June 9, 1967, 8,222/67
Int. Cl. H01g *1/00, 1/16*
U.S. Cl. 317—256 4 Claims



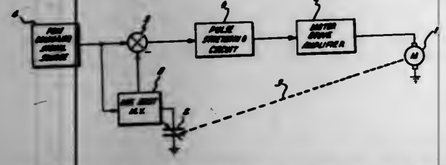
An electric condenser constituted by at least two superimposed strips of insulating material at least one of which is metallized, the metallized strip having at least two distinct metallized zones on one side thereof and connected by at least one resistance.

3,513,369
EXTENDED FOIL CAPACITOR
Walter F. England and Daniel Mannheim, Williamstown, Mass., and George E. Cormier, Barre, Vt., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Apr. 8, 1968, Ser. No. 719,483
Int. Cl. H01g *1/14*
U.S. Cl. 317—260 5 Claims



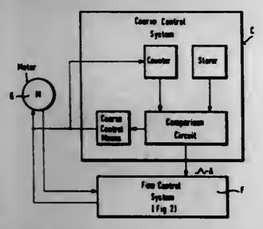
A convolutely wound capacitance section is terminated at each end by an end cap which carries a lead wire and has at least one aperture in its end wall. Conductive fusible material of each cap is flowed into bonding relationship with one edge of the electrode and within the aperture to provide a plug of the fusible material extending from the electrode to within the aperture.

3,513,370
POSITIONAL SERVO WHEREIN FEEDBACK IS BY A VARIABLE CAPACITOR WHICH CONTROLS THE WIDTH OF A ONE-SHOT MULTIVIBRATOR
Jerrald M. Pullen, Sun Valley, Calif., assignor to Kraft Systems, Inc., Los Angeles, Calif., a corporation of California
Filed Nov. 22, 1967, Ser. No. 685,063
Int. Cl. G05b 11/12
U.S. Cl. 318—18 15 Claims



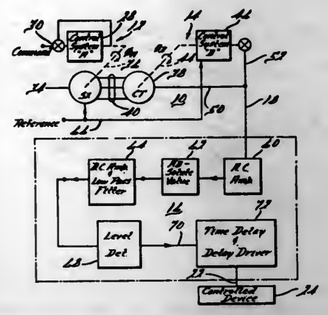
The position of a motor shaft is controlled by a servo system responsive to pulse duration modulated command signals. The actual motor shaft position is sensed by a variable capacitor that is mechanically coupled to the motor shaft. The variable capacitor forms part of the timing circuit of a one-shot multivibrator. The command signal and the output of the one-shot multivibrator are combined and the difference signal is applied through a pulse stretching circuit to a motor drive amplifier. The variable capacitor is modified by connecting a flexible jumper wire from its rotor shaft to one of its stationary terminal tabs to parallel the existing rotary bearing connection. The one-shot multivibrator is triggered by the leading edges of the command signal pulses applied to the collector of the normally cut-off transistor stage of the multivibrator. The pulse stretching circuit comprises a normally cut-off, push-pull transistor stage with a single pulse stretching capacitor coupled across the output of the stage. The motor drive amplifier also comprises normally cut-off, push-pull transistor stages connected in tandem with the pulse stretching circuit. A feedback connection is provided from the output of the motor drive amplifier to the command signal input so as to advance the difference signal slightly toward null relative to the motor shaft position.

3,513,371
DIGITAL CONTROL OF THE POSITIONING OF MECHANISMS, ESPECIALLY OF MOVABLE MEMBERS OF X-RAY DIFFRACTOMETERS
Walter Hoppe, Luisenstrasse 39 I, 8 Munich-2, Germany
Filed May 13, 1965, Ser. No. 455,440
Claims priority, application Germany, May 15, 1964, H 52,697
Int. Cl. G05b 19/20
U.S. Cl. 318—18 5 Claims



A control mechanism employing digital control for both coarse and fine adjustments in which the coarse control is effected by incremental adjustment and the fine control is effected by a step adjustment in response to a code comparison between the represented desired position and the represented actual position.

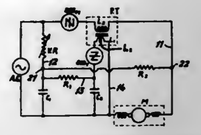
3,513,372
SYSTEM AND METHOD FOR DETECTING WHEN THE DAMPED OSCILLATORY ERROR SIGNAL OF A SERVOMECHANISM IS NULLED
Jerome A. Rynkowski, Warren, Mich., assignor to Cadillac Gage Company, Warren, Mich., a corporation of Michigan
Filed Mar. 23, 1966, Ser. No. 536,891
Int. Cl. G05b 5/01
U.S. Cl. 318—30 19 Claims



This invention relates generally to a system and method for detecting the occurrence of preselected conditions in a damped oscillatory wave train and more specifically to a detecting system and method for sensing a damped oscillatory wave train and detecting the condition of the wave train wherein the amplitude of oscillation approaching a preselected null is within predetermined limits for a specified period of time.

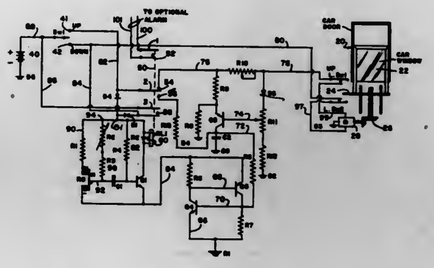
A servo system wherein position and reference signals are generated, the two being compared to derive a control signal for controlling the drive mechanism of a massive object and successively reversing the drive of the massive object as it seeks the selected position to bring the object closer and closer to the selected position in a series of alternating progressively diminishing movements. The control system includes a system for sensing the difference between the actual position and the selected position and comparing this difference to a reference level. When the difference between the difference signal and reference level is within preselected limits, a timing cycle is initiated to detect the duration that the signal is within the limits. If the signal remains within the limits for a preselected time, an output signal is generated from the control circuit. If the difference signal exceeds the preselected limits, the timing cycle is terminated and reinitiated when the difference again comes within limits.

3,513,373
SPEED CONTROL CIRCUIT FOR MOTOR
Kenzi Kato, Tokyo, Japan, assignor to Janome Sewing Machine Co., Ltd., Tokyo, Japan
Filed Apr. 18, 1968, Ser. No. 722,486
Claims priority, application Japan, Apr. 18, 1967, 42/24,223
Int. Cl. H02p 7/62
U.S. Cl. 318—227 1 Claim



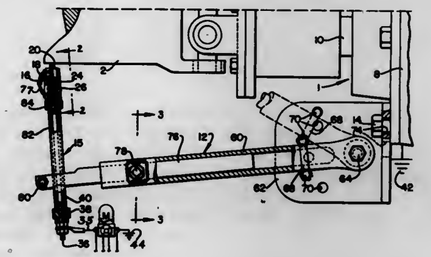
A speed control circuit for an alternating current motor employs a symmetrical semiconductor switch connected between the alternating current source and the motor. The time constant of the control circuit is made variable dependent upon load requirements, thereby adjusting the phase conduction of the semiconductor element and effecting constant motor speed.

3,513,374
CAR WINDOW SAFETY CIRCUIT
Edward J. Koment, Franklin Lakes, N.J. (60 Harrison Ave., Waldwick, N.J. 07463)
Filed Sept. 5, 1968, Ser. No. 760,115
Int. Cl. H02p 1/22
U.S. Cl. 318—266 12 Claims



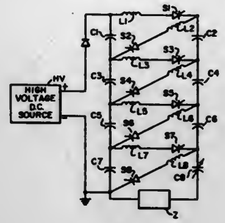
A circuit of transistor elements interconnected to provide a safety sensing overload circuit which controls a timing and a motor reversing circuit for operating car windows and the like.

3,513,375
SAFETY STOPPING DEVICES FOR PRIME MOVERS DETECTING ECCENTRICITY
Elmer V. Sellars, 329 Mississippi St., Floydada, Tex. 79235
Filed Aug. 18, 1967, Ser. No. 661,671
Int. Cl. H02h 5/00
U.S. Cl. 318—460 1 Claim



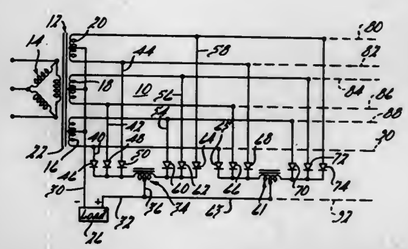
A safety device to close an electrical circuit to control a prime mover, on a shaft or other element rotating eccentrically with respect to the normal axis, so as to close the circuit of an ignition system, such as a magneto system, or to close the circuit to a relay to open a circuit leading to a battery ignition system or to a controller of an electric motor, thereby to render the prime mover inoperative, which will prevent machinery being torn up as a result of bearings or universal joints becoming worn. The sensor contact element may be adjusted so as to be a gauged distance from a rotating element, so upon minute wear of bearings or universal joints or the like, the circuit will be closed.

3,513,376
HIGH VOLTAGE TO LOW VOLTAGE REGULATED INVERTER APPARATUS
Gayler D. Hajek, Greensburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 29, 1967, Ser. No. 686,514
Int. Cl. H02m 7/00
U.S. Cl. 321—15 2 Claims



The present disclosure relates to a method and apparatus for inverting high voltage DC to low voltage high current AC or DC. A plurality of inverter stages are utilized with each stage including capacitive and switching elements. The switching elements are selectively operative to transfer charge between the capacitive elements of the various stages. The plurality of stages are tandemly connected across a high voltage DC source with a load being connected in series with a variable capacitor in the last stage of the plurality. The variable capacitor may be adjusted to regulate the voltage appearing in the load circuit to within desired regulated limits. The variable capacitor also protects the various circuit components from overvoltage conditions which may exist at startup of the inverter apparatus, and also prevents overdamping in the inverter when a resonant charging technique is used.

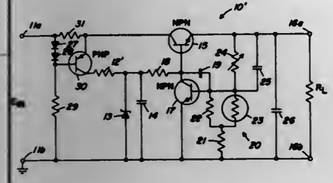
3,513,377
INDIVIDUAL INTERPHASE TRANSFORMERS
Michael A. Koltuniak, Warren, and Henry Tazzia, Utica, Mich., assignors to The Udylite Corporation, Warren, Mich., a corporation of Delaware
Filed Sept. 20, 1967, Ser. No. 669,104
Int. Cl. H02m 7/08
U.S. Cl. 321—26 7 Claims



A rectifying system having a plurality of diode networks interconnected in the secondary of the output circuit to provide an increased current carrying capability wherein each network of the diode system is provided with an interphase transformer connected to all of the phases within that diode system. The circuit is further provided with a bridge circuit interconnected with the secondary diodes and fuse elements of the secondary

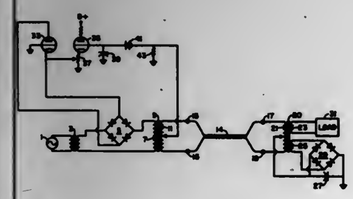
system, the bridge circuit providing an indication of a blown fuse.

3,513,378
LOW SOURCE IMPEDANCE VOLTAGE REGULATOR
Arthur L. Kemper, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Oct. 30, 1967, Ser. No. 679,270
Int. Cl. G05f 1/58
U.S. Cl. 323—9 2 Claims



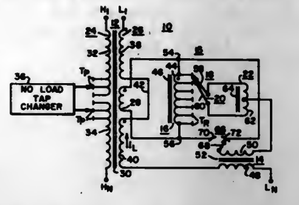
A low source impedance voltage regulator with at least two transistors or their functional equivalent with the base of one transistor receiving its bias voltage from the emitter output of another transistor and with the base of the transistor developing an emitter output connected to the collector of the other transistor. This interconnection of the transistors along with biasing circuitry provides bias voltages developed from the emitter output being 180° out of phase with variations in voltage applied to the collector base connection between transistors and thereby an amplified voltage regulation corrective action. A third transistor with bias developing circuitry added in one embodiment provides short circuit proof circuit protection through a current limiting gating action as higher load currents are drawn.

3,513,379
REMOTE VOLTAGE REGULATOR SYSTEM
Michael M. Spann, Houston, Tex., assignor to Esso Production Research Company, a corporation of Delaware
Filed July 18, 1968, Ser. No. 745,853
Int. Cl. G05f 3/04, 13/04
U.S. Cl. 323—16 4 Claims



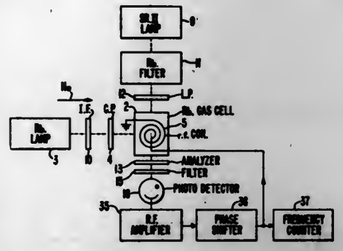
Apparatus for regulating a voltage at a remote, relatively inaccessible location includes a transformer with a center-tapped secondary, a second transformer with a center-tapped primary, rectifier bridge for applying the output voltage of the second transformer between the center tap and ground, apparatus for measuring the voltage reflected between the center-tapped secondary and ground, and a vacuum tube circuit for varying an impedance in the primary circuit of the first transformer to compensate for voltage variations between the center-tapped primary and ground.

3,513,380
LOAD TAP CHANGING TRANSFORMER ARRANGEMENT WITH CONSTANT IMPEDANCE
Stephen G. Vargo, Campbell, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 19, 1968, Ser. No. 738,295
Int. Cl. G05f 5/00; H02p 13/06
U.S. Cl. 323—43.5 4 Claims



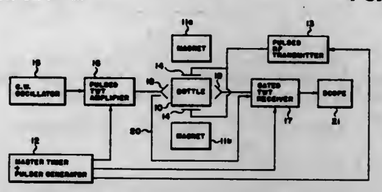
A load tap changing transformer arrangement which electrically changes the effective spacing between two spaced, electrically connected sections of a first winding, in response to a tap change, to maintain a predetermined impedance between the first winding and a second winding, over the tap range.

3,513,381
OFF-RESONANT LIGHT AS A PROBE OF OPTICALLY PUMPED ALKALI VAPORS
William Happer, Jr., New York, N.Y., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed July 17, 1967, Ser. No. 653,717
Int. Cl. G01r 33/08
U.S. Cl. 324—.5 2 Claims



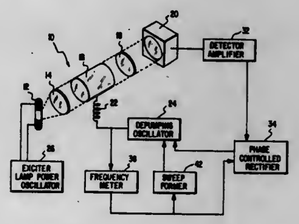
Optically pumped alkali vapor spectrometers, magnetometers and frequency standard devices are described employing a beam of off-resonance light as a probe for detecting radio frequency transitions of optically pumped alkali vapor. The probing light is near to but not precisely at an optical resonant frequency of the alkali vapor and this off-resonance light beam is transmitted through the optically-pumped alkali vapor. Radio frequency transitions are resonances of the alkali vapor which are induced by suitable means such as an applied radio frequency field H_1, are detected by detecting changes in the rotation of the polarization of the off-resonance light traversing the alkali vapor. These changes in the rotation of the polarization of the probing light are converted into intensity modulation by suitable means such as an analyzer. This intensity modulation is detected by a photodetector to produce an output. In the magnetometer, the frequency of the radio frequency modulation is a measure of the D.C. magnetic field within a cell containing the alkali vapor. In the frequency standard, a field independent radio frequency hyperfine transition is detected by the off-resonance beam to provide an extremely stable and precise frequency standard output.

3,513,382
OBTAINING TIME DOMAIN INFORMATION FROM DYNAMICAL PROCESSES IN A PLASMA
Robert M. Hill, Palo Alto, and Daniel E. Kaplan, Los Altos Hills, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Aug. 18, 1967, Ser. No. 661,647
Int. Cl. G01n 27/78
U.S. Cl. 324—.5 4 Claims



An arrangement for obtaining time domain information from dynamical processes in a plasma in which a sequence of three pulses at the cyclotron resonance frequency of a cyclotron resonant species in the plasma is applied to the plasma. These pulses affect the relative phasing of this species in such a manner that velocity-dependent interactions of the species cause the formation of macroscopic moments in the plasma which generate echo signals after the second pulse and also after the third pulse. The decay envelope of the signals received after the second pulse provides information indicative of the relaxation of the momentum of the species, and the decay envelope after the third pulse provides information indicative of the relaxation of the energy of the species.

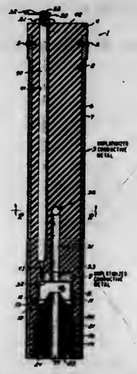
3,513,383
OPTICALLY PUMPED HELIUM MAGNETOMETER
Ralph E. Hartline, and Frederic Henry Meister, Tulsa, Okla., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 4, 1968, Ser. No. 695,766
Int. Cl. G01r 33/08; H01s
U.S. Cl. 324—.5 1 Claim



A device for measuring the strength of a magnetic field comprising a contained body of helium gas the atoms of which are acted upon by the magnetic field when in the presence thereof; means to excite the body of helium gas for continuously producing metastable helium atoms; a source of resonance radiation impingeable upon and interacting with the body of helium gas for producing alignment of the metastable helium atoms contained therein; means to create and direct into the body of helium gas a field of such frequency as to diminish the alignment of metastable helium atoms contained in a body of helium gas; means to measure the changes in the amount of resonance radiation absorbed by the metastable helium atoms, and means for improving the signal input to said last-mentioned means comprising a narrow pass filter means passing only radiation at the 1.08-micron resonance line of helium arranged in the path of the radiation after the body and before the measuring means.

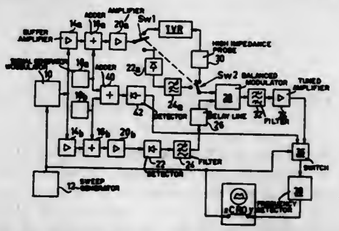
3,513,384
ELECTROLYTIC CONDUCTIVITY CELL HAVING UNPLATINIZED METAL ELECTRODES
Carl A. Schneider, 7229 Jethve Lane, Cincinnati, Ohio 45243
Filed May 20, 1966, Ser. No. 551,737
Int. Cl. G01n 27/42
U.S. Cl. 324—30 5 Claims

A conductivity cell particularly adapted for use in water monitoring systems of lakes, rivers and the like to measure various parameters of water such as chemical composition. The conductivity cell includes a nonconductive insulative body member, two electrodes carried by the body member in spaced relationship to one another and a conduit within said body for establishing a fluid contact path between the electrodes. The low side electrode shields the high voltage electrode from extraneous ground shunting effects. The conduit includes a primary section which has a cross-sectional area substantially smaller than the area of either of the electrodes and the section



also has a length substantially greater than its diameter. The primary section terminates in spaced relationship from each of the electrodes whereby the resistance of a fluid within the primary section is substantially greater than the resistance of the fluid intermediate the ends of the section and the respective electrodes. This construction provides a cell wherein any changes in the electrode surfaces due to polarization, dirt accumulation or the like have no discernible effect on the measurement of conductivity.

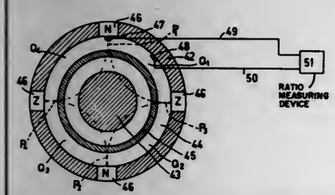
3,513,385
METHOD AND APPARATUS FOR ANALYZING THE FREQUENCY VS. PHASE CHARACTERISTIC OF AN ELECTRIC SYSTEM
Thomas Albert Pascoe, Clovelly Park, South Australia, Australia, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 24, 1966, Ser. No. 537,192
Int. Cl. G01r 23/00, 27/00
U.S. Cl. 324—57 13 Claims



A method and apparatus for analyzing the frequency vs. phase characteristic of an electric system. The apparatus includes means for generating first and second

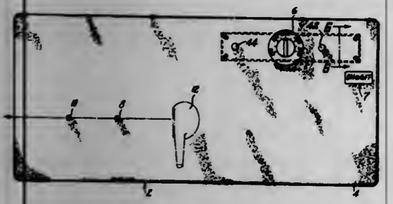
signals that sweep linearly in opposite directions over a given frequency band. The first signal is applied to the system under test. The output signal from the system under test and the second signal are applied to a balanced modulator that produces a signal that fluctuates about a frequency proportional to the sum frequency of the first and second signals. The signal from the modulator is applied to a frequency detector that produces a signal that varies in accordance with the frequency fluctuations during the sweep of said first and second signals.

3,513,386
CONTACT-FREE SPEED MEASURING INSTRUMENTS
Anthonie Walraven, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 2, 1966, Ser. No. 576,880
Claims priority, application Netherlands, Sept. 10, 1965, 6511809
Int. Cl. G01p 3/49
U.S. Cl. 324—70 12 Claims



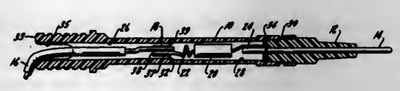
A tachometer having a magnet that defines an air gap and includes means for producing a steady magnetic field therein that exhibits a sinusoidal or pulsatory variation in intensity along the transverse direction of the air gap. An electrically conductive rotor is mounted within the air gap so that eddy currents are induced therein. First and second Hall elements are mounted in said air gap at points of maximum field intensity and zero field intensity, respectively. The signals generated in the Hall elements are supplied to a device that determines the ratio of the input signals. The ratio of the input signals is proportional to the rotor speed.

3,513,387
GOLF PRACTICE DEVICE WITH CLUB SPEED INDICATOR
Wataru Mayeda, 1106 S. Western, Champaign, Ill. 61820
Filed Oct. 27, 1967, Ser. No. 678,626
Int. Cl. G01p 3/66
U.S. Cl. 324—70 8 Claims



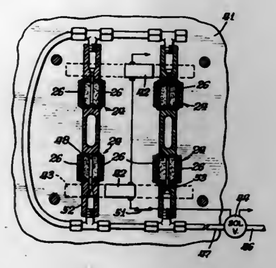
A pair of spaced flexible pegs arranged to be successively struck by a golf club head during a practice swing and each arranged to momentarily close a switch when struck. A capacitor in an RC network is charged from a voltage source. An SCR is triggered by the first switch, to light an indicator lamp and remove the source voltage from the capacitor, which then starts to discharge at a preset rate. When the second switch is closed, the voltage remaining on the capacitor is applied to the control terminal of a second SCR and if that remaining voltage is high enough to second SCR conducts to light a second indicator lamp. If the remaining voltage is not high enough to trigger the second SCR, the second lamp will not light, indicating that the speed of the club head was less than a predetermined optimum value.

3,513,388
ELECTRICAL PROD STRUCTURE
Ronald Strachan, Sycamore, Ill., assignor to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware
Filed Mar. 13, 1967, Ser. No. 622,547
Int. Cl. G01r 1/06
U.S. Cl. 324—72.5 1 Claim



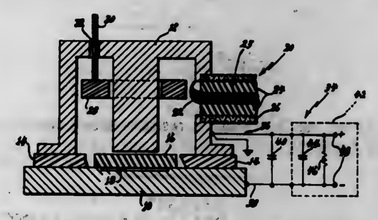
An electric contact prod and prod retaining structure. The contact prod has a hollow handle housing a current limiting device which is connected at one end to a lead wire by a collar, having a flange which engages a shoulder formed in the handle, and at the other end to a metal spike; the hollow handle also has stepped surfaces at the end from which the lead wire exits the handle so that the wire will randomly flex at more than one point along its length when the prod is manipulated thereby reducing the probability of fatigue failure of the wire. The prod retaining structure has a receiving cavity formed with an upwardly extending tongue or a deflecting ledge to cause the metal spike to be deflected upon inserting the contact prod into the cavity thereby effecting light binding action between the prod handle and the cavity and removably retaining the prod within the retaining structure.

3,513,389
METER TEST RACK HAVING PNEUMATICALLY CONTROLLED CONNECTORS
Harley L. Friend, Lafayette, Ind., assignor to Duncan Electric Company, Inc., a corporation of Indiana
Filed Oct. 24, 1965, Ser. No. 505,072
Int. Cl. G01r 35/00
U.S. Cl. 324—74 13 Claims



A test rack for watt-hour meters is disclosed. The test rack includes heavy amperage contact members biased toward each other, in some instances for retaining the terminal blades of a watt-hour meter with floating accommodation to their position. A compressed air actuator of cylinder and plunger type, lubricated, effects spreading of the contact members, permitting insertion or removal of the watt-hour meter. Switch means are also included for automatically terminating the supply of compressed air to the actuator in response to the accurate positioning of the meter on the test rack. Motors to be coupled to meter adjustment screws through flexible bellows for automatic calibration of the meter are mounted on a rack swing-mounted by rods of off-arcuate shape.

3,513,390
METHOD OF MICROWAVE RECTIFICATION AND MIXING USING PIEZOELECTRIC MEDIA
Paul H. Carr, Bedford, and Andrew J. Slobodnik, Jr., Lowell, Mass., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 12, 1967, Ser. No. 674,993
Int. Cl. G01r 19/28, 21/00
U.S. Cl. 324—95 2 Claims



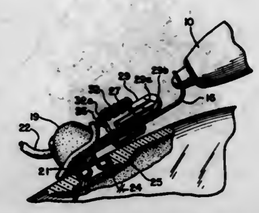
A method of microwave rectification including the steps of modulating a microwave signal in a reentrant resonant cavity, tuning the cavity, detecting a voltage across a piezoelectric media in the cavity and measuring the voltage detected, and alternatively a method of microwave mixing that includes the steps of introducing signals from two different microwave sources into the relatively low Q reentrant cavity and detecting the voltage across a piezoelectric media in the cavity which varies sinusoidally at the difference frequency between the two sources.

3,513,391
VIBRATING MEMBER FOR LIGHT RAY OSCILLOGRAPHS
Wilhelm Heinrich, Karlsruhe, and Hans Ullrich, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Aug. 10, 1967, Ser. No. 659,699
Claims priority, application Germany, Aug. 18, 1966, S 105,422
Int. Cl. G01r 13/38; H01f 5/00
U.S. Cl. 324—97 7 Claims



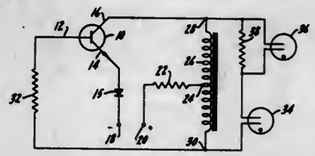
There is described a vibrating member for light ray oscillographs or the like comprising an electrically insulating carrier plate, a conductor spiral constituting an electric coil and formed on at least one of the faces of the plate by vapor deposition, a mirror carried by said plate, and suspension bands extending at opposed directions lengthwise of said plate and secured thereto.

3,513,392
HIGH VOLTAGE PROBE WITH POSITIVE CONTACT INDICATOR
Sylvester Szajerski, Chicago, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 1, 1967, Ser. No. 679,688
Int. Cl. G01r 1/06, 13/36
U.S. Cl. 324—122 9 Claims



The presence of a good electrical connection between the tip of a high voltage probe and the high potential terminal of a voltage source to be measured is effectively determined by sensing the existence of any arcing between the probe tip and terminal, which would occur if the probe tip and terminal are slightly spaced apart and fail to physically mate. Arc detection is achieved by ionizing a gas tube in response to the radiated electromagnetic field of such arcing, thereby providing a visual indication that a faulty connection exists between the tip and terminal.

3,513,393
VOLTAGE TESTER EMPLOYING AN OSCILLATOR POWERED BY THE TEST VOLTAGE
Thomas E. Myers, St. Charles, Ill., assignor to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 393,158, Aug. 31, 1964. This application Mar. 26, 1968, Ser. No. 716,068
Int. Cl. G01r 19/14
U.S. Cl. 324—133 3 Claims



This invention relates to a DC voltage tester which can be utilized to determine which of two voltages are present and the polarity of the voltage terminals. The circuit includes a transistor oscillator which is operated by the voltage to be tested. The output of the oscillator circuit includes a coil with a pair of gas tubes connected across the coil. If one of the gas tubes is ignited, the lower of two voltages is present. If both gas tubes are ignited, the higher of the two voltages is present.

3,513,394
INSULATED VOLTAGE SOURCE FOR HIGH VOLTAGE CONDUCTOR TERMINATIONS
Henry N. Tackick, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed June 21, 1968, Ser. No. 739,112
Int. Cl. G01r 19/16
U.S. Cl. 324—133 2 Claims

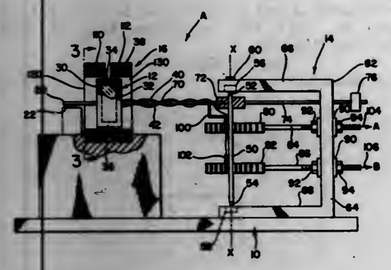
An insulated high voltage conductor termination of the type provided with a ground sheath on its outer surface, characterized by having a capacitive voltage-dividing electrode embedded in its insulation and sealed from

exposure to, or direct communication with, the surface of the termination. The capacitive voltage divider is adapted to be capacitance coupled to a voltage responsive indicating means thereby to energize the indicating means



with a voltage that is directly proportional to any voltage impressed on the high voltage conductor of the termination, thus affording an indication of whether or not the conductor is energized.

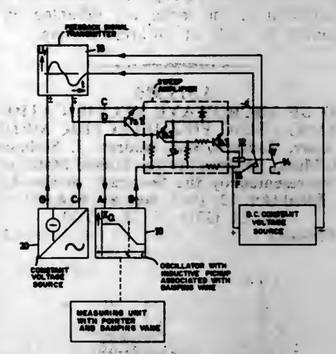
3,513,395
ELECTRIC METER WITH COIL PIVOTED ON REMOTE AXIS
Max Baermann, 506 Bensberg Wulfshof, Bezirk, Cologne, Rhine, Germany
Filed Apr. 19, 1966, Ser. No. 543,748
Claims priority, application Germany, Apr. 25, 1965, B 81,608; June 1, 1965, B 82,196
Int. Cl. G01r 11/32
U.S. Cl. 324—144 5 Claims



An electric meter comprising a movable coil having first and second generally parallel legs and pivoted about a remote axis and separate flux creating means adjacent each leg to create the motor movement of the meter wherein the flux creating means either surrounds the coil or the legs are movable in generally flat planes to reduce the size of the meter and increase its sensitivity.

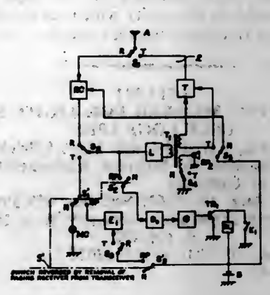
3,513,396
FEEDBACK CONTROL FOR SWEEP AMPLIFIER OF SWITCHING REGULATING APPARATUS
Herbert Czarny, Duesseldorf-Nerd, Germany, assignor to W. H. Joens & Co. G.m.b.H., Duesseldorf, Germany
Filed Nov. 14, 1967, Ser. No. 682,770
Claims priority, application Germany, Nov. 15, 1966, J 32,241
Int. Cl. G01r 27/00; H01h 47/32
U.S. Cl. 324—157 7 Claims

Switching regulating apparatus including a sweep amplifier controlled by a tapped inductive pickup which can be adjusted relative to the measured value in accordance with a set value measured by a measuring unit, the input of the sweep amplifier being connected to a voltage divider fed by DC voltage and comprising the DC feed voltage



input of an oscillator and a resistor which can be varied by the feedback.

3,513,397
PAGING CALL RELAY STATION USING RADIO TRANSCEIVER
Masatoshi Shimada, 78 2-chome, Todoroki, Tamagawa, Setagaya-ku, Tokyo, Japan
Filed Sept. 29, 1966, Ser. No. 582,811
Claims priority, application Japan, Oct. 6, 1965, 40/60,784; Mar. 1, 1966, 41/12,001; Apr. 5, 1966, 41/20,975
Int. Cl. H04b 7/14
U.S. Cl. 325—6 11 Claims

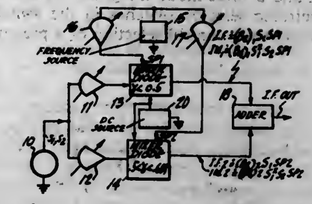


A radiocommunication system wherein a transceiver, provided with a switchover relay for changing from a normal receiveing condition to a transmitting condition, includes a decoder which responds to an incoming call signal for actuating the switchover relay after a delay sufficient to allow complete reception of the call signal and for operating an encoder to retransmit the call signal to a paging receiver.

3,513,398
BALANCED MIXER CIRCUITS
Bernard Bossard, Livingston, and Shui Yuan, North Brunswick, N.J., assignors to RCA Corporation, a corporation of Delaware
Filed Jan. 27, 1966, Ser. No. 523,417
Int. Cl. H04b 1/26
U.S. Cl. 325—446 8 Claims

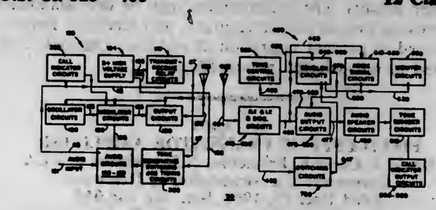
A circuit for mixing a signal of a first frequency with a signal of a second frequency in the presence of an inband interfering signal is provided. The circuit includes two devices which when biased in a predetermined manner exhibit different non-linear reactance versus voltage

or current characteristics such that when combined provide at the output a desired difference frequency signal



and cancellation of even order harmonics and distortion products of said interfering signal.

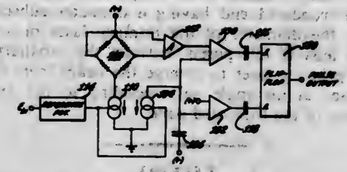
3,513,399
TONE CONTROL CIRCUIT
Keith H. Wycoff, Lexington, Dawson County, Nebr. 68850
Continuation-in-part of application Ser. No. 350,163, Mar. 9, 1964. This application Oct. 17, 1967, Ser. No. 675,812
Int. Cl. H04b 1/16
U.S. Cl. 325—466 12 Claims



There is disclosed an FM radio communication system for use in mobile vehicles, the transmitter including control tone generating systems and the receivers including control tone decoder systems so that a selected one of several receivers may be reached by a transmitter upon demand. The decoder systems employ peaking filters having flat response characteristics so that a control tone of predetermined amplitude always serves to actuate the decoder while signals of the same frequency as the control tone, if part of a complex spectrum, will not in fact actuate the decoder, the decoder weighing a control tone against the total signal or a predetermined fixed reference signal. Falsing is eliminated by utilizing tones spaced at about 3⅓% of the resonant frequency with the band width of the tone filters adjusted to about 4% of the resonant frequency; time delay circuits are also incorporated so that the control tone must be present for a predetermined time before the decoder is actuated. Finally, there are disclosed single tone decoders, two-tone decoders of both the simultaneous and sequential type, three-tone decoders of the simultaneous and sequential type, and multitone decoders.

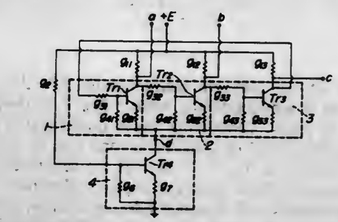
3,513,400
ANALOG TO PULSE WIDTH CONVERSION SYSTEM INCLUDING AMPLITUDE COMPARATORS
Robert H. Russell, Altadena, Calif., assignor, by mesne assignments, to Whittaker Corporation, Los Angeles, Calif.
Filed Nov. 25, 1966, Ser. No. 597,040
Int. Cl. H03k 5/20, 9/02
U.S. Cl. 328—147 9 Claims

An analog to pulse width conversion system wherein the width of the pulses in the pulse signal is in accordance with the amplitude of an analog signal. The present invention uses a constant current source to pass the constant current through a variable impedance transducer so as to produce the analog signal. The present invention also uses a pair of amplitude comparators for comparing the analog signal and a ramp signal so as to produce



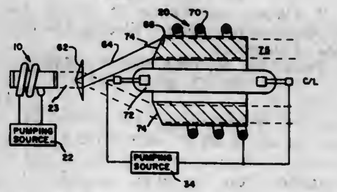
output signals in accordance with the comparison and wherein the width of the pulses in the pulse signal is in accordance with the time difference between the output signals from the pair of comparators.

3,513,401
CIRCUIT ARRANGEMENTS EMPLOYING ACTIVE ELEMENTS THEREIN FUNCTIONING AS CIRCULATORS, GYRATORS, INDUCTORS OR FILTERS
Michio Tokunaga, Yokohama, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Mar. 31, 1967, Ser. No. 627,333
Claims priority, application Japan, Apr. 15, 1966, 41/23,558
Int. Cl. H03h 7/44
U.S. Cl. 328—167 5 Claims



An ideal circulator having three polarity-inversion type of amplifiers connected in a ring-like cascade fashion and a source of constant current supply connected between a common terminal of these amplifiers and the ground. The circulator is combined with capacitance elements to provide a circuit element such as an inductance, a gyrator, low pass filter, band pass filter or high pass filter.

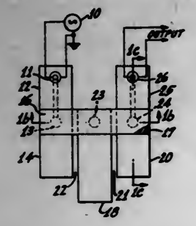
3,513,402
HIGH ENERGY LASER
Warren A. Marrison, Palos Verdes Estates, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Mar. 6, 1968, Ser. No. 711,042
Int. Cl. H01s 3/00
U.S. Cl. 330—4.3 9 Claims



The device of this invention is directed to a laser system wherein an auxiliary tandem laser is used to increase the energy and power output of the system. The invention

is specifically directed toward increasing the diameter of the auxiliary laser, greater than that of the primary laser. In one embodiment, this is accomplished by forming the auxiliary laser material in the shape of a truncated cone, with the truncated end having a diameter substantially equal to the diameter of the primary laser material. A negative lens is interposed between the auxiliary laser and the primary laser to diverge the beam from the primary laser at an angle corresponding to the angle of divergence of the truncated cone.

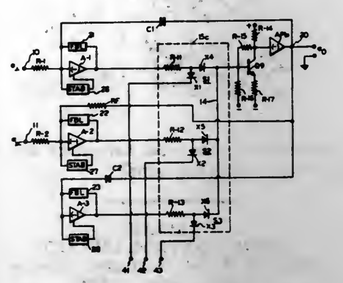
3,513,403
INTEGRATED SEMICONDUCTOR STRUCTURE WITH FREQUENCY SELECTIVE TRANSMISSION LINE SECTIONS
Kern K. N. Chang, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed June 28, 1966, Ser. No. 561,195
Int. Cl. H03f 7/00; H03k 3/26
U.S. Cl. 330—4.9 **10 Claims**



A plurality of different characteristic P-N devices are formed on a semiconductor wafer. The P-N devices are coupled to metal, conducting vanes dimensioned to support a desired band of frequencies and can be fabricated as thin film strips. The P-N devices are separately biased and because of their different impurity densities assume the characteristics of tunnel diodes, avalanche diodes or varactor diodes. A signal to be processed is applied to one of the P-N junctions where it is amplified, frequency multiplied or frequency divided. The vanes are so spaced on the wafer that they capacitively couple the transformed energy from one P-N device to another different characteristic P-N device to allow further processing of the signal. By the proper location of the P-N devices and the proper spacing, location and dimensioning of the metal vanes or thin film strips, a number of different devices and different operations can be achieved. The composite structure so provided lends itself to integrated thin film circuit techniques, such as hybrid or monolithic integrated configurations while providing extremely high frequency operation.

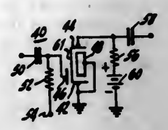
3,513,404
MODE-SWITCHABLE AMPLIFIER STABILIZED AGAINST DRIFT
Edward O. Gilbert and Robert M. Howe, Ann Arbor, Mich., assignors to Reliance Electric Company, a corporation of Delaware
Filed Oct. 26, 1966, Ser. No. 589,564
Int. Cl. H03f 1/02
U.S. Cl. 330—9 **13 Claims**

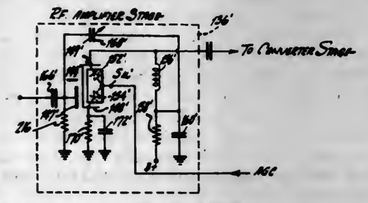
DC amplifier systems using a plurality of DC preamplifiers which are selectively DC-coupled to a DC output amplifier through a selective switching circuit, and a feedback signal is applied from the output amplifier to each preamplifier. A continuous DC signal path extends from the selected preamplifier input through the switching circuit and the output amplifier and the gain of the preamplifiers reduce error which voltage offsets introduced by the switching circuit otherwise would cause. Provision of the continuous DC signal path allows selective switching to convert the system into different DC operational amplifier modes, and a three-mode integrator circuit is shown. Use of electronic selector switches in the switching circuit to automatically control selection of a preamplifier in



accordance with the relationship between preamplifier output signal magnitudes provides improved computer limiter circuits. The preamplifiers may be drift-stabilized to provide overall circuit accuracy, and feedback limiters are used to prevent saturation of stabilizer channels connected to non-selected preamplifiers.

3,513,405
FIELD-EFFECT TRANSISTOR AMPLIFIER
David J. Carlson, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Dec. 17, 1962, Ser. No. 245,055
Int. Cl. H03f 1/32, 3/16; H03g 3/30
U.S. Cl. 330—29 **15 Claims**

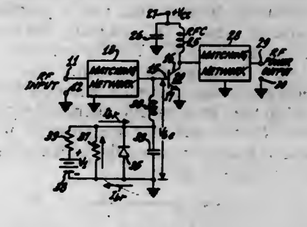




1. An amplifier circuit comprising:
an insulated gate field effect semiconductor device having first and second electrodes corresponding to a source and a drain electrode formed on a substrate of semiconductor material, a gate electrode disposed between said first and second electrodes, said gate electrode being insulated from said substrate and effective to control the current between said first and second electrodes, said substrate of semiconductor material and said source and drain electrodes effectively operating as a pair of rectifying junctions connected between said substrate and between said first and second electrodes, respectively,
a resistor coupled between said source electrode and a point of reference potential,

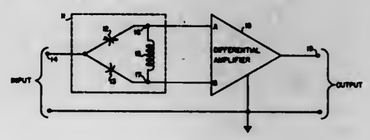
circuit output means including a source of unidirectional potential coupled between said drain electrode and said point of reference potential,
means coupled to said gate electrode for biasing said gate electrode to a desired bias potential with respect to said point of reference potential,
circuit means for coupling input signals to said gate electrode, and
means connecting said substrate of semiconductor material to said point of reference potential so that the rectifying junction effectively connected between said substrate and said source electrode is back-biased whereby the effective capacitance of said rectifying junction is reduced thereby reducing the output capacitance of said field effect semiconductor device and thus increasing the frequency response of of said amplifier circuit.

3,513,406
RF POWER AMPLIFIER
Charles B. Leuthauser, Oldwick, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Dec. 31, 1968, Ser. No. 788,198
Int. Cl. H03f 3/04
U.S. Cl. 330—40 **6 Claims**



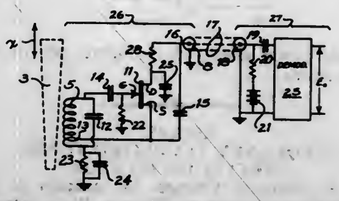
An RF power amplifier circuit includes a compensating network which, by changing the bias of the amplifier, changes the class of operation at different power levels. The amplifier gain is made constant over a wide range of signal levels by operation of the amplifier in class B at low levels and class C at higher levels.

3,513,407
TUNED FILTER AMPLIFIER
Louis R. Rudolph, Annandale, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 28, 1968, Ser. No. 771,066
Int. Cl. H03f 1/00, 3/68
U.S. Cl. 330—69 **4 Claims**



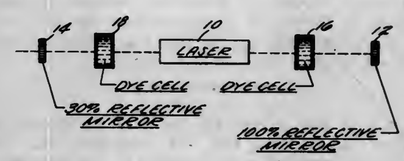
A tuned filter amplifier including a tuned input filter, comprising two capacitors and an inductor connected in a series closed-loop, and a differential amplifier whereby signals within a pass band of the tuned input filter are amplified while signals outside the pass band are suppressed. The input impedance of the tuned filter amplifier is approximately determined by the input impedance of the differential amplifier and is constant.

3,513,408
DISPLACEMENT TRANSDUCER OSCILLATOR WITH MOVABLE TAPERED MAGNETIC CORE
Roland S. McGee, San Pedro, Calif. (% Tri-Metrics, 2725 Chanticleer Ave., Santa Cruz, Calif. 95060)
Filed Aug. 1, 1968, Ser. No. 749,439
Int. Cl. G08c 21/00; H01f 21/06; H03b 5/12
U.S. Cl. 331—65 **8 Claims**



A mechanoelectric transducer for application in severe mechanical and thermal environments employs an elongated tapered ferromagnetic core housed in a plunger which is surrounded by a relatively short coil. The mechanical input is the axial displacement of the plunger with respect to the coil. The inductance of the coil varies with the position of the plunger, and determines the frequency of an oscillator. Mathematical relations are given for the shape of the core vs. the frequency calibration. The signal delivered is of a nature particularly immune to mechanical deformation or whipping of the connecting cable, and to pyroelectric, electrolytic, and triboelectric effects, and is suitable for very long cables.

3,513,409
Q-SPOILING OF LASERS USING TWO DYE CELLS
Donald H. Polk, East Hartford, and Alan F. Haught, Glastonbury, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 15, 1966, Ser. No. 601,884
Int. Cl. H01s 3/00
U.S. Cl. 331—94.5 **5 Claims**

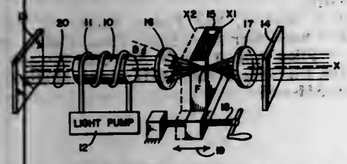


A laser in which two bleachable dye cells are inserted into the laser optical feedback cavity for Q-switching the laser, the shape and amplitude of the laser output pulses being controlled by adjusting the relative intensity of the dye concentration.

3,513,410
LASER BEAM POWER DENSITY CONTROL FOR Q-SWITCHING
Cornelius Michael Mahoney, Pacific Palisades, Calif., assignor to Union Carbide Corporation, a corporation of New York
Filed Oct. 10, 1967, Ser. No. 674,284
Int. Cl. H01s 3/11
U.S. Cl. 331—94.5 **5 Claims**

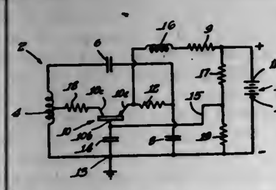
Means are provided for controlling the power density in a portion of a laser beam impinging on a Q-switching device disposed in the optical cavity of a laser system. Variation in power density impinging on the Q-switching device is effected by causing a portion of the beam to converge by optical lenses and then properly positioning

the Q-switching device so as to intercept a desired cross-sectional portion of the converging beam in accord with



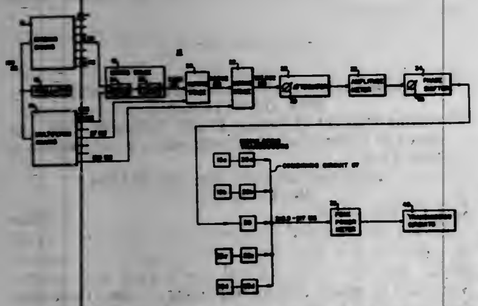
the desired power density to be intercepted by the Q-switching device.

3,513,411
FREQUENCY STABILIZED TUNED CIRCUIT OSCILLATOR
William R. Everhart, Chicago, Ill., assignor to El-Rad Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 30, 1968, Ser. No. 701,621
Int. Cl. H03b 3/04, 5/04, 5/12
U.S. Cl. 331—109 14 Claims



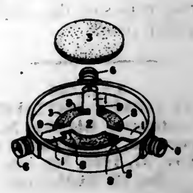
A transistor Colpitts oscillator circuit is provided wherein resistive impedances are placed in the connections between the emitter and collector electrodes of the transistor and the tuned circuit of the oscillator, and a capacitor is placed in the connections between the base electrode of the transistor and the tuned circuit. The resistive impedances and the capacitor are selected to provide a near minimum collector current. This provides extremely good frequency stability, and the resistive impedance in the emitter circuit provides a negative feedback which opposes a substantial amount of positive feedback in the circuit so the oscillator operates with a gain not substantially greater than one where the oscillator is only slightly in an oscillating region.

3,513,412
MINIMUM PEAK POWER SIGNAL SYNTHESIZER
Louis D. Kretz, Oxon Hill, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 28, 1966, Ser. No. 583,129
Int. Cl. H03b 19/00; H03d 7/16
U.S. Cl. 332—23 4 Claims



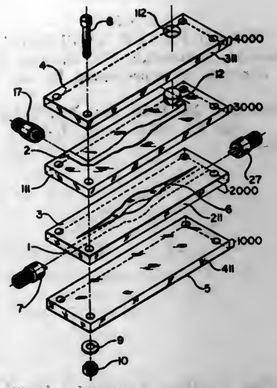
A signal synthesizer having a plurality of phase and amplitude controls for varying individual phase coherent signals to minimize the peak power of the signal obtained by combining the individual signals.

3,513,413
STRIP LINE CIRCULATORS HAVING SLITS IN THE BRANCH LINES
Shojiro Nakahara and Nobutake Orime, Kamakura-shi, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, a corporation of Japan
Filed Aug. 7, 1968, Ser. No. 750,905
Claims priority, application Japan, Aug. 11, 1967, 42/51,593
Int. Cl. H01p 1/32, 5/12
U.S. Cl. 333—1.1 2 Claims



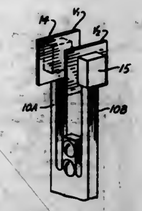
In a strip line multiple branch line type circulator wherein a ferrimagnetic member is disposed between an inner conductor including branch lines and a junction and a ground conductor, and a DC magnetic field of an intensity sufficient to magnetize the ferrimagnetic member at a point below the magnetic resonance point is applied to the ferrimagnetic member, thus effecting broad band matching within the ferrimagnetic member to miniaturize the circulator. To this end slits are provided for branch lines at positions thereof between the joint and the periphery of the ferrimagnetic member.

3,513,414
INTEGRATED IRIS COUPLER
Harlan Howe, Jr., Acton, Mass., assignor to Microwave Associates, Inc., Burlington, Mass., a corporation of Massachusetts
Filed Dec. 23, 1968, Ser. No. 786,020
Int. Cl. H01p 5/14, 3/08
U.S. Cl. 333—10 9 Claims



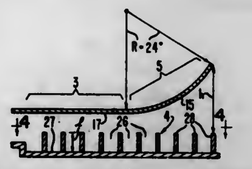
A microwave integrated directional coupler of broad bandwidth and high directivity is disclosed. An integrated line approach is used which generates a smoothly varying iris between two lines separated by a common ground plane, such that when the iris is closed each line has its own pair of ground planes and is completely isolated from the other.

3,513,415
TUNING FORK FILTERS HAVING BROADENED BAND-PASS
Frank Dostal, Elmhurst, N.Y., assignor to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York
Filed May 9, 1967, Ser. No. 637,152
Int. Cl. H03h 7/10
U.S. Cl. 333—71 7 Claims



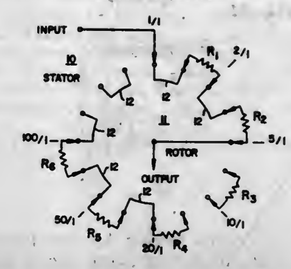
A tuning fork filter having a reduced Q, wherein the input signal is applied to a drive coil adjacent the free end of one tine of the fork, the output signal being taken from a coil adjacent the free end of the other tine, at least one tine of the fork having an energy-absorbing or dampening element secured thereto to reduce the Q of the fork and thereby broaden the band-pass characteristics thereof.

3,513,416
CYLINDRICAL SURFACE HORN FORMING A TRANSITION BETWEEN A CLOSED PERIODIC CIRCUIT AND AN OPEN SIDED PERIODIC CIRCUIT
John P. Rooney, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Jan. 30, 1967, Ser. No. 612,575
Int. Cl. H03h 7/10; H01p 3/12, 1/00
U.S. Cl. 333—73 3 Claims



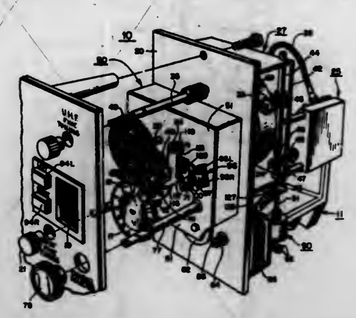
A high power harmonic microwave filter is provided with openly flared horn transition sections. The flared portions of the horns are curved surfaces conforming to sections of a cylinder with a radius of curvature greater than 5 free space wavelengths at the lower cut-off frequency of the passband of the filter. The horn sections match the ends of a main filter section of open sided ladder line slow wave circuit to intermediate transition sections of ladder line enclosed by a waveguide. The curved surface of the horn is tangent to the wall of the enclosing waveguide section at the junction therewith. The horns have a flared opening with a height of at least 1 free space wavelength above the surface of the open sided ladder line. The enclosed ladder line transition sections are in turn matched to waveguides which feed microwave energy to and from the filter. Energy absorbing elements are positioned over the main filter section inbetween the horn transitions for absorbing unwanted harmonic power outside the passband of the main filter section, which unwanted power tends to be radiated from the main filter section and from the input horn section. The main filter section is curved to prevent line of sight transmission from the input horn transition to the output horn transition.

3,513,417
MICROWAVE ATTENUATOR WITH NON-DISTRIBUTED TYPE RESISTORS
John L. Worcester, Walnut Creek, Calif., assignor to E-H Research Laboratories, Inc., Oakland, Calif., a corporation of California
Filed Aug. 17, 1966, Ser. No. 573,007
Int. Cl. H01p 1/22
U.S. Cl. 333—81 1 Claim



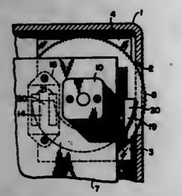
A microwave attenuator using nondistributed type resistors for attenuating networks provides a series connected sequence of attenuator networks the first network having a power dissipation greater than one-half of the total rated power dissipation and a predetermined characteristic impedance matched to a source impedance, the remaining networks having substantially less power dissipation and characteristic impedances, except for the second network different from the nominal or source impedance.

3,513,418
VHF–UHF TELEVISION TUNING SYSTEM
Otto H. Schwartz, Glenview, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed May 31, 1968, Ser. No. 733,412
Int. Cl. H03j 1/16, 5/24
U.S. Cl. 334—1 16 Claims



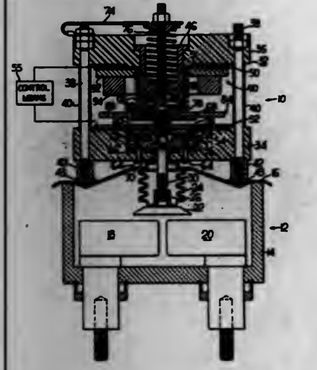
A tuning system for a television receiver has a VHF tuner and for a UHF tuner, each with an incrementally positionable control shaft, and an actuating mechanism for sequentially stepping the control shafts through their tuning ranges. This mechanism includes a pair of geneva wheels each having cam elements assignable to discrete television channels and each having a cut-out portion interposed between two of the cam elements. The geneva wheels, which are individually coupled to assigned ones of the tuner control shafts, are rotatably mounted adjacent an index station for displacement, alternately, from an operative position to a standby position. A driver is supported at the index station to engage the cam element of the operative geneva presented thereto to effect an incremental displacement of the tuner control shaft coupled to that geneva.

3,513,419
DEVICE FOR SWITCHING FREQUENCY BANDS IN BROADCASTING RECEIVER
Norio Abe, Hiromu Kishi, and Tameo Fujita, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan
Filed Nov. 22, 1966, Ser. No. 596,130
Claims priority, application Japan, Nov. 26, 1965, 40/95,859; Feb. 10, 1966, 41/11,398
Int. Cl. H03j 3/20
U.S. Cl. 334—52 3 Claims



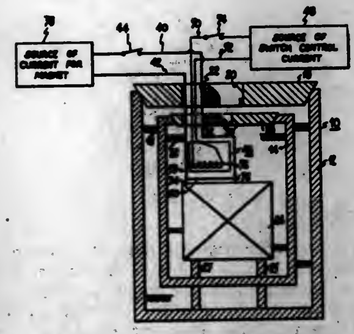
A two band radio receiver has two frequency scales arranged consecutively end-to-end and a pointer which is capable of relative movement along both scales and hence crosses over the border from one scale to the other. Relative movement of the pointer and scales is effected by a turning knob carrying an arcuate control member engageable with a change-over switch for switching from one frequency band to the other when the pointer crosses a border between the two frequency scales.

3,513,420
MAGNETODYNAMIC ACTUATOR
James C. W. Ransom, Albert M. Frey, and Joseph W. Griffith, Portland, Oreg., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 20, 1967, Ser. No. 692,238
Int. Cl. H01h
U.S. Cl. 335—164 12 Claims



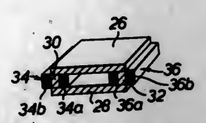
A magnetodynamic actuator for operating a device, such as a vacuum switch, comprises a support upon which a pair of energizable coils are fixedly mounted in spaced apart relationship along an axis. A first electrically conductive member (aluminum disk) is mounted on a reciprocally movable shaft and is disposed adjacent one coil. A second electrically conductive member (copper disk) is movably disposed adjacent the other coil and is connected to the first disk by resilient means. Impulse energization of the said one coil repulses the aluminum disk away from the first coil and the shaft is moved to one position. Impulse energization of the said other coil repulses the copper disk and causes the resilient means to force the aluminum disk toward said first coil and the shaft is moved to its other position. Means are provided to latch the shaft in each of its several positions.

3,513,421
PROTECTIVE APPARATUS FOR A SUPERCONDUCTIVE SWITCH
Henry Claude Schindler, East Brunswick, and James J. Drautman, Annandale, N.J., assignors to RCA Corporation, a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,378
Int. Cl. H01f 7/22
U.S. Cl. 335—216 3 Claims



Means are disclosed to prevent destruction or damage to a superconductive switch connected across the terminals of a superconductive magnet in the event that the magnet becomes normal.

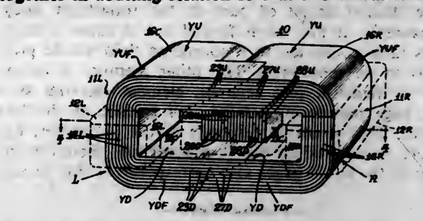
3,513,422
MAGNET ASSEMBLIES
Edward Watson, Hayling, and Derek Walter Parker, Newport, England, assignors to Newport Instruments Limited, Newport Pagnell, Buckinghamshire, England
Filed Mar. 13, 1968, Ser. No. 712,631
Claims priority, application Great Britain, Mar. 14, 1967, 12,015/67
Int. Cl. H01f 3/00
U.S. Cl. 335—296 5 Claims



An electromagnet of basically open-ended rectangular configuration comprises two low-reluctance pole pieces and a pair of parallel yoke pieces therebetween, current loops being wound around the yoke pieces such that any cross-section through the windings is a rectangular of constant height equal to the spacing of the pole pieces, such that the current density in the windings has a predetermined distribution, and that the ampere-turns of the windings are equal and opposite.

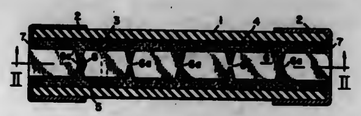
3,513,423
THREE-PHASE MAGNETIC CORE
Robert W. Russell, New Concord, Ohio, assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Jan. 8, 1969, Ser. No. 789,763
Int. Cl. H01f 27/24, 3/04
U.S. Cl. 336—211 14 Claims

A polyphase transformer core is provided in which each of two C-shaped core sections form an outer core leg and have two extending ends each bifurcated to form two sets of laminated furcations on each end. The C-shaped sections are arranged in opposing relation so that one set of laminated furcations on each end of each section abuts a set on the other section. The other set of laminated furcations on each end of a section are bent together in abutting relation so that two furcation sets of



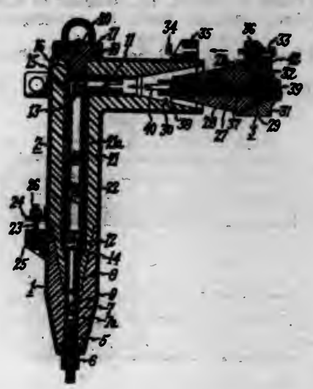
each C-shaped section are positioned back-to-back to form the center leg of the core.

3,513,424
ELECTRIC CARTRIDGE FUSE HAVING HIGH OPERATING TEMPERATURE WHEN CARRYING LOAD CURRENT
Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Mar. 24, 1969, Ser. No. 809,631
Int. Cl. H01h 85/04, 85/10
U.S. Cl. 337—158 4 Claims



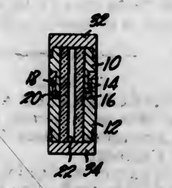
A fuse designed to minimize melting $I^2 \cdot t$ values, and to maximize arc voltage, has a casing including an organic insulating material which is at its highest admissible temperature when the fuse carries its rated current, the fuse interrupting its own circuit when and if the temperature of the point of the casing having the highest temperature exceeds the temperature admissible for the particular casing material.

3,513,425
MODULAR ELECTRICAL CONDUCTOR TERMINATION SYSTEM
Richard H. Arndt, Lenox, Mass., assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 697,668, Jan. 15, 1968. This application May 21, 1969, Ser. No. 826,515
Int. Cl. H01h 85/02; H02g 3/00; H01r 13/46
U.S. Cl. 337—201 14 Claims



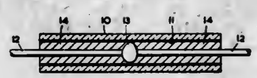
An electrical conductor termination system for high voltage underground power cables characterized by having a modular electric conductor termination that provides basic connecting and voltage-grading functions in combination with a variable plurality of additional functions that are incorporated in one or more additional interchangeable modules. A circuit interrupter or fuse is connected in the system within some of the modules.

3,513,426
CURRENT LIMITING DEVICE
Takeo Inowe, Takashi Shirasawa, Takashi Nishiraku, and Toshio Miyamoto, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan
Filed Feb. 25, 1969, Ser. No. 802,188
Claims priority, application Japan, Feb. 29, 1968, 43/13,032
Int. Cl. H01h 61/00, 83/00; H01c 7/00
U.S. Cl. 337—219 5 Claims



A metallic tube has one end portion of reduced diameter loosely inserted into the adjacent complementary end portion of another metallic tube to form a gap between them. An electrically insulating or resisting material fills the gap and interior of the tubes to unite them into a unitary structure with a filament of current limiting material coaxial with the tubes. Two electrodes are attached to the free ends of the tubes. The insulating or resisting material includes powdered mica, low melting point borate glass and powdered graphite or a sodium-potassium resisting thermoset resin and fibrous graphite.

3,513,427
INDICATORS
Kenneth Wheatley Prosser, Luton, and Raymond Oliver and John Bertram Neville Browne, Liverpool, England, assignors to The English Electric Company Limited, Strand, England, a British company
Filed June 17, 1968, Ser. No. 737,406
Claims priority, application Great Britain, June 21, 1967, 28,558/67
Int. Cl. H01h 85/30
U.S. Cl. 337—243 8 Claims

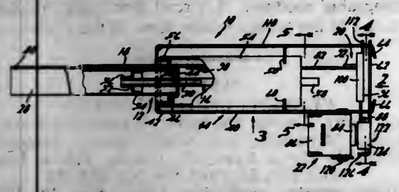


An open-circuit indicator, suitable for fuse-links etc., comprises an electrode arranged capacitively relative to at least one further electrode with an electroluminescent phosphor as dielectric.

3,513,428
THERMAL SWITCH MECHANISM
Willi K. Beck, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan
Filed Oct. 25, 1967, Ser. No. 677,968
Int. Cl. H05b 1/02; H01h 37/42, 37/46
U.S. Cl. 337—322 13 Claims

A temperature responsive switch which is adapted to be utilized in sensing the cavity temperature of an oven capable of achieving relatively high cavity temperatures, the sensor assembly including a thermally expansible fluid disposed in a sealed bulb, the pressure of the fluid in the

bulb being indicative of the cavity temperature, and also including an expandable member attached to one end of the hollow tube such that the free end of the expansible member moves to indicate the differential expansion between the bulb and the expandable member. The free end of the expandable member is attached to a motion transmitting mechanism, a portion of which is adapted to selectively engage and disengage a switch operating member in response to changes in temperature within the oven cavity.

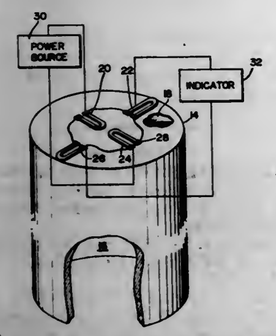


3,513,429
HEAT RECOVERABLE ACTUATOR
William Rosse Hoiberg, Atherton, Calif., assignor to Raychem Corporation, Menlo Park, Calif., a corporation of California
Continuation-in-part of application Ser. No. 591,915, Nov. 3, 1966. This application Oct. 30, 1968, Ser. No. 771,989
Claims priority, application Australia, Oct. 30, 1967, 29,136/67
Int. Cl. H01h 37/46; H02g 15/08
U.S. Cl. 337—382 22 Claims



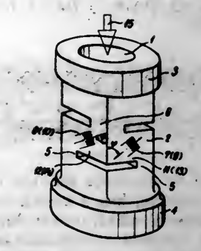
This disclosure describes an actuator comprising a longitudinally expanded heat recoverable member containing two contact members. Upon the application of heat, the heat recoverable member changes in length causing the contact members to be brought toward one another. The heat recoverable member may also be rotationally expanded as well as being longitudinally expanded.

3,513,430
SEMICONDUCTOR STRAIN GAGE TRANSDUCER AND METHOD OF MAKING SAME
Henry B. Heller, Pasadena, Calif., assignor to Tyco Laboratories, Incorporated, Waltham, Mass.
Filed June 19, 1968, Ser. No. 738,186
Int. Cl. G01l 1/22, 9/04; H01c 17/00
U.S. Cl. 338—4 13 Claims



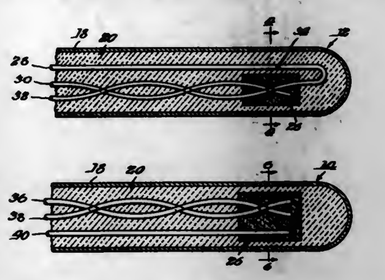
A strain gage transducer is fabricated from a pair of monocrystalline semiconductor members by first bonding the members together with a glass comprising the semiconductor material. One of the members is then formed to the desired shape of part of the transducer body. For example, it may be hollowed out to form a cavity that is later connected to a source of fluid whose pressure is to be monitored. The other member is etched away to divide it into separate elements serving as a strain gage monitoring strains at a surface of the first member. This strain corresponds to the parameter, e.g. pressure, monitored by the transducer and therefore the output of the strain gages also corresponds to this parameter.

3,513,431
MEASURING TRANSDUCER, IN PARTICULAR FOR USE WITH WIRE STRAIN GAUGES
Sándor Kovács, Budapest, Hungary, assignor to Merestechnikai Kesopontí Kutato Laboratorium, Budapest, Hungary
Filed July 1, 1968, Ser. No. 741,541
Claims priority, application Hungary, July 7, 1967, Me 864
Int. Cl. G01l 1/22
U.S. Cl. 338—5 2 Claims



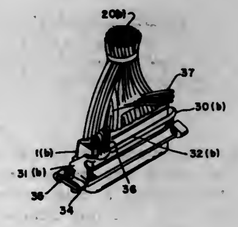
An electromechanical transducer having an upper shoulder, a lower base and a central measuring body interposed between and spaced from said base and shoulder. First parallel ribs join said shoulder and measuring body and second parallel ribs join said measuring body and said base, said first and second ribs being alternately connected to said measuring body at spaced intervals along the periphery of said body. Strain gauges are fixed to the peripheral surface of said measuring body in the intervals between adjacent ones of said first and second ribs.

3,513,432
SHIELDED THERMOELECTRIC TRANSDUCER/CONDUCTOR CONSTRUCTION
Bayard C. Davis, Lombard, Ill., assignor to Continental Sensing, Inc., Melrose Park, Ill., a corporation of Illinois
Filed Feb. 10, 1969, Ser. No. 797,799
Int. Cl. H01c 7/04; G01k 7/22
U.S. Cl. 338—28 6 Claims



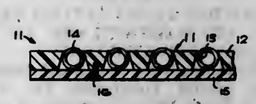
A shielded conductor for use as a thermoelectric transducer and/or temperature-responsive sensor. A metallic sheath surrounds a mass of compacted ceramic insulating material. Embedded within the mass is a short plug of semiconductive material having an inverse temperature-resistance characteristic. Three spaced wires, one thermoelectrically dissimilar to the other two, are embedded within the insulating material and teminate in the semiconductive plug. The conductor provides two means for sensing the temperature in its vicinity. Since the resistance of the semiconductive material varies inversely with temperature, the temperature may be sensed by determining the resistance between the similar wires. In addition, since the semiconductive material permits the formation of a thermoelectric junction, the temperature may be sensed by determining the thermoelectric voltage resulting between the dissimilar wire and either of the pair of similar wires. The conductor may be alternatively constructed so that the dissimilar wire does not pass through the semiconductive plug. In such a case, the end of the dissimilar wire is physically joined to the end of one of the similar wires, to form a thermoelectric junction outside the plug. The wires in either case may be helically wrapped to suppress extraneous signals.

3,513,433
ELECTRICAL GROUNDING BRACKET
Charles E. Carroll, Torrance, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Jan. 15, 1968, Ser. No. 697,669
Int. Cl. H01r 23/06
U.S. Cl. 339—14 7 Claims



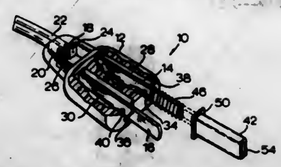
A bracket for providing low-impedance grounding of the outer shield of multiple shielded wires in a multiple-pin electrical connector.

3,513,434
ELECTRICAL TERMINAL CONNECTOR BLOCK
Lawrence Zielke, 2131 W. San Bernardino Road, West Covina, Calif. 91790
Filed Oct. 23, 1965, Ser. No. 502,939
Int. Cl. H01r 13/42, 29/00
U.S. Cl. 339—18 1 Claim



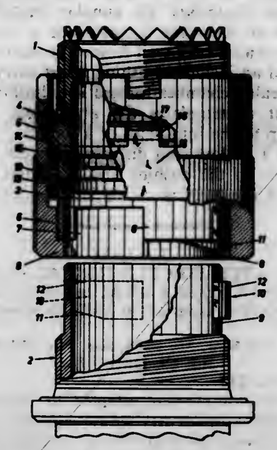
An electrical terminal connector block which comprises a block-like body of dielectric material with an elongate access opening entering an exterior surface of the body and communicating with the cavity; and an elongate, normally unbiased helically wound, axially extensible contact spring comprising a multiplicity of convolutions defining a plurality of pairs of adjacent convolutions and arranged in the cavity to extend longitudinally therein and accessible through the access opening, the convolutions of each pair of convolutions being adapted to be yieldingly parted axially of the spring to engage and hold a wire lead extending through the access opening and into engagement with the spring; the spring being greater in outside diameter than the lateral extent of the access opening whereby it is held captive in the cavity and being less in longitudinal extent than the cavity whereby it can be freely extended axially to receive wire leads to be engaged therewith.

3,513,435
SAFETY ELECTRICAL CONNECTOR
Ben Degaetano, Armonk, N.Y., assignor to Continental Research & Development Ltd., Toronto, Ontario, Canada, a company of Canada
Filed Nov. 13, 1968, Ser. No. 775,354
Int. Cl. H01r 13/44
U.S. Cl. 339—42 12 Claims



An improved electrical plug having insulating sleeves slidably mounted on each metal prong and adapted to be displaced into the plug housing when the prongs are partially or completely inserted into a receptacle. The plug is provided with resilient restraining means which serve to maintain the inner ends of the sleeves within the plug housing but which, by virtue of their resilience, permit the sleeves to be inserted into the housing by driving them along the prongs during the manufacturing assembly of the plug.

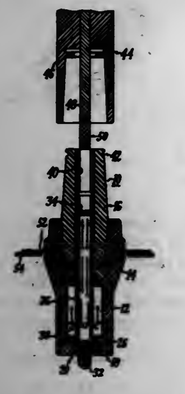
3,513,436
CONNECTION DEVICE
Nils Ingvar Nodfelt, Jaravagsgatan 76, Gnosjo, Sweden
Filed Dec. 21, 1967, Ser. No. 692,355
Claims priority, application Sweden, Jan. 25, 1967, 1,066/67
Int. Cl. H01r 7/00, 33/46
U.S. Cl. 339—90 2 Claims



A connection device, especially for multiwired electric cables, consists of two mating tubular members adapted to be retained in mating position by means of a locking ring, which is carried by one of the members and is rotatable and to a limited degree also axially displaceable in relation thereto and which when the two members are

brought together encloses the front portion of the other member. One of the members is provided with radially directed lugs and the front edge of the juxtaposed member is provided with corresponding shaped gaps into which the lugs fit in one definite relative position only. The lugs of the member are designed for cooperation with lugs at the ring for locking the members together.

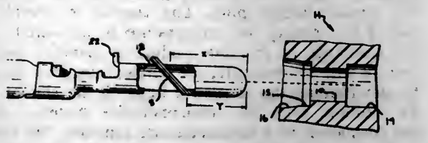
3,513,437
ARC GAS EXPANSION CHAMBER FOR HIGH VOLTAGE TERMINATION BUSHINGS
William A. McMorris, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Jan. 8, 1968, Ser. No. 696,214
Int. Cl. H01r 13/52
U.S. Cl. 339—111 3 Claims



The application discloses an electrical termination bushing for hermetically sealed high voltage devices such transformers having an internal sealed chamber or external sealed metallic pressure chamber attached thereto for receiving and cooling arc gases generated during load making or load breaking and for limiting gas pressures to a magnitude which will not damage the bushing. One embodiment comprises an annular metallic chamber threaded to an inner end extension of a bushing contact structure and a bushing well formed around the chamber, contact, and an included bushing insert carrying the contact, or a sealed chamber formed in a bushing. A second embodiment contemplates the attachment of a sealed metallic cup to the inner end of a modified conventional bushing by a hollow stud directly connected to the contact structure of the bushing and projecting through the inner end of the bushing casing into the transformer.

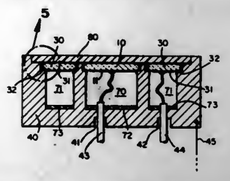
3,513,438
SPRING LATCH FOR ELECTRICAL CONNECTOR
Homer Ernst Henschen, Carlisle, and William Vito Pauza, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 25, 1966, Ser. No. 537,424
Int. Cl. H01r 13/42
U.S. Cl. 339—217 13 Claims

1. A connector element adapted to be received in a housing, said connector having an elongated hollow body having a forward portion and a rearward portion, an aperture disposed in a first side of said body and having a forward edge, said aperture being located between said forward and rearward portions, and a lance struck from said body along a second side opposite to said first side and secured to the forward portion of said body, said lance being bent inwardly from said second side and extending through said aperture in said first side, said aperture being of sufficient size to permit rearward flexing of said lance to a stressed position whereat the free end of said lance is substantially within the periphery of said hollow body, whereby upon insertion of the forward portion of said connector element into said housing said



lance will be deflected by said housing to said stressed position and whereby upon further insertion said lance will be released outwardly of said body to a position of cooperation with a depending surface of said housing to thereby prevent withdrawal of said connector element from said housing, said lance being limited in its outwardly released position by the forward edge of said aperture.

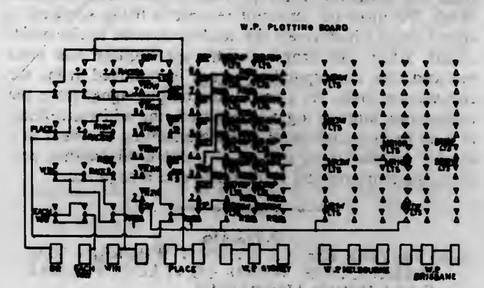
3,513,439
ULTRASONIC BEAM TRANSDUCER
Paul H. Egli, Collingswood, N.J., assignor to Parke Davis & Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 23, 1968, Ser. No. 786,258
Int. Cl. H04r 17/10
U.S. Cl. 340—10 12 Claims



An ultrasonic beam transducer of the concentric type is disclosed. The central disc transmitting element is a piezoelectric crystal having a cross-section of from 20 to 30 wavelengths. The receiving element, preferably a single continuous annular piezoelectric crystal encircling the transmitting crystal, has a width at any point of at least 10 and no more than 30 wavelengths. Each piezoelectric crystal is part of a coupled vibrating assembly which includes, in addition to the crystal, a resonant air column on the back side of the crystal, and an impedance matching layer of organic polymer on the front side, all of which assembly vibrates as a single unit to produce a search pattern over a small area which remains constant over a long distance.

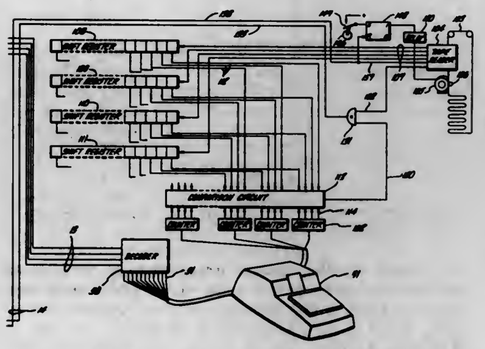
3,513,440
ELECTRICAL RELAYING SYSTEM FOR TRANSMISSION OF PARTICULARS OF BETTING WAGERS TO DISPLAY BOARD
Roy Ernest Wells, Seaforth, New South Wales, Australia, assignor to Electra Totalisators Pty. Limited, Lidcombe, New South Wales, Australia, a corporation of New South Wales
Filed Aug. 11, 1966, Ser. No. 571,927
Int. Cl. H04q 3/00
U.S. Cl. 340—147 7 Claims

Electrical equipment for relaying three statistics of a betting wager by signals representing stake value, contestant and race identification between a keyboard machine and collating board having vertical and horizontal coordinates. There are connections from the keyboard machine to rows on the board to indicate a respective statistic, and one group of further connections to the windings of a set of relays to relay a second statistic of wagers, and another group of further connections to one side of contacts of the relays to relay a third statistic of wagers. The other side of the contacts are connected to the columns of the board, whereby all three statistics



of a wager are indicated simultaneously at the intersection of a row and column on the board.

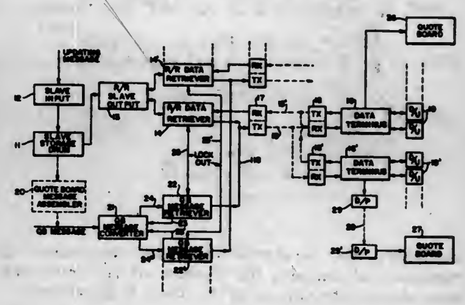
3,513,441
VERIFICATION SYSTEM
Fred N. Schwend, Arcadia, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Oct. 16, 1967, Ser. No. 675,430
Int. Cl. G06k 1/12, 3/00; H04q 9/00
U.S. Cl. 340—149 1 Claim



A credit verification system using a credit card having a field of coded punched holes identifying a customer's credit account number in which the card is placed in a slot at any of several point-of-sale stations. Electrical sensing means senses the holes and transmits the number to a central processing station where the number is recorded and automatically compared with a series of unacceptable numbers registered on a magnetic tape. If a match is made, a signal indicating that fact is returned to the inquiring station. During inquiry from one station, other stations are rendered ineffective.

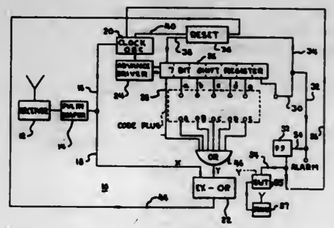
3,513,442
DATA RETRIEVAL AND QUOTE BOARD MULTIPLEX SYSTEM
Frank W. Sieracki, Philadelphia, Pa., assignor to Ultronic Systems Corp., Pennsauken, N.J., a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 634,603
Int. Cl. H04q 5/00, 11/00
U.S. Cl. 340—154 11 Claims

Updating quote board (QB) messages are transmitted on reply lines connecting respective data retrievers and data terminus units of a request/reply data retrieval system serving respective pluralities of request units. A reply to any line initiates a QB message in the next bit interval and the message has a single bit sync section. During a QB message, a reply (if ready) is inhibited. QB data is stored until a plurality of QB units transmitting independently on respective reply lines are simultaneously ready to receive it. Each data terminus sends a sync sec-



tion to a quote board during a respective reply and distinctively terminates it in the text bit interval. The QB message data is sent thereafter as it is received. Reception of a reply enables transmission of the next request and vice versa. Reception of a QB message delays enabling reception of a reply.

3,513,443
SELECTIVE SIGNALLING SYSTEM WITH RECEIVER GENERATOR
Viggo Andersen, Great Falls, Mont., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 27, 1967, Ser. No. 618,670
Int. Cl. H04q 7/00
U.S. Cl. 340—164 15 Claims

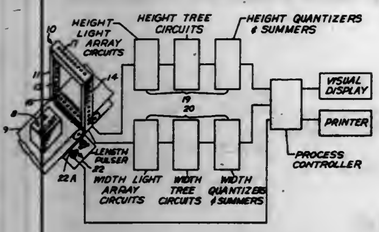


The disclosure relates to a selective signalling system capable of receiving and identifying an address at a receiver station wherein the code length is variable, the system being made capable of receiving a new code message immediately upon sensing a non comparison during the comparison operation. The comparison takes place on a bit by bit basis by comparing the transmitted address with a receiver generated address and comparing same via an exclusive OR circuit. As long as comparison takes place, the bit by bit sensing takes place. A single non comparison immediately causes reset of the comparison apparatus.

3,513,444
VOLUME DETERMINING SYSTEM
Robert M. Henderson, Williams Bay, and Lowell E. Miller and Richard Zechlin, Beloit, Wis., assignors to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 8, 1966, Ser. No. 571,112
Int. Cl. G01f 17/00
U.S. Cl. 340—172.5 29 Claims

A system and method for obtaining the volume of an object moving along a selected path is disclosed. The sys-

tem includes apparatus for incrementally sensing two dimensions of a moving object. Circuitry is provided for

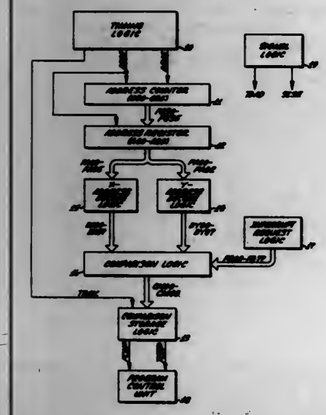


multiplying data representative of said incremental dimensions and summing the resultant of said multiplications whereby the volume of the object is determined.

3,513,445
PROGRAM INTERRUPT APPARATUS

Sherril A. Harmon and Edward A. Herrera, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed Sept. 29, 1966, Ser. No. 582,937
Int. Cl. G06f 9/18
U.S. Cl. 340—172.5 11 Claims

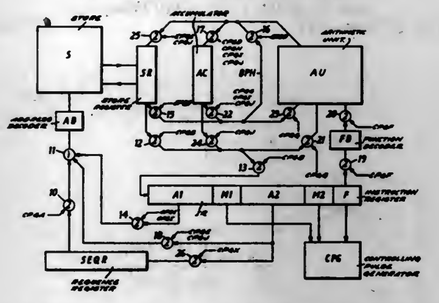


Apparatus to terminate execution of a main computer program upon occurrence of a program interrupt request is taught which includes timing logic comprising a clock providing a sequence of timing pulses and circuitry deriving a sequence of delayed pulses therefrom. The timing pulses increment an address counter from an initial count to provide a sequence of identification counts which are stored in an address register. Comparison logic including a plurality of matrices compares the currently-appearing identification counts stored in the address register with any program interrupt request, and incrementing continues until correspondence is achieved between an identification count and a particular program interrupt request, whereupon the logic generates a compare signal. The matrices may be designed to give certain types of program interrupt requests priority in recognition over other types. Comparison storage logic then generates an output signal upon coincidence of the compare signal produced by the comparison logic and one of the delayed pulses from the timing logic. This output signal terminates program execution and inhibits further incrementing of the address counter until the program interrupt request has been serviced. While the program interrupt request is being serviced, a signal issues which resets the address counter to the initial count. After the program interrupt request has been serviced, the corresponding signal is removed from the comparison logic. As a result, the output signal from the comparison storage logic is removed, the address register is reset to its initial count and incrementing proceeds in a similar manner from the initial count until another program interrupt request is identified and recognized.

3,513,446
DATA PROCESSING SYSTEM WHEREIN THE INSTRUCTION WORD CONTAINS PLURAL DATA WORD ADDRESSES

John Michael Cotton and Peter Anthony Lloyd, Taplow, England, assignors to British Telecommunications Research Limited, Taplow, Buckinghamshire, England, a British company

Filed July 28, 1967, Ser. No. 656,729
Claims priority, application Great Britain, Aug. 12, 1966, 36,305/66
Int. Cl. G06f 9/00; G11c 7/00
U.S. Cl. 340—172.5 1 Claim

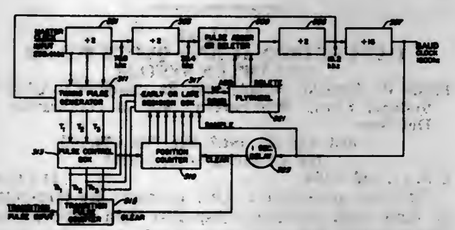


In a data handling device arrangement to perform an operation on the content of some of the addressable locations in a store, circuit arrangements are provided whereby the result of the operation can be inserted into any or all of these locations simultaneously according to the setting or otherwise of the marker bit. The specification particularly describes an application of this to a two address system.

3,513,447
BIT SYNC RECOVERY SYSTEM

Roger B. Stone, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 1, 1967, Ser. No. 665,211
Int. Cl. G06f 1/04
U.S. Cl. 340—172.5 11 Claims
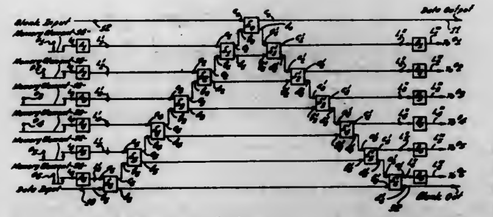


A bit sync recovery system for use in recovering the phase of synchronous digital data. The slicing level cross-

ings at the output of a frequency demodulator are utilized in conjunction with a local clock to accurately determine the information sampling times. The local clock at a predetermined multiple of the baud rate is utilized to insert or subtract a pulse from the clock wave train in order to shift the baud clock to a predetermined amount.

3,513,448
BUFFER SYSTEM

Philip N. Armstrong, 1733 Keegan Way, Santa Ana, Calif. 92705

Continuation-in-part of application Ser. No. 610,666, Jan. 20, 1967. This application June 11, 1969, Ser. No. 832,333
Int. Cl. G06k 17/00
U.S. Cl. 340—172.5 11 Claims

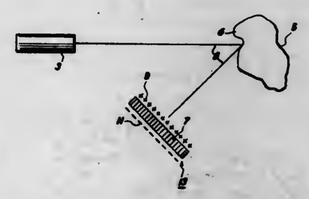


The invention relates to a buffer data storage system of the dynamic circulating type for binary data in a processing system. Data is introduced serially to the input and may be derived serially from the output at any time on a first-in, first-out basis.

3,513,449
WAVEFRONT RECONSTRUCTION METHOD USING RECORDING MEDIA CONTAINING DICHROMOPHORIC BODIES

James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 19, 1966, Ser. No. 602,708
Int. Cl. G02b 27/22, 5/30
U.S. Cl. 340—173 4 Claims



A wavefront reconstruction method is set forth utilizing recording media comprising a pre-oriented dispersion of dichromophoric photoconductive bodies contained in an insulating softenable matrix. Through the intermediate use of a latent electrostatic image on the surface of the recording media the dispersed bodies are selectively reoriented in accordance with the phase and intensity of an impinging wavefront. Reconstruction of the original wavefront is achieved by illuminating the oriented recording media with a plane polarized wave originating from the same source utilized in the recording process.

3,513,450
CYLINDRICAL FILM STORAGE DEVICE WITH CIRCUMFERENTIAL CONDUCTOR OVERLAPPING THE FILM EDGE

George Richard Hoffman, Sale, and David Aspinall, Cheadle, England, assignors, by mesne assignments, to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 11, 1959, Ser. No. 798,722
Claims priority, application Great Britain, Mar. 12, 1958, 7,986/58
Int. Cl. G11c 11/14
U.S. Cl. 340—174 1 Claim

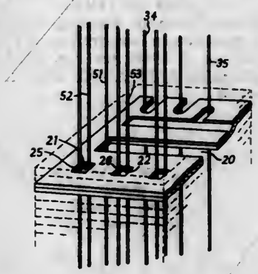


A cylindrical thin magnetic film stores a bit of data according to the direction of magnetization in the magnetically closed circumferential path of the film. For a read operation a ribbon like conductor on the outer surface of the film is energized to switch the magnetization orthogonal to the storage direction. For a write operation an axially positioned conductor is energized in a selected polarity with a current overlapping the trailing edge of the ribbon like conductor current.

3,513,451
DIGITAL INFORMATION STORES

Howard Anthony Dorey and Peter R. Lowe, Farnborough, England, assignors to The Solartron Electronic Group Ltd., Victoria, Farnborough, England, a corporation of the United Kingdom

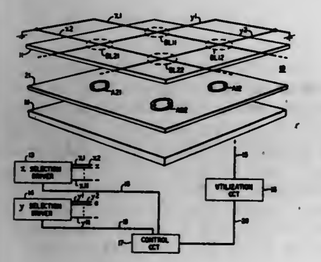
Filed Jan. 17, 1967, Ser. No. 609,839
Claims priority, application Great Britain, Jan. 28, 1966, 3,984/66
Int. Cl. G11c 11/04, 17/00
U.S. Cl. 340—174 24 Claims



A permanent or temporary digital information store having a stack of planar members made from magnetic material, and a number of wires which are looped, or not looped by the planar members in dependence on, the address of information stored by the member, and in some instances, on the information stored. The planar members may be cards of magnetic material which are adapted to be easily shaped according to the address and, in some instances, information stored. Planar members of one type can be selected for read-out by saturating all members but one and changing the flux in all members, only

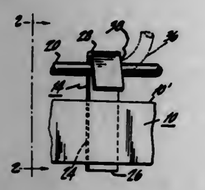
the unsaturated member inducing currents in output wires looped by that member. Planar members of another type have their magnetic states changed for read-out, in this instance one wire carrying some of the current required to change the state is looped by all members, but only one member is looped by the combination of wires carrying the remaining current for read-out.

3,513,452
SINGLE DOMAIN WALL PROPAGATION IN MAGNETIC SHEETS
Andrew H. Bobeck, Chatham, Edward Della Torre, Plainfield, and Alfred A. Thiele, East Orange, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Oct. 12, 1967, Ser. No. 674,835
Int. Cl. G11c *11/14, 19/00*
U.S. Cl. 340—174 14 Claims



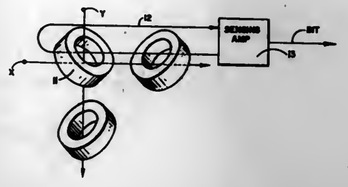
Artificial impedances to domain motion are provided in a sheet of magnetic material in which single wall domains are moved. The impedances are arranged to define two-position locations within which each domain in the sheet can be moved. An impedance between the two positions of each location for each domain permits memory operation on a threshold basis.

3,513,453
MAGNETIC CORE MEMORY PLANE ASSEMBLY AND METHOD
Robert S. Fow, Plymouth Meeting, Pa., assignor to RCA Corporation, a corporation of Delaware
Filed Jan. 5, 1968, Ser. No. 695,944
Int. Cl. G11c *5/02, 11/02*; H01r *13/36*
U.S. Cl. 340—174 3 Claims



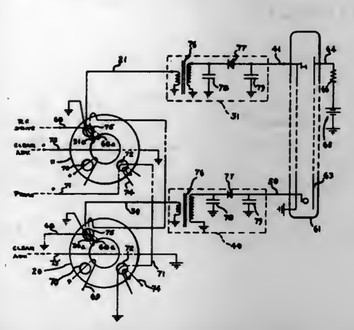
A magnetic core memory plane including an insulating planar support, an array of magnetic cores, and wires extending through rows and columns of cores to electrical terminals on the planar support. Each terminal is constructed of an elongated metallic member of rectangular cross section extending perpendicularly from the planar surface of the support. The free end of the metallic member is bent sharply back toward the planar support to form a wire receiving and gripping notch. In assembly, a wire is passed straight through the notch of a terminal, through a row of aligned cores and through the notch of a terminal on the opposite side of the frame. The ends of the wires are then jerked upwardly causing the wire ends to be clamped and broken off in the terminals.

3,513,454
METHOD OF OPERATING MAGNETIC CORE MEMORIES TO COMPENSATE FOR TEMPERATURE VARIATIONS
Albert V. Ogrodski, Placentia, Calif., assignor to North American Rockwell Corporation
Filed Mar. 22, 1968, Ser. No. 715,347
Int. Cl. G11c *7/04*
U.S. Cl. 340—174 2 Claims



The method of this invention is directed to applying a prepulse signal, having an amplitude substantially equal to the ½-select current, to each of the memory cores at selected times to minimize or completely eliminate the signal degradation caused by changes in environmental temperature.

3,513,455
READOUT CIRCUIT ARRANGEMENT FOR A STORAGE SYSTEM
Michael Joseph Yaccino, Mechanicsburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Continuation of application Ser. No. 352,898, Mar. 18, 1964. This application June 27, 1968, Ser. No. 744,613
Int. Cl. G11c *11/08*
U.S. Cl. 340—174 7 Claims



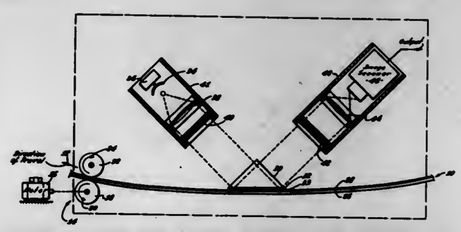
A readout circuit arrangement for magnetic core means contains a control circuit means connected to readout means coupled onto magnetic core means with the readout means being actuated by drive circuit means coupled to the magnetic core means for providing readout of information present in the magnetic core means on the readout means thereby actuating the control circuit means which in turn actuates utilization circuit means connected to the control circuit means.

3,513,456
MAGNETO-OPTIC READOUT TRANSDUCER
Alfred M. Nelson, Redondo Beach, Calif., assignor to The Magnavox Company, Torrance, Calif., a corporation of Delaware
Filed Feb. 13, 1961, Ser. No. 88,833
Int. Cl. G11c *11/42*; G11b *11/10*
U.S. Cl. 340—174.1 13 Claims



Apparatus for magneto-optic readout of a moving magnetic record which employs a thin film magnetic element onto which the recorded information is transferred for subsequent magneto-optic readout.

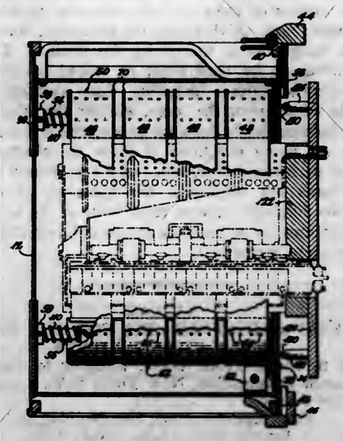
3,513,457
MAGNETO-OPTICAL TRANSDUCING SYSTEM
Alfred M. Nelson, Redondo Beach, Calif., assignor to The Magnavox Company, Torrance, Calif., a corporation of Delaware
Filed Dec. 12, 1962, Ser. No. 244,170
Int. Cl. G11b *11/10, 7/06*
U.S. Cl. 340—174.1 26 Claims



A magneto-optic readout system which uses a transparent substrate to support a thin film magnetic enhancement layer and biasing techniques.

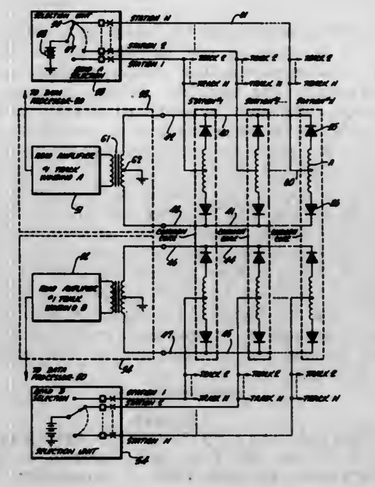
3,513,458
MAGNETIC STORAGE TAPE CARTRIDGE
John A. Altonji, Syosset, and Joseph G. Vaiana, Levittown, N.Y., assignors to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Sept. 13, 1966, Ser. No. 579,049
Int. Cl. G11b *1/02, 15/66, 23/06*
U.S. Cl. 340—174.1 15 Claims

A cartridge for magnetic storage tape loops including an outer casing in which at least one pair of upper and lower tape loop supporting members or turn-arounds is positioned to support the tape loops in a vertically oriented oblong configuration, the turn-arounds being movable from an initial storage position in which a slight tension is imposed on the tape loops, to an operative transducing position in which the tape loop tension is relieved when the cartridge is placed onto a memory apparatus. The outwardly facing surfaces on the turn-arounds are smoothly rounded or generally semi-cylindrical to facilitate support of the tape loops during operation on an air bearing whereas the inwardly facing surfaces of the turn-arounds are generally planar and function to position the turn-



arounds relative to mating surfaces on the memory apparatus independently of the casing.

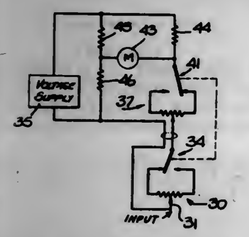
3,513,459
MULTIPLE STATIONED AND INDEPENDENTLY SELECTIVE TRANSDUCER SYSTEM
Michael I. Behr, South Pasadena, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 28, 1967, Ser. No. 634,696
Int. Cl. G11b *5/00*; H04g *3/42*
U.S. Cl. 340—174.1 6 Claims



The data processing system has a plurality of stations, such as tape transports, where information is stored or to be stored. At each station there is located a magnetic transducer that has one core for reading and one core for writing, or a common core for the two functions. Nevertheless, there is also provided a plurality of windings for each function. For example, where two separate cores are provided, there are two or more windings on

each core. A winding at each station is connected in common with a winding of every other station and all are connected in common to an electronic unit having read and write amplifiers for each channel as determined by the number of tracks on the magnetic carrier, such as a magnetic tape. In this way the electronic unit containing the amplifiers is shared by the stations. Thereafter, the stations to be read from or stored at are selected by a selection circuit including diode switches in series with the windings on the cores, wherein the selected winding is made useful by forward biasing the series connected diodes. As many functions as there are electronic units may be performed simultaneously e.g., where two electronic units are employed, the functions of read/read from two different stations, read/write at the same or different stations, or write/write at two different stations may be selectively performed.

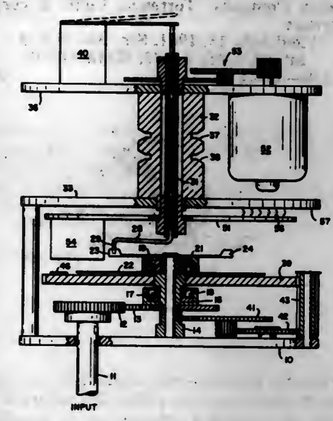
3,513,460
METHOD AND APPARATUS FOR THE REMOTE INDICATION OF DATA
Harold S. Field, Tulsa, Okla., assignor to Geophysical Research Corporation, New York, N.Y., a corporation of New Jersey
Filed Apr. 12, 1965, Ser. No. 447,233
Int. Cl. G08c *19/04*; H04q *9/06*
U.S. Cl. 340—177 10 Claims



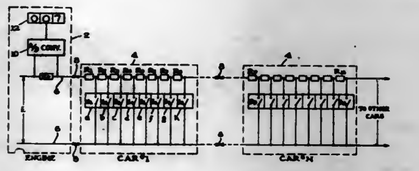
Apparatus is disclosed for indicating a change in impedance between the end terminals of an impedance means and an intermediate terminal variably positioned therebetween. The apparatus includes switching means adapted to alternately be positioned between the different end terminals. Means to measure the electrical condition of a circuit measure the impedance between the intermediate terminal and the end terminal in contact with the switch, and as the switch moves to its alternate position to be in contact with the other end terminal the means to measure the electrical condition of a circuit measures the impedance between the end terminal now in contact with the switch and the intermediate terminal. The impedances so measured are then compared. A method for determining the change of impedance between the intermediate terminal of an impedance means variably positioned between end terminals and the end terminals is also disclosed.

3,513,461
DIGITAL DATA SYSTEM AND APPARATUS
Jack S. Howley, Berkeley, Calif., assignor to Berkeley Instruments, Oakland, Calif., a corporation of California
Filed Oct. 17, 1966, Ser. No. 587,015
Int. Cl. G08c *19/28*
U.S. Cl. 340—206 6 Claims

A multiple revolution digitizer for measuring, for example, stream level in feet and in hundredths of a foot converting the analog information to a serial pulse train of digital information suitable for telemetering. Hundredths of feet are measured by an inch wheel having a reflective half and a nonreflective half. A foot wheel includes a commutator counter band of two hundred segments to provide a digital count by movement of a brush across the segments.



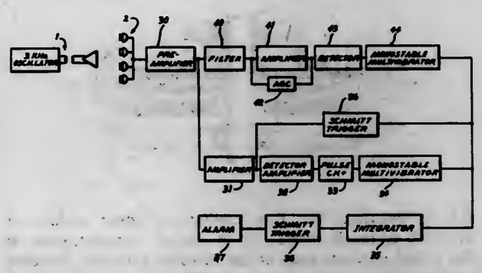
3,513,462
DETECTOR FOR HOT BOXES
Hurley J. Blakeney, North Walpole, N.H., and Willo L. McNair, Bellows Falls, Vt., assignors to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York
Filed Aug. 1, 1967, Ser. No. 657,611
Int. Cl. B61k *9/04*; G08b *17/06*
U.S. Cl. 340—231 3 Claims



A detection and locating system for hot box journal bearings utilizing a plurality of thermal-responsive switches each located in a respective hot box and connected in parallel in a circuit having a corresponding plurality of series-connected resistances interconnected with the switches, and a current-responsive resistance connected to an indicator for reading the value of voltage drop determined by the number of resistances energized when one of the switches is closed.

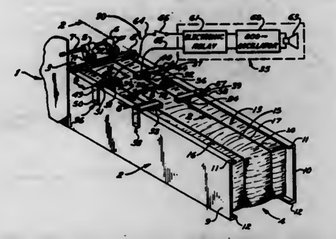
3,513,463
SOUND MONITOR INTRUDER ALARM SYSTEM
Louis A. Stevenson, Jr., and Lou D. Mickley, Jr., Houston, Tex., assignors to "Automatic" Sprinkler Corporation of America, Cleveland, Ohio, a corporation
Continuation-in-part of application Ser. No. 578,603, Sept. 12, 1966. This application Aug. 8, 1967, Ser. No. 659,067
Int. Cl. G08b *13/16*
U.S. Cl. 340—258 8 Claims

An intruder alarm system which is activated by either the sounds made by an intruder or the change in the sound pattern in the protected area caused by changes in position of objects in the area. A sound pattern is established in the protected area by a suitable sound source. Means are provided to monitor the sound pattern and generate a D.C. voltage which is proportional to the sound pattern. Changes in the D.C. voltage are registered by a sensitive level change detector. Alternatively, means are provided to produce quantized electrical pulses in response to the changes in the D.C. voltage. The electrical pulses



are applied to an integrator means which activates an alarm when a certain number of pulses are received in a unit of time. Means are provided to produce electrical pulses in response to noises other than the sound pattern. These pulses are also applied to the integrator means.

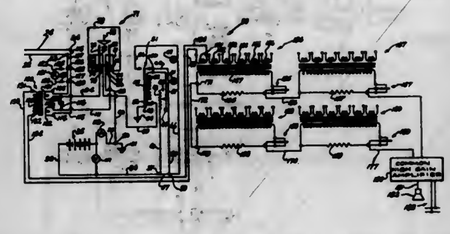
3,513,464
BROKEN WIRE DETECTOR FOR HAY BALERS
Donald Evan Yarbro, Box 27, E. Star Rte., and Weldon Ray Yarbro, 112 S. 3rd, both of Lovington, N. Mex. 88260
Filed Dec. 1, 1966, Ser. No. 598,377
Int. Cl. G08b *21/00*; A01f *15/02*
U.S. Cl. 340—259 14 Claims



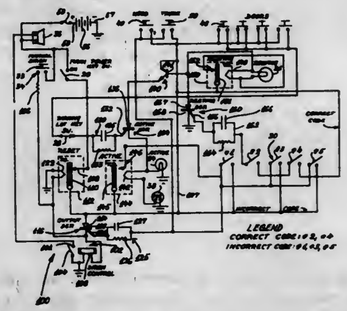
The broken wire detector includes first and second electrical contacts adjacent the bale chamber which engage surfaces of the portions of the bale wire which extend around the baled material. The contacts are insulated from each other so a circuit between the contacts is complete only when bale wires are properly extended around the baled product. If either bale wire is defective, the circuit through the contacts is interrupted and a warning signal is initiated.

3,513,465
SOUND MONITORING SYSTEM HAVING PLURAL SELECTIVELY DISCONNECTABLE MICROPHONES AND A CENTRAL MONITORING STATION
Henry W. Titherington, 353 W. Territorial Road, Battle Creek, Mich. 49015
Filed Aug. 24, 1966, Ser. No. 574,649
Int. Cl. G08b *13/16*
U.S. Cl. 340—261 8 Claims

An audio warning system having a microphone at each of a plurality of different subscriber stations, a transmission channel connecting the microphones at the different subscriber locations to a central monitoring location, circuitry at the monitoring location connecting all of the different microphones to a common amplifier having a common loudspeaker connected to its output, such that each of the different subscriber locations may continually be audibly monitored at the same time from the central location for the occurrence of any unusual sound at any subscriber location, together with switching means at the central location for selectably disconnecting any of the subscriber locations, to provide isolation at a particular such location of any unusual sound heard while monitoring all locations.



3,513,466
PROTECTIVE ALARM SYSTEM
Roger H. Isaacs and Edmund Schneider, 499 E. 8th St. 11218; and Wallace S. Levine, 3212 Bedford Ave. 11210, all of Brooklyn, N.Y.
Filed Jan. 30, 1967, Ser. No. 612,632
Int. Cl. G08b *13/08*; B60r *25/10*
U.S. Cl. 340—274 11 Claims

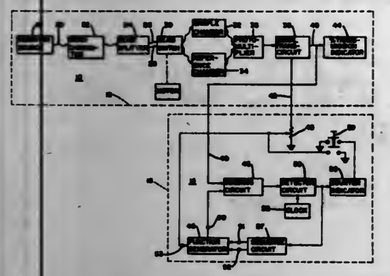


A protective alarm system which sounds an alarm in a mobile or stationary installation when a door is opened by an intruder after the system is armed. The systems are installed completely within the protected enclosure such as a vehicle, store, office or the like. No externally located activating switches are required. Two combinations of coded switches are provided at a control console of the system. One combination involves a correct code which must be actuated to arm and disarm the system. The other combination involves an incorrect code. Closing of any one of the switches of the incorrect code sounds the alarm. The system can be set for selective operation by opening only certain doors.

3,513,467
FUNCTION GENERATOR CIRCUIT
Joseph J. Sliwkowski, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 12, 1966, Ser. No. 600,911
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 14 Claims

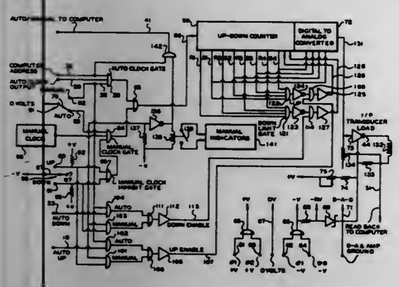
A function generator circuit for generating a quantized or incremental stepping signal that is a function of the analog signal applied thereto. The function generator cir-

cuit is particularly adapted for use in analog-to-digital converter circuits for providing a digital signal that is a



direct or logarithmic function of the ratio of the amplitudes of two analog signals.

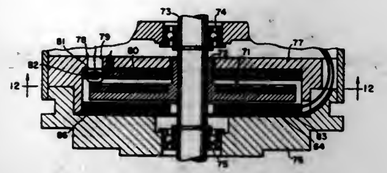
3,513,468
OUTPUT LOGIC FOR DIRECT DIGITAL CONTROL SYSTEM
Dale A. Fluegel, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,814
Int. Cl. H03k *13/14*
U.S. Cl. 340—347 8 Claims



An up-down counter is provided with an upper limit gating means and a lower limit gating means to prevent the output signal from going from maximum count to minimum count on adding a pulse or from minimum count to maximum count on subtracting a pulse. This counting system can be utilized in a direct digital control system in combination with a resistance ladder network to form a digital to analog converter. Gating means can be provided to permit either automatic or manual actuation of the converter and its associated control elements.

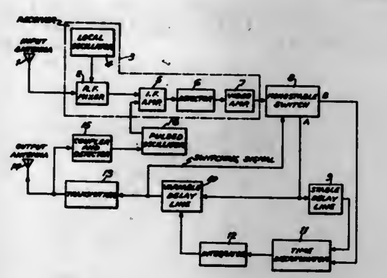
3,513,469
VARIABLE RELUCTANCE SHAFT POSITION-TO-DIGITAL CONVERTER
Donald D. Christensen, Sun Valley, and William F. Frazier, Sylmar, Calif., assignors to Singer-General Precision, Inc., a corporation of Delaware
Continuation of application Ser. No. 463,433, May 17, 1965. This application Mar. 3, 1969, Ser. No. 806,010
Int. Cl. G08c *9/04*
U.S. Cl. 340—347 6 Claims

This invention relates to magnetic converters or encoders and comprises the combination of a coded information ferromagnetic disk having raised and recessed portions on one surface thereof in the form of any suitable analog-to-digital encoder pattern. A magnet is positioned on the underside of the disk. In place of conventional contact brushes there are provided conventional magnetic read heads or pickups. The magnet placed on the underside of the disk causes flux to flow from the underside of the disk upward therethrough and to return through the read heads and encoder housing to the under-



side of the disk. The flux leaving the upper surface of the disk is much denser or in greater concentration at the raised portions than at the recessed portions. Suitable read circuitry senses changes in the flux passing through the heads.

3,513,470
RADIO TRANSPONDER
Gerald Rabow, Brooklyn, N.Y., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed July 7, 1958, Ser. No. 747,559
Int. Cl. G01s *9/56*
U.S. Cl. 343—6.8 6 Claims

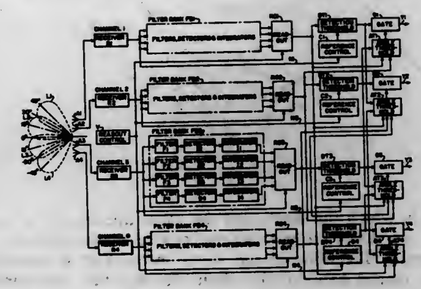


1. A radio transponder having a receiver and a transmitter for the transmission of pulse signals separated from received pulse signals by a given time period, comprising means to detect a first envelope of each of the pulse signals received by said receiver, delay means coupling said received signal envelope to said transmitter to trigger said transmitter, means associated with said detecting means for deriving from a portion of the transmitted pulse output a second envelope of each of the transmitted pulse signals, means for comparing the time difference between said first and second envelopes to derive a control voltage and means coupling said control voltage to said delay means to adjust the delay between received pulse signals and transmitted pulse signals to coincide with said given time period.

3,513,471
ANGLE SENSING SYSTEM
David H. Mooney, Jr., Severna Park, and Keefer S. Stull, Jr., Baltimore, Md., and John M. Porter, Annandale, Va., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 26, 1967, Ser. No. 678,368
Int. Cl. G01s *9/22*
U.S. Cl. 343—16 8 Claims

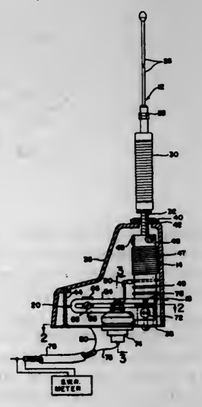
The present disclosure relates to an angle sensing system for locating the direction of a target about a given

angle. A plurality of antennas are arranged to have a predetermined radiation pattern, each of the antennas being responsive to a target falling within its respective pattern. Each antenna supplies a sensing channel which includes a constant gain receiver, a threshold detector, which is responsive to signals above a given amplitude,



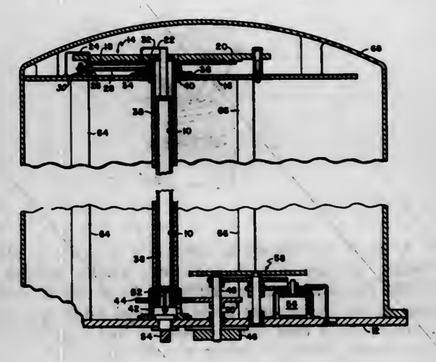
a gate to translate a signal exceeding the given amplitude as a target indication in that channel unless inhibited and an inhibiting threshold to inhibit the target indication if an adjacent sensing channel has received a higher amplitude signal by a selected amount. The threshold level of the threshold detector may be adjusted according to noise appearing in the sensing channel.

3,513,472
IMPEDANCE MATCHING DEVICE AND METHOD OF TUNING SAME
John Altmayer, Euclid, Ohio, assignor, by mesne assignments, to New-Tronics Corporation, Brook Park, Ohio, a corporation of Ohio
Filed June 10, 1968, Ser. No. 735,916
Int. Cl. H01q *9/00*
U.S. Cl. 343—750 6 Claims



An antenna having a vertical whip, a base loading coil, and an impedance matching stub connected between a lower terminal of the loading coil and a ground terminal. The stub includes a pair of close-spaced, generally parallel, conductive members and an adjustable shorting strap connected to and extending between the pair of conductive members for altering the input impedance of the antenna.

3,513,473
INDUCTIVELY LOADED CAPACITIVE ANTENNA
Glen J. Seward, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Mar. 14, 1968, Ser. No. 713,183
Int. Cl. H01q *9/00, 9/16*
U.S. Cl. 343—752 5 Claims

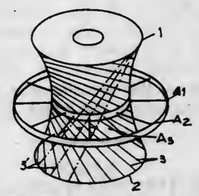


A short vertical post radiator is top-loaded by means of a variable inductance and a capacitance in series. The inductance is a spiral conductor which is adjusted by a roller contact driven on the turns of the spiral conductor. The capacitance is a conductive plate supported above the ground plane of the antenna. The spiral conductor is supported above the capacitance plate.

ERRATA

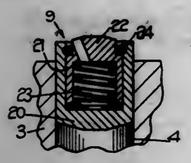
For Classes 417—252 through 308—184 see:
Patent Nos. 3,513,475 through 3,513,480

3,513,474
COLLAPSIBLE HYPERBOLIC REFLECTOR FORMED OF SPACED WIRES
Robert H. Gest, Jean Fernand Bostyn, and Jean Martinet, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Jan. 4, 1968, Ser. No. 695,737
Claims priority, application France, Jan. 9, 1967, 90,416; May 16, 1967, 106,516
Int. Cl. H01q *19/00, 15/20*
U.S. Cl. 343—756 6 Claims



An antenna assembly comprising a circular array of radiating elements and a reflector having the form of a surface of revolution, wherein the latter is built up by at least one assembly of metallic wires, the ends of which are attached to two circular plates or rings. The spacing between these plates or rings may be reduced, so that the antenna can be collapsed when not being used.

3,513,475
LIQUID FUEL PUMPING APPARATUS
Alan Ewart Walter Austen, Sunbury-on-Thames, England, assignor to C.A.V. Limited, London, England, a British company
Filed Nov. 5, 1968, Ser. No. 773,497
Claims priority, application Great Britain, Nov. 6, 1967, 50,289/67
Int. Cl. F04b *1/00, 13/00;* F04d *15/00*
U.S. Cl. 417—252 4 Claims



A liquid fuel pumping apparatus including a plunger formed by two cup shaped parts axially slidable one within the other and loaded apart by a coiled compression spring, the plunger being mounted within a bore and actuated by a cam the pressure of fuel supplied to the bore acting when it attains a sufficiently high value to effect compression of the spring so that the effective displacement of the plunger is increased.

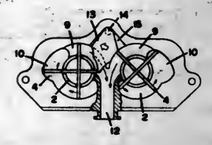
3,513,476
ROTARY COMPRESSORS
Tuneo Mosden, Tokyo, and Masao Ozu, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed June 19, 1968, Ser. No. 738,183
Claims priority, application Japan, June 21, 1969, 42/39,272
Int. Cl. F04c *29/02;* F04d *29/06*
U.S. Cl. 417—372 4 Claims



In a rotary compressor comprising a cylinder, a rotor eccentrically mounted in the cylinder and a blade slidably received in a slot in the cylinder or rotor to divide the interior of the cylinder into high and low pressure chambers, lubricant grooves are formed on the inner wall of the slot on the opposite sides of the blade and at different positions along the length thereof.

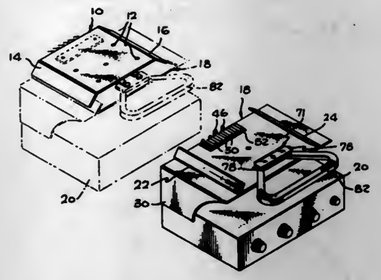
3,513,477
APPARATUS FOR MEASURING AND FEEDING FOOD DRESSING MATERIAL
Torahiko Hayashi, 2–3 Nozawa-cho, Utsunomiya-shi, Tochigi-ken, Japan
Continuation-in-part of application Ser. No. 732,807, May 27, 1968. This application July 8, 1969, Ser. No. 839,898
Int. Cl. F04c *3/00, 23/00;* F04b *13/00*
U.S. Cl. 418—208 2 Claims

Apparatus for measuring and feeding viscous materials adapted for measuring materials inconsistent in viscosity or elasticity or collapsible property as cake materials of bean paste, cream and jam, and also minced meat and vegetables or a mixture thereof in a predetermined amount and at a uniform flow speed. The apparatus consists of two shafts placed one on each side of a discharge pipe and provided with a number of arbitrarily arranged slots, vanes inserted into the slots so that each vane can slide freely along its respective slot, a case



within which the shafts and the vanes are housed so that the two shafts are parallel and can be made to rotate in opposite directions at the same speed, and a swinging cam placed between the shafts so that the cam comes in dynamic contact with the vanes and causes each vane to recede as far as the circumference of its respective shaft just before the vane reaches the discharge pipe, so that the material within the case is continuously and simultaneously measured and delivered.

3,513,478
MULTIPLE PURPOSE REMOVABLE ELECTRICAL MOUNTING BRACKET
Thomas V. Kemper and Keith F. Keller, Los Angeles, Calif., assignors to Kustom Kreations, Inc., Northridge, Calif.
Filed Oct. 24, 1968, Ser. No. 778,373
Int. Cl. H01r *13/54*
U.S. Cl. 339—91 8 Claims



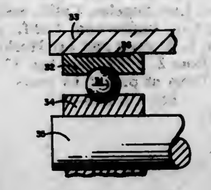
Apparatus is described for removably mounting an electrical appliance to the dashboard of an automobile, or the like. The apparatus includes a stationary plate firmly affixed to the underside of the dashboard. Downwardly projecting flanges are formed at opposite edges of this plate. A removable plate is secured to the appliance and has upwardly projecting flanges formed along its opposite edges and adapted to engage slidably the downwardly projecting flanges on the stationary plate. Electrical terminals on the stationary plate are connected to the electrical system of the vehicle, and matching terminals on the removable plate are connected to the appliance. The two sets of terminals are releasably engaged in electrical contact when the two plates are slidably engaged with one another. Releasable locking means are provided on the stationary plate and removable plate for locking the two plates together when they are in slidable engagement.

3,513,479
CYLINDRICAL CONVERGENCE ELECTRODE WITH SHIELDS AFFIXED TO INNER CYLINDER WALLS
Jay H. Johnson, Owensboro, Ky., assignor to Kentucky Electronics, Inc., Owensboro, Ky., a corporation of Delaware
Continuation-in-part of application Ser. No. 633,822, Apr. 26, 1967. This application Jan. 3, 1969, Ser. No. 788,777
Int. Cl. H01j *29/46*
U.S. Cl. 313—84 2 Claims



A cylindrical convergence cup electrode for a three gun color picture tube has three internally mounted Y-shaped shield inserts of magnetic material affixed to the inner cylinder wall.

3,513,480
LOW STRESS BEARING
John F. Robinson, Newport Beach, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,926
Int. Cl. F16c *27/00*
U.S. Cl. 308—184 3 Claims

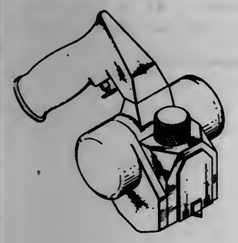


An anti-friction ball bearing assembly for reducing the level of Hertzian stresses in the raceways to thereby increase the life of the assembly in which the races are permitted to deflect to act as a beam by permitting a relief between the races and the shaft and/or the housing.

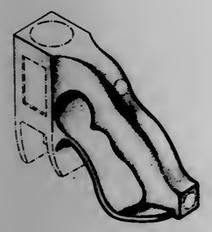
DESIGNS

MAY 19, 1970

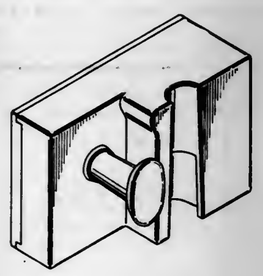
217,582
WELD SHAVER
Donald L. Dotson, Los Angeles, Calif., assignor to Zephyr Manufacturing Co., Inglewood, Calif., a copartnership composed of D. L. Dotson and Jay Harkey
Filed June 2, 1969, Ser. No. 17,456
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—62



217,583
HANDLE FOR PORTABLE POWER TOOLS OR THE LIKE
Bernard A. Swanson, 11805 SE. 54th Place, Bellevue, Wash. 98004
Filed Oct. 21, 1968, Ser. No. 14,092
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—107



217,584
POLICE LOCK
Melvyn A. Gervis, Haworth, and Eugene Taras Wozny, Harrington Park, N.J., and Nicholas Giardina, Mount Vernon, N.Y., assignors to Magic Eye Associates, Inc., New York, N.Y., a corporation of New York
Filed Jan. 16, 1969, Ser. No. 15,377
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—109



217,585
BOTTLE
Jose A. Lambelet, Beaurepaire, France
Continuation-in-part of design application Ser. No. 10,385, Jan. 31, 1968. This application June 9, 1969, Ser. No. 17,576
Claims priority, application France Aug. 3, 1967
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—1



217,586
BOTTLE OR SIMILAR ARTICLE
Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed May 23, 1969, Ser. No. 17,310
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—111



217,587
COMBINED BOTTLE AND CAP THEREFOR
Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed May 26, 1969, Ser. No. 17,361
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—113



217,588
COMBINED BOTTLE AND CAP THEREFOR
Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed May 23, 1969, Ser. No. 17,312
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—117



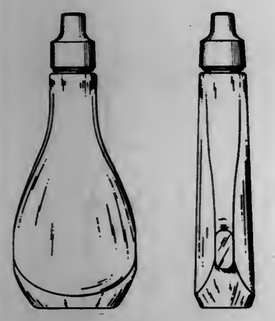
217,589
COMBINED BOTTLE AND CAP THEREFOR
Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed May 23, 1969, Ser. No. 17,313
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—117



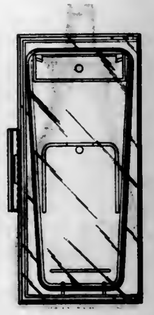
217,590
BOTTLE OR SIMILAR ARTICLE
Victor Kasmirowski, Franklin Square, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Original design application Nov. 21, 1967, Ser. No. 9,489, now Patent No. 214,873, dated Aug. 12, 1969. Divided and this application Dec. 23, 1968, Ser. No. 15,383
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—118



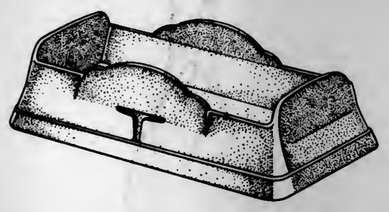
217,591
BOTTLE
Thomas Stephen Biecoe, Aurora, and Allen D. Lowe, Sugar Grove, Ill., assignors, by mesne assignments, to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed May 2, 1969, Ser. No. 16,999
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—138



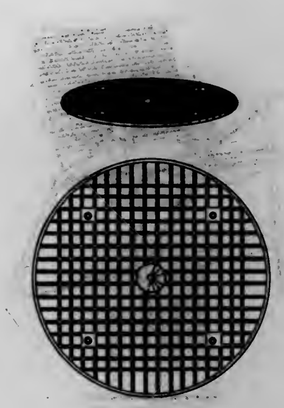
217,592
DISPLAY CASE FOR SAFETY RAZORS
Alan B. Lowry, Canton, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Dec. 9, 1968, Ser. No. 14,856
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—186



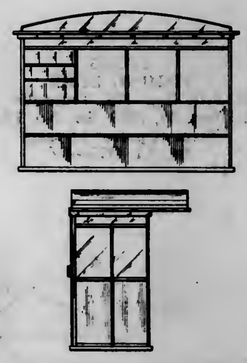
217,593
TACO HOLDER
James R. Loven, San Fernando, Calif. (10965 Glenoaks Blvd., Pacoima, Calif. 91331)
Filed Mar. 19, 1969, Ser. No. 16,321
Term of patent 3½ years
Int. Cl. D9—*04*
U.S. Cl. D9—242



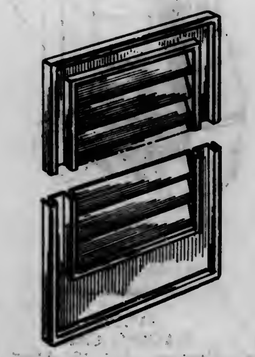
217,594
INSERT FOR INDUSTRIAL SHIPPING CONTAINER
Ralph V. Bardell, Homewood, Ill., assignor to Growth International Industries Corp., a corporation of Delaware
Filed Jan. 9, 1969, Ser. No. 15,266
Term of patent 14 years
Int. Cl. D9—*99*
U.S. Cl. D9—253



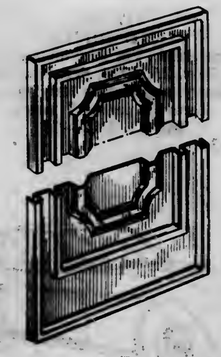
217,595
NEWSPAPER STAND
Melvin Cohen, 150 Dayton Ave., Passaic, N.J. 07055
Filed Mar. 20, 1969, Ser. No. 16,349
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



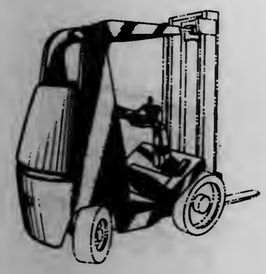
217,596
ORNAMENTAL SHUTTER
Cyril L. Johnston, Arlington Heights, Ill., assignor to Leslie Building Products, Inc., Franklin Park, Ill., a corporation of Delaware
Filed May 29, 1969, Ser. No. 17,414
Term of patent 14 years
Int. Cl. D25—*02*
U.S. Cl. D13—1



217,597
ORNAMENTAL SHUTTER
Cyril L. Johnston, Arlington Heights, Ill., assignor to Leslie Building Products, Inc., Franklin Park, Ill., a corporation of Delaware
Filed May 29, 1969, Ser. No. 17,418
Term of patent 14 years
Int. Cl. D25—*02*
U.S. Cl. D13—1



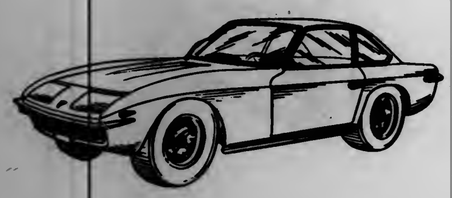
217,598
INDUSTRIAL VEHICLE BODY
Rigsby C. Satterfield, Chalfont, Pa., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 7, 1969, Ser. No. 17,051
Term of patent 14 years
Int. Cl. D12—*09*
U.S. Cl. D14—3



217,599
RACING CAR
Carlo Abarth, Cavoretto, Italy (% Abarth & C.S.p.a. Corso Marche 38/78, Turin, Italy)
Filed Nov. 25, 1968, Ser. No. 14,777
Claims priority, application Italy May 11, 1968
Term of patent 14 years
Int. Cl. D12—*08*
U.S. Cl. D14—3



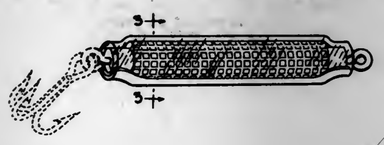
217,600
AUTOMOBILE
Ferruccio Lamborghini, Via Provinciale 15, Cento, Italy
Filed Nov. 25, 1968, Ser. No. 14,779
Claims priority, application Italy May 28, 1968
Term of patent 7 years
Int. Cl. D12—*08*
U.S. Cl. D14—3



217,601
CHAIR OR SIMILAR ARTICLE
Donald J. Borichevsky, Wells, Vt., assignor to The Telescope Folding Furniture Co., Inc., Granville, N.Y., a corporation of New York
Filed Mar. 12, 1969, Ser. No. 16,208
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



217,602
ARTIFICIAL BAIT
Philip W. Gurka, Upper Montclair, Essex County, N.J. 07043
Filed July 29, 1968, Ser. No. 12,947
Term of patent 14 years
Int. Cl. D22—*07*
U.S. Cl. D22—27



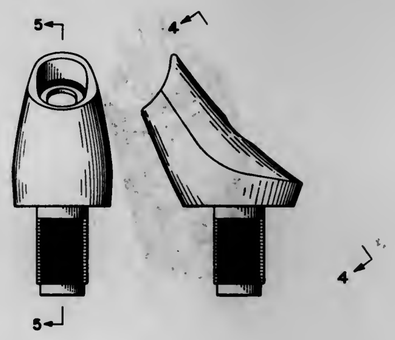
217,603
FISHING LURE
Leonard Self, P.O. Box 425, Trussville, Ala. 35173
Filed June 30, 1969, Ser. No. 17,957
Term of patent 14 years
Int. Cl. D22—*07*
U.S. Cl. D22—27



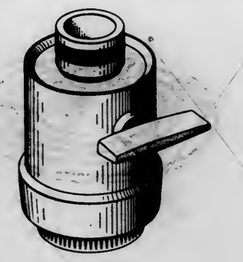
217,604
HANDLE FOR PLUMBING FITTINGS
Henry Marshall Stairs, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 9, 1968, Ser. No. 14,849
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. 23—28



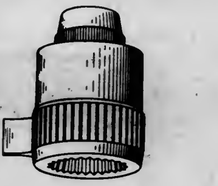
217,605
TRAJECTORY SPOUT FITTING
Raymond W. Young, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 3, 1969, Ser. No. 15,195
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—32



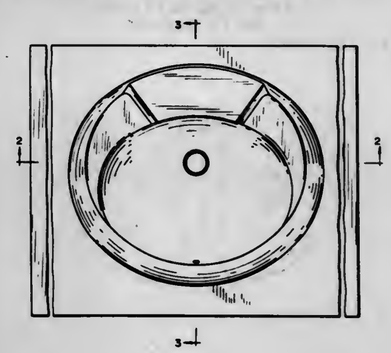
217,606
SHOWERHEAD
Raymond W. Young, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 29, 1969, Ser. No. 15,558
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—35



217,607
SHOWERHEAD
Raymond W. Young, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 10, 1969, Ser. No. 15,717
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—35



217,608
COMBINED LAVATORY AND COUNTERTOP
Howard M. Edgar, Torrance, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 28, 1969, Ser. No. 16,929
Term of patent 14 years
Int. Cl. D23—*02*
U.S. Cl. D23—58



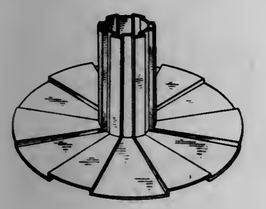
217,609
BASE FOR SHOWER, DRINKING FOUNTAIN OR SIMILAR PLUMBING FIXTURES
Thomas M. Vicknair, Walnut Creek, and Richard W. Sargent, San Jose, Calif., assignors to Western Drinking Fountains, Inc., a corporation of California
Filed Nov. 7, 1968, Ser. No. 14,343
Term of patent 14 years
Int. Cl. D23—*02, 01*
U.S. Cl. D23—70



217,610
WALL MOUNTED AIR HUMIDIFIER OR THE LIKE
Hans Rudolf Stoop, Zug, Switzerland, assignor to Defensor AG, Zurich, Switzerland, a corporation of Switzerland
Filed Apr. 4, 1969, Ser. No. 16,580
Claims priority, application Switzerland Oct. 18, 1968
Term of patent 7 years
Int. Cl. D23—*04*
U.S. Cl. D23—147



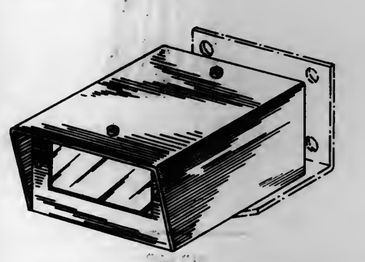
217,611
CORE FOR ROOF INSULATION VENTILATORS
Robert W. Mason, Port Credit, Ontario, Canada, assignor to Marathon Equipment & Supply Limited, Weston, Ontario, Canada, a company
Filed Nov. 7, 1968, Ser. No. 14,351
Term of patent 14 years
Int. Cl. D23—*04*
U.S. Cl. D23—153



217,612
MATHEMATIC TEACHING AID
Gaudy C. Philpot and Anita S. Philpot, both of 4014 Punta Alta Drive, Los Angeles, Calif. 90065
Filed May 5, 1969, Ser. No. 17,010
Term of patent 14 years
Int. Cl. D19—*08*
U.S. Cl. D25—1



217,613
PHOTOELECTRIC ANNOUNCER OR SIMILAR ARTICLE
William G. Kahl, Jr., Brookfield, Conn., assignor to Arrowhead Enterprises, Inc., Bethel, Conn., a corporation of Connecticut
Filed Jan. 22, 1969, Ser. No. 15,448
Term of patent 14 years
Int. Cl. D13—*99*
U.S. Cl. D26—1



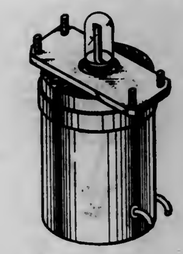
217,614
ELECTRICAL WIRING DEVICE OR SIMILAR ARTICLE
George H. Kress, East Orange, N.J., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Oct. 23, 1968, Ser. No. 14,129
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—1



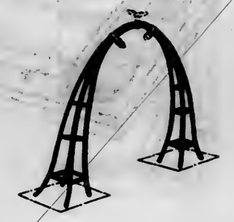
217,615
ELECTRICAL WIRING DEVICE OR SIMILAR ARTICLE
George H. Kress, East Orange, N.J., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Oct. 23, 1968, Ser. No. 14,136
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—1



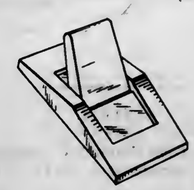
217,616
MAGNETRON
Tokuju Koinuma, Kawasaki-shi, and Masao Kato, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Jan. 21, 1969, Ser. No. 15,422
Claims priority, application Japan July 24, 1968
Term of patent 14 years
Int. Cl. D26—*01*
U.S. Cl. D26—8

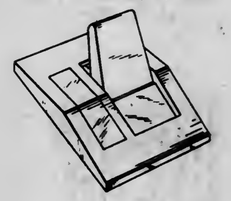


217,617
ELECTRICAL TRANSMISSION TOWER
Arthur L. Scott, Columbia, S.C., assignor to C/P Corporation, Newberry, S.C., a corporation of South Carolina
Filed Oct. 4, 1968, Ser. No. 13,834
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—12

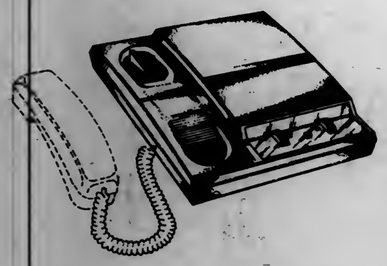


217,618
ELECTRIC SWITCH
Robert L. Gallup, Niles, Mich., assignor to McGill Manufacturing Company, Inc., Valparaiso, Ind., a corporation of Indiana
Original design application Oct. 18, 1968, Ser. No. 14,055. Divided and this application June 9, 1969, Ser. No. 17,574.
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—13





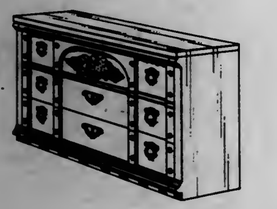
217,619
TELEPHONE ANSWERING DEVICE
Joseph B. Federico, Rochester, N.Y., assignor to Ford Industries, Inc., Portland, Oreg., a corporation of Washington
Filed Jan. 9, 1969, Ser. No. 15,265
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



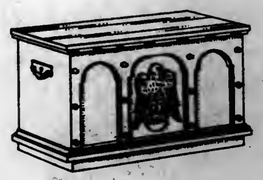
217,620
VIDEOTELEPHONE TRANSCEIVER CONTROL UNIT
Henry Dreyfuss, South Pasadena, Calif., and Rembert R. Stokes, Middleton, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Original design application Nov. 24, 1967, Ser. No. 9,549, now Patent No. 215,159, dated Sept. 9, 1969. Divided and this application Oct. 3, 1968, Ser. No. 15,936
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



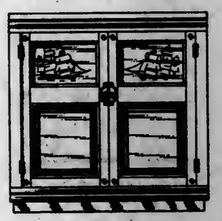
217,621
CHEST
James C. Bouffard, High Point, N.C., assignor to Mohasco Industries, Inc., Amsterdam, N.Y., a corporation of New York
Filed Jan. 24, 1969, Ser. No. 15,485
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—6



217,622
CHEST
James C. Bouffard, High Point, N.C., assignor to Mohasco Industries, Inc., Amsterdam, N.Y., a corporation of New York
Filed Jan. 24, 1969, Ser. No. 15,500
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—6



217,623
CHEST
James C. Bouffard, High Point, N.C., assignor to Mohasco Industries, Inc., Amsterdam, N.Y., a corporation of New York
Filed Jan. 24, 1969, Ser. No. 15,503
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—6



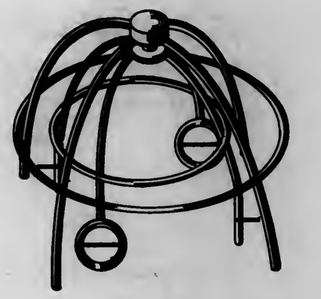
217,624
BALL GAME TUMBLER
George Ruskin, Jr., 7504 W. 12th St., Little Rock, Ark. 72204
Filed Oct. 23, 1968, Ser. No. 14,142
Term of patent 14 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



217,625
GAME TARGET
William E. Lacy, 2423 Berwick Ave., Dallas, Tex. 75203
Filed Dec. 11, 1968, Ser. No. 14,888
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



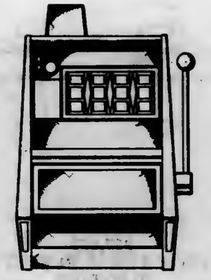
217,626
PLAYGROUND ROUNDABOUT
Hilson B. Regas, Jr., 1 E. Chalmette Circle, Chalmette, La. 70043
Filed Dec. 19, 1968, Ser. No. 15,060
Term of patent 14 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



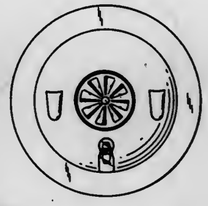
217,627
MAT FOR USE WITH A GOLFER'S APPARATUS FOR PRACTISING DRIVING
Raymond Terry, 16 Hamilton House, Amherst Road, Tunbridge Wells, Kent, England
Filed Jan. 24, 1969, Ser. No. 15,486
Claims priority, application Great Britain Aug. 26, 1968
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



217,628
SLOT MACHINE
Ronald G. Wayne, Canoga Park, Calif., assignor to Centaur Mini Computer Devices, Inc., New York, N.Y., a corporation of New York
Filed May 19, 1969, Ser. No. 17,228
Term of patent 14 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



217,629
FLYING SAUCER TOY
Troy B. Davis, 1512 Dardon Ave., Memphis, Tenn. 38116
Filed June 19, 1969, Ser. No. 17,771
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



217,630
TUMBLER OR SIMILAR ARTICLE
John W. Weimer, Morgantown, W. Va., assignor to Seneca Glass Company, Morgantown, W. Va., a corporation of West Virginia
Filed May 9, 1969, Ser. No. 17,097
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D36—8



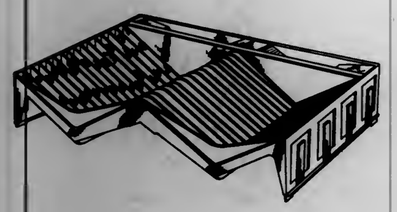
217,631
EXTENSION CLAMP FOR AUTOMOBILE BODY AND FRAME REPAIR SYSTEM
Wayne E. Hunnicutt, Big Bend, and Peter G. Rosebeck, Waukesha, Wis., assignors to Applied Power Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed July 15, 1968, Ser. No. 12,751
Term of patent 14 years
Int. Cl. D12—*99*
U.S. Cl. D41—1



217,632
SERVING UNIT FOR A BUFFET MEAL OR THE LIKE
Bernard Bouchet, 20 Rue Victor-Hugo, Ol-Oyonnax-Ain, France
Filed Sept. 3, 1969, Ser. No. 18,990
Claims priority, application France Mar. 6, 1969
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—15



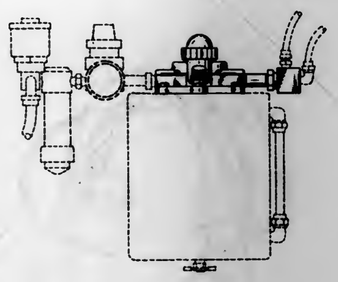
217,633
DISH DRAIN OR SIMILAR ARTICLE
Anthony J. Iorio, North Providence, R.I., assignor to United Sterilite Corporation, a corporation of Massachusetts
Filed Jan. 13, 1969, Ser. No. 15,315
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—29



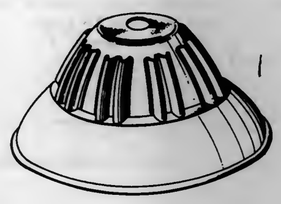
217,634
DIAMOND OR SIMILAR ARTICLE
Isaac Bolter, Queens County, N.Y.
(73—36 136th St., Flushing, N.Y. 11367)
Filed Sept. 9, 1968, Ser. No. 13,443
Term of patent 14 years
Int. Cl. D11—*01*
U.S. Cl. D45—1



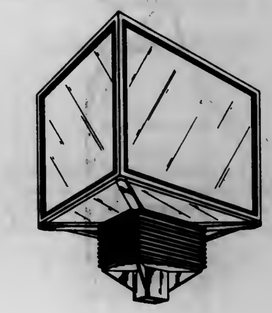
217,635
COMBINATION MIST GENERATOR AND MANIFOLD ASSEMBLY FOR LUBRICATION SYSTEM
James H. Yon, Jr., Charlotte, N.C., assignor to Jett Manufacturing Corporation, Charlotte, N.C., a corporation of North Carolina
Filed Oct. 28, 1968, Ser. No. 14,200
Term of patent 14 years
Int. Cl. D15—*08*
U.S. Cl. 46—1



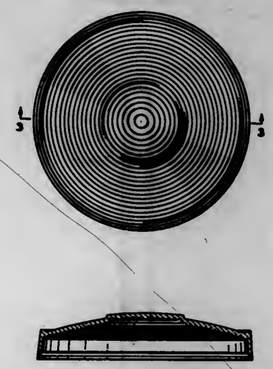
217,636
REFLECTOR FOR AN INDUSTRIAL SAFETY ILLUMINATING DEVICE
Shinjiro Mori, Tokyo, Japan, assignor to Mori Denki Manufacturing Co., Ltd., Tokyo, Japan
Filed Sept. 26, 1968, Ser. No. 13,730
Claims priority, application Japan June 13, 1968
Term of patent 14 years
Int. Cl. D26—*06*
U.S. Cl. D48—16



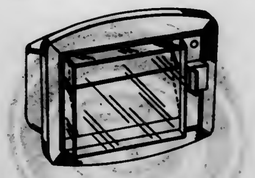
217,637
LIGHT FIXTURE
Buell Moore, Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 10, 1969, Ser. No. 16,662
Term of patent 14 years
Int. Cl. D26—*03*, *02*
U.S. Cl. D48—31



217,638
LENS
Hugo Magi, Etobicoke, Ontario, Canada, assignor to Dominion Auto Accessories Limited, Toronto, Ontario, Canada
Filed Mar. 5, 1969, Ser. No. 16,036
Claims priority, application Canada Dec. 16, 1968
Term of patent 14 years
Int. Cl. D12—*99*, D26—*06*
U.S. Cl. D48—32



217,639
COMBINED DISPLAY AND COIN CONTROLLED DISPENSING CABINET FOR NEWSPAPERS
Ronald W. Yon, 604 Iris, Corona Del Mar, Calif. 92625
Filed Sept. 18, 1968, Ser. No. 13,601
Term of patent 14 years
Int. Cl. D28—*01*
U.S. Cl. D52—3



217,640
SCALE
Dieter Rams, Koenigstein, Germany, assignor to Braun Aktiengesellschaft, Frankfurt, am Main, Germany
Filed Dec. 6, 1968, Ser. No. 14,960
Claims priority, application Germany June 6, 1968
Term of patent 14 years
Int. Cl. D10—*99*
U.S. Cl. D52—10



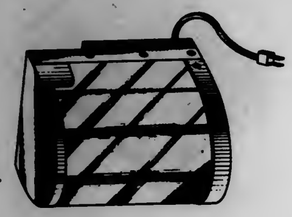
217,641
HAND-HELD KEYBOARD-OPERATED STRINGED MUSICAL INSTRUMENT
Leonard W. Pavia, 460 Columbia Turnpike, Florham Park, N.J. 07932
Filed Feb. 26, 1969, Ser. No. 15,932
Term of patent 14 years
Int. Cl. D17—*03*
U.S. Cl. D56—1



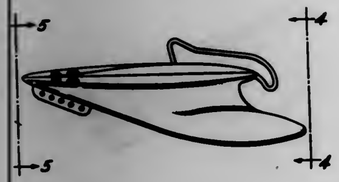
217,642
SLIDE TRAY FOR A PHOTOGRAPHIC PROJECTOR
Stephen Blacher, Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 23, 1968, Ser. No. 15,081
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



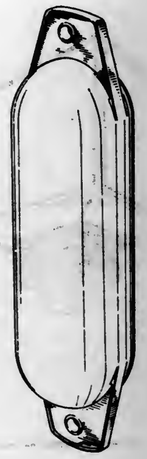
217,643
CONVEX SCREEN VIEWBOX
James A. Tamborello, North Hollywood, Calif., assignor of fifty percent to Miyamoto Osamu, Arcadia, Calif.
Filed Mar. 20, 1969, Ser. No. 16,339
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



217,644
SUBMERGIBLE HYDROPLANER
Daniel A. Smith, 291 Madrone Ave., Santa Clara, Calif. 95051
Filed Nov. 25, 1968, Ser. No. 14,649
Term of patent 14 years
Int. Cl. D12—*06*
U.S. Cl. D71—1



217,645
BOAT BUMPER
Hugo Magi, Etobicoke, Ontario, Canada, assignor to Aqua-Marine Mfg. Limited, Toronto, Ontario, Canada
Filed Apr. 14, 1969, Ser. No. 16,746
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D71—1



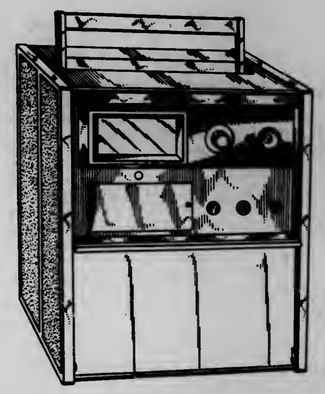
217,646
WRITING INSTRUMENT
Walter J. De Groft, Glen Ellyn, Ill., assignor to Sanford Research Company, a corporation of Illinois
Filed June 24, 1968, Ser. No. 12,486
Term of patent 14 years
Int. Cl. D19—*06*
U.S. Cl. D74—17



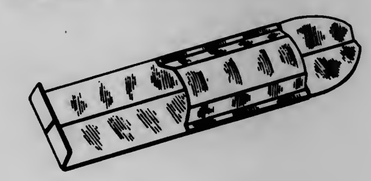
217,647
WRITING PEN CAP
Walter J. De Groft, Glen Ellyn, Ill., assignor to Sanford Research Company, a corporation of Illinois
Filed June 24, 1968, Ser. No. 12,487
Term of patent 14 years
Int. Cl. D19—*06*
U.S. Cl. D74—17



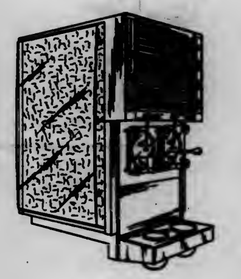
217,648
MONOPULSE DEFIBRILLATOR
David P. Clusboff, North Barrington, and James P. Stevens, Chicago, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 26, 1969, Ser. No. 15,930
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—1



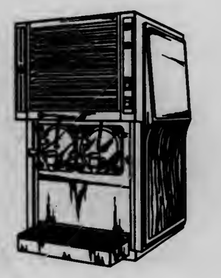
217,649
FOLDING CATHETER TRAY
Alvin J. Newell, Zion, Ill., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
Filed Apr. 2, 1969, Ser. No. 16,560
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—1



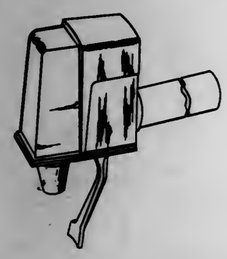
217,650
FROZEN BEVERAGE DISPENSING MACHINE OR SIMILAR ARTICLE
Clark L. Lofgren, Golden Valley, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Dec. 3, 1968, Ser. No. 14,762
Term of patent 14 years
Int. Cl. D15—*12*
U.S. Cl. D94—3



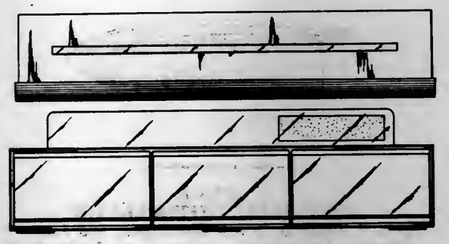
217,651
REFRIGERATED BEVERAGE DISPENSING MACHINE OR SIMILAR ARTICLE
Clark Lofgren, Golden Valley, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Dec. 3, 1968, Ser. No. 14,763
Term of patent 14 years
Int. Cl. D15—*12*
U.S. Cl. D94—3



217,652
BEVERAGE DISPENSING VALVE UNIT OR SIMILAR ARTICLE
Peter R. Allard, Minnetonka Village, and Clark L. Lofgren, Brooklyn Center, Minn., assignors to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Dec. 5, 1968, Ser. No. 14,817
Term of patent 14 years
Int. Cl. D15—*99*
U.S. Cl. D94—3



217,653
SIGN OR SIMILAR ARTICLE
Clark L. Lofgren, Brooklyn Center, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed Jan. 16, 1969, Ser. No. 15,378
Term of patent 14 years
Int. Cl. D20—*03*
U.S. Cl. D96—12



LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 19TH DAY OF MAY, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AAI Corporation: *See—*
Barr, Irwin R., 3,512,480.
Aaron, Phillip L. Audible and visual musical teaching device. 3,512,445, Cl. 84-471.
AB Centralsug: *See—*
Hallstrom, Olof Henrik, 3,512,735.
Abbott, Bobby R. Faucet fountain. 3,512,711, Cl. 239-25.
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Ban, Itsuki. Tape player utilizing plurality of endless magnetic tape cartridges. 3,512,786, Cl. 274-4.
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Kopp, Gerhard, to Entwicklungsring Sud G.m.b.H. Exhaust nozzle for a jet aircraft engine. 3,512,716, Cl. 239-265.29

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Kovac, Michael, to Illinois Tool Works Inc. Stackable container. 3,512,677, Cl. 220-97.

Kovacs, Sandor, to Merestechnikai Kozponti Kutato Laboratorium. Measuring transducer, in particular for use with wire strain gauges. 3,513,431, Cl. 338-5.

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Kreidel, Hans, Sr., and Kreidel, Hans, to Inventex Ltd. Sealing ring with different shaped cutting edges for pipe connections. 3,512,812, Cl. 285-341.

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Kronsbein, Curt. Apparatus for dyeing strings of yarn and method of operating same. 3,512,193, Cl.

Krystof, Joseph P., to Rowland Products, Incorporated. Extruded sheet material having differentially colored bands and method for making same. 3,513,060, Cl. 161-5.

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Kugelman, Irwin Jay, and Hellmann, Joseph B., to American Standard, Inc. Liquid filtration-mass transfer system. 3,512,639, Cl. 210-80.

Kugelman, Irwin J., to American Standard, Inc. Countercurrent solid-liquid contacting system. 3,512,641, Cl. 210-80.

Kuhn, Rolf Benno, Rieckmann, Peter, and Specker, Manfred, to Boehringer Mannheim Gesellschaft mit beschrankter Haftung. Antimicrobial compositions and methods employing N-(5-nitro-2-furfurylidene)-3-amino-2-oxazolidene. 3,513,238, Cl. 424-272.

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Kulman, Melvin L., deceased (by Kulman, Dorothy E., administratrix), to Ingersoll-Rand Company. Control for torque producing tool. 3,512,591, Cl. 173-12.

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Lang, Daniel L., to Goldentone Electronics, Inc. Telephone timing device. 3,512,355, Cl. 58-145.

Lang, Ernest U., to National-Standard Company. Wire let-off assembly wire coil package and combined wire coil package and let-off assembly. 3,512,635, Cl. 206-52.

Langdon, Howard H., to Curlator Corporation. Machine for forming random fiber webs. 3,512,218, Cl. 19-156.3

Lange, Hans, to Deutsche Erdol-Aktiengesellschaft. Apparatus for obtaining bitumens from underground deposits. 3,512,584, Cl. 166-57.

Lange, William C. Grass trimmer. 3,512,343, Cl. 56-25.4

Langenfeld, Frank H., to Monsanto Company. Functional fluid compositions. 3,513,097, Cl. 252-78.

Lansch, John L. Voltage monitoring circuit. 3,513,353, Cl. 317-31.

La Paduta, Natale P. Decorative and/or structural material. 3,512,327, Cl. 52-512.

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La Violette, Paul A., Jr., and Marino, Edward M., to High Standard Manufacturing Corporation, The. Firearm housing assembly having three sections and an interlocking central coupling marker therefor. 3,512,290, Cl. 42-75.

Law, John, to Carrier Corporation. Magnetically coupled pump with slip detection means. 3,512,901, Cl. 417-53.

Lawrence, Leslie John, to British Titan Products Company Limited. Coated titanium dioxide particles and production thereof. 3,513,008, Cl. 106-300.

Lawton, John E., to British Insulated Callender's Cables Limited, and Central Electricity Generating Board. Cryogenic devices. 3,512,581, Cl. 165-81.

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Legris, Andre, to Society Legris & Fils. Integrated circuit fluid programmer. 3,512,553, Cl. 137-635.

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Le Suer, William M., to Lubrizol Corpoation, The. Lubricant containing nitrogen-containing and phosphorus-containing succinic derivatives. 3,513,093, Cl. 252-32.5

Leuthauser, Charles B., to RCA Corporation. RF power amplifier. 3,513,406, Cl. 330-40.

LeVantine, Allan D., to TRW Inc. Multimodular collimated light projection system. 3,513,306, Cl. 240-41.3

Levi, Mark W. Field-effect integrated circuit and method of fabrication. 3,513,365, Cl. 317-235.

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Lewis, Colin Bright, to Associated Electrical Industries Limited. Pressure contact semiconductor devices. 3,513,359, Cl. 317-234.

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Lichfield, William H., to United States of America, Air Force, mesne. Method of applying liners with a protective cover, to rocket motor casings. 3,513,051, Cl. 156-242.

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Lindquist, Arne Herman, to Nydqvist & Holm Aktiebolag. Stay ring for water turbines and the like. 3,512,899, Cl. 415-126.

Lindstrom, Karl Hugo: *See—*
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Link, Anton, to Entwicklungsring Sud G.m.b.H. Bearing for an aircraft wing having adjustable sweepback. 3,512,847, Cl. 308-2.

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Lipscomb, Willis L. Adjustable lighting fixture hanger with wiring protection means. 3,512,743, Cl. 248-324.

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Liston, Max D., to Smith Kline & French Laboratories. Spectrophotometer with plural dispersion using a single monochromator. 3,512,889, Cl. 356-94.

Littlefield, Derwood F., to General Electric Company. Static solid state modularized electronic control for high speed conveyor sorting device. 3,512,637, Cl. 209-74.

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Lockshin, Samuel D., to Shott Chairs Corporation. Method and means for securing the ends of the webbing material to the frame of garden or porch furniture. 3,512,834, Cl. 297-441.

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Lohman, Edward G., to Logansport Machine Co., Inc. Pull-back chuck false jaws for machine chucks. 3,512,794, Cl. 279-123.

Long, Bernard, to Libbey-Owens-Ford Company. Apparatus for making flat glass sheets. 3,512,950, Cl. 65-182.

Long, Bernard, to Libbey-Owens-For LASS Company. Apparatus for manufacture of flat glass. 3,512,951, Cl. 65-252.

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Lubar, Michael J., to Keuffel & Esser Company. Diazosulfonate composition, copying material, and method of use. 3,512,978, Cl. 96-49.

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Fritz, Theodore C., and R. W. Wagner. Apparatus for applying plasticizer to filter tow. 874,005, 5–19–70, Cl. 118—7.

Hutchins, Bernard A., and J. J. Wade. Regeneration of photographic bleach baths by treatment with ozone. 874,006, 5–19–70, Cl. 96—60.

Ulbing, Cynthia G., and M. J. W. Brizee. Supersensitised silver halide photographic emulsions. 874,008, 5–19–70, Cl. 96—104.

Ulbing, Cynthia G., and M. J. W. Brizee. Supersensitised silver halide photographic emulsions. 874,009, 5–19–70, Cl. 96—104.

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Swanson, Bernard A. Handle for portable power tools or the like. 217,583, 5–19–70, Cl. D8—107.

Tamborello, James A., 50% to M. Osamu. Convex screen viewbox. 217,643, 5–19–70, Cl. D61—1.

Telescope Folding Furniture Co., Inc., The: *See*—
Borichevsky, Donald J. 217,601.

Terry, Raymond. Mat for use with a golfer's apparatus for practising driving. 217,627, 5–19–70, Cl. D34—5.

Tokyo Shibaura Electric Co., Ltd.: *See*—
Koinuma, Tokuju, and Kato. 217,616.

United Sterilite Corp.: *See*—
Iorio, Anthony J. 217,633.

Vicknair, Thomas M., and R. W. Sargent, to Western Drinking Fountains, Inc. Base for shower drinking fountain or similar plumbing fixtures. 217,609, 5–19–70, Cl. D23—70.

Wayne, Ronald G., to Centaur Mini Computer Devices, Inc. Slot machine. 217,628, 5–19–70, Cl. D34—5.

Weimer, John W., to Seneca Glass Co. Tumbler or similar article. 217,630, 5–19–70, Cl. D36—8.

Western Drinking Fountains, Inc.: *See*—
Vicknair, Thomas M., and Sargent. 217,609.

Wozny, Eugene T.: *See*—
Gervis, Melvyn A., Wozny, and Giardina. 217,584.

Yeo, Ronald W. Combined display and coin controlled dispensing cabinet for newspapers. 217,639, 5–19–70, Cl. D52—3.

Yon, James H., Jr., to Jett Mfg. Corp. Combination mist generator and manifold assembly for lubrication system. 217,635, 5–19–70, Cl. D46—1.

Young, Raymond W., to American Standard Inc. Trajectory spout fitting. 217,605, 5–19–70, Cl. D23—32.

Young, Raymond W., to American Standard Inc. Showerhead. 217,606, 5–19–70, Cl. D23—35.

Young, Raymond W., to American Standard Inc. Showerhead. 217,607, 5–19–70, Cl. D23—35.

Zenith Radio Corp.: *See*—
Chuboff, David P., and Stevens. 217,648.

Zephyr Mfg. Co.: *See*—
Dotson, Donald L. 217,582.

CLASSIFICATION OF PATENTS

ISSUED MAY 19, 1970

NOTE.—First number, class; second number, subclass; third number, patent number

2— 67	3,512,179	29—125	3,512,237	52—197	3,512,321	73— 87	3,512,403	96— 49	3,512,978	124— 26	3,512,513
172	3,512,180	157.3	3,512,238	263	3,512,322	88	3,512,404	55	3,512,979	126— 21	3,512,514
195	3,512,181		3,512,239	309	3,512,323	116	3,512,405	61	3,512,980	25	3,512,515
279	3,512,182	183.5	3,512,221	506	3,512,324	144	3,512,406	66.4	3,512,981	263	3,512,516
3— 1	3,512,183	195	3,512,946	584	3,512,325	152	3,512,407	.5	3,512,982	127— 58	3,513,023
	3,512,184	.5	3,512,947	588	3,512,326	170	3,512,408	84	3,512,983	128— 2	3,512,517
4—110	3,512,185	200	3,512,240	612	3,512,327	178	3,512,409		3,512,984		3,512,518
172.12	3,512,186	202.5	3,512,241	617	3,512,328	194	3,512,410	114	3,512,985		3,512,519
185	3,512,187	252	3,512,242	665	3,512,329	202	3,512,411	98— 31	3,512,469		3,512,520
5— 99	3,512,188	434	3,512,243	677	3,512,330	295	3,512,412	101	3,512,470	.08	3,512,521
327	3,512,189	454	3,512,244	687	3,512,331	341	3,512,413	99— 2	3,512,986	53	3,512,522
345	3,512,190	471.1	3,512,245	53— 30	3,512,332	349	3,512,414	48	3,512,987	75	3,512,523
	3,512,191	525	3,512,246	61	3,512,333	368.2	3,512,415		3,512,988	216	3,512,524
	3,512,192	527.4	3,512,250	112	3,512,334	379	3,512,416	81	3,512,989	229	3,512,525
8— 4	3,512,913	.6	3,512,247		3,512,335		3,512,417		3,512,990	239	3,512,526
7	3,512,914	573	3,512,248	164	3,512,336	422	3,512,418	86	3,512,991	261	3,512,527
8	3,512,915	588	3,512,249	196	3,512,337	74— 5	3,512,419	91	3,512,992	285	3,512,528
17	3,512,916	597	3,512,251	390	3,512,338	25	3,512,420	108	3,512,993	287	3,512,529
34	3,512,917	601	3,512,252	54— 48	3,512,339	89.15	3,512,421	118	3,512,994	290	3,512,530
94.24	3,512,918	603	3,512,253	55— 5	3,512,340	107	3,512,422	134	3,512,995	308.1	3,512,531
100	3,512,919	620	3,512,254	71	3,512,341	125.5	3,512,423	171	3,512,996	522	3,512,532
115.7	3,512,920	624	3,512,255	56— 25.4	3,512,343	255	3,512,424	175	3,512,997	130— 27	3,512,533
116.2	3,512,921	30— 32	3,512,256		3,512,344	388	3,512,425	212	3,512,998		3,512,534
	3,512,922	32— 14	3,512,257	27	3,512,345	459	3,512,426	246	3,512,471		3,512,535
142	3,512,923	31	3,512,258	30	3,512,342	471	3,512,427	403	3,512,472	131— 2	3,512,536
155.2	3,512,193	69	3,512,259	44	3,512,346	473	RE.26,884	407	3,512,473	9	3,512,537
9—308	3,512,194	33— 46	3,512,260	208	3,512,347	491	3,512,428	100—118	3,512,474	10	3,512,538
310	3,512,195	169	3,512,261	226	3,512,348	503	3,512,429	170	3,512,475	134— 22	3,513,024
342	3,512,196	178	3,512,262	364	3,512,349	713	3,512,430	270	3,512,476	24	3,513,025
12— 4.2	3,512,197	203.13	3,512,263	57— 18	3,512,350	75— 1	3,512,956	101— 23	3,512,477	27	3,513,026
103	3,512,198	226	3,512,264	58— 23	3,512,351	49	3,512,957	38	3,512,478	136	3,512,539
117.4	3,512,199	34— 10	3,512,265		3,512,352	84	3,512,958	232	3,512,479	167	3,512,540
13— 14	3,513,245	42	3,512,266	90	3,512,353	87	3,512,959	102— 64	3,512,480	135— 58	3,512,541
15— 3.17	3,512,200	48	3,512,267		3,512,354	128	3,512,960	104— 23	3,512,481	136— 83	3,513,027
23	3,512,201	108	3,512,268	145	3,512,355	165	3,512,961	105—224.1	3,512,482	86	3,513,028
	3,512,202	35— 9	3,512,269	59— 8	3,512,356	170	3,512,962	377	3,512,483		3,513,029
229	3,512,203	10	3,512,271	60— 36	3,512,357	171	3,512,963	378	3,512,484		3,513,030
230.16	3,512,204	.2	3,513,246		3,512,358	201	3,512,964	106— 20	3,512,999		3,513,031
250.34	3,512,205	11	3,512,270	39.74	3,512,359	76—107	3,512,431	31	3,513,000		3,513,032
346	3,512,206	35	3,512,272	52	3,512,360	77— 5	3,512,432	38.5	3,513,001	107	3,513,033
361	3,512,207	66	3,512,273	54.5	3,512,361	7	3,512,433	50	3,513,002	134	3,513,034
368	3,512,208	36— 2.5	3,512,274	202	3,512,362		3,512,434	52	3,513,003	238	RE.26,886
16—105	3,512,209	59	3,512,275	61— 13	3,512,363	83— 71	3,512,435	54	3,513,004	137— 15	3,512,554
139	3,512,210	37— 2	3,512,276	45	3,512,364	100	3,512,436	277	3,513,005	45	3,512,555
164	3,512,211	8	3,512,277	53.52	3,512,365	174	3,512,437	297	3,513,006	71	3,512,556
189	3,512,212		3,512,278	.64	3,512,366	209	3,512,438	300	3,513,007	81.5	3,512,557
17— 32	3,512,213	43	3,512,279	72.3	3,512,367	242	3,512,439		3,513,008		3,512,558
18— 8	3,512,214	57	3,512,280	62— 21	3,512,368	491	3,512,440	107— 1	3,512,485	98	3,512,559
12	3,712,215	58	3,512,281	55.5	3,512,369	571	3,512,441	108— 13	3,512,486	102	3,512,560
19—105	3,512,217	101	3,512,282	64	3,512,370	84— 1.18	3,513,247	23	3,512,487	115	3,512,542
156.3	3,512,218	117.5	3,512,283	148	3,512,371	243	3,512,442	110—119	3,512,488	119	3,512,543
21— 87	3,512,924	141	3,512,284	156	3,512,372	258	3,512,444	111— 34	3,512,489	183	3,512,544
23— 2	3,512,925	38—144	3,512,285	228	3,512,373	313	3,512,443	112—235	3,512,490	216	3,512,545
52	3,512,926	40— 2.2	3,512,286	503	3,512,374	471	3,512,445	252	3,512,491	312	3,512,546
88	3,512,927	124	3,512,287	64— 7	3,512,375	85— 9	3,512,446	114— .5	3,512,492	329.3	3,512,547
91	3,512,928	129	3,512,288	65— 11	3,512,948	61	3,512,447	53	3,512,493	344	3,512,548
115	3,512,929	301	3,512,289	159	3,512,949	75	3,512,448	61	3,512,494	489	3,512,549
145	3,512,930	42— 75	3,512,290	182	3,512,950	89—169	3,512,449	235	3,512,495	504	RE.26,880
153	3,512,931	43— 12	3,512,291	252	3,512,951	90— 28.1	3,512,450	115— .5	3,512,496	553	3,512,550
190	3,512,932	17.2	3,512,292	271	3,512,952	62	3,512,451	116— 55	3,512,497	599.1	3,512,551
202	3,512,933	22	3,512,293	287	3,512,953	91— 3	3,512,452	114	3,512,498	627.5	3,512,552
209.4	3,512,934	44.98	3,512,294	66— 14	3,512,376	411	3,512,453	129	3,512,499	635	3,512,553
.9	3,512,935	57.5	3,512,295	36	3,512,377	461	3,512,454	117— 10	3,513,009	142— 37	3,512,561
230	3,512,936	85	3,512,296	84	3,512,378	92— 31	3,512,455	11	3,513,010	144— 13	3,512,562
232	3,512,937	46— 1	3,512,297	68—240	3,512,379	93— 8	3,512,456	17	3,513,011	117	3,512,563
252	3,512,938	3	3,512,298	70— 19	3,512,380		3,512,457		3,513,012	146—119	3,512,564
254	3,512,939	53	3,512,299	107	3,512,381	37	3,512,458	31	3,513,013	148— 1.5	3,513,035
259	3,512,940	75	RE.26,882	276	3,512,382	51	3,512,459	46	3,513,014	12	3,513,036
.2	3,512,941	103	3,512,300	71— 66	3,512,954	94— 5	3,512,460	47	3,513,015	13	3,513,037
260	3,512,942	175	3,512,301	103	3,512,955	44	3,512,461	62	3,513,016	19	3,513,038
267	3,512,943	49—139	3,512,302	72— 22	3,512,383	95— 4.5	3,512,462	94	3,513,017	111	3,513,039
277	3,512,219	309	3,512,303	56	3,512,384	10	3,512,463	102	3,513,018	178	3,513,040
288	3,512,220	501	3,512,304	59	3,512,385	11	3,512,464	123	3,513,019		3,513,041
292	3,512,944	503	3,512,305	189	3,512,386		3,512,465	138.8	3,513,020	187	3,513,042
312	3,512,945	51— 95	3,512,306	225	3,512,388	31	3,512,466	201	3,513,021	149— 19	3,513,043
24— 73	3,512,222	170	3,512,307	250	3,512,389	93	3,512,467	212	3,513,022	87	3,513,044
123	3,512,223		3,512,308	322	3,512,390	94	3,512,468	215	RE.26,885	151— 28	3,512,565
141	3,512,224	218	3,512,309	361	3,512,391	96— 1	3,512,965	118— 5	3,512,500	152—209	3,512,566
203	3,512,225	277	3,512,310	389	3,512,392		3,512,966	405	3,512,501		3,512,567
224	3,512,226	295	RE.26,879	455	3,512,387		3,512,967	624	3,512,502	361	3,512,568
243	3,512,227	334	3,512,311	73— 23	3,512,393	.2	3,512,968	119— 5	3,512,503	156— 55	3,513,045
	3,512,228	338	3,512,312	54	3,512,394	27	3,512,969	14.54	3,512,504	72	3,513,046
280	3,512,229	52— 28	3,512,313		3,512,395	35.1	3,512,970	51	3,512,505	96	3,513,047
28— 1.2	3,512,230	29	3,512,314	57	3,512,396		3,512,971	122—356	3,512,506	98	3,513,048
.6	3,512,231	67	3,512,315	61	3,512,397	48	3,512,972	382	3,512,507	180	3,513,049
75	3,512,232	92	3,512,316	.1	3,512,398		3,512,973	123—119	3,512,508	196	3,513,050
29— 25.13	3,512,233	99	3,512,317	67.5	3,512,399		3,512,974		3,512,509	242	3,513,051
	3,512,234	100	3,512,318		3,512,400		3,512,975	127	3,512,510	251	3,513,052
95.1	3,512,235	160	3,512,319	.7	3,512,401		3,512,976	131	3,512,511	264	3,513,053
105	3,512,236	172	3,512,320	71.4	3,512,402		3,512,977	124— 24	3,512,512	292	3,513,054

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309 : 3,513,056	67 : 3,513,274	54 : 3,512,693	438 : 3,513,107	617 : 3,513,205	22 : 3,512,837
333 : 3,513,057	146 : 3,513,275	91 : 3,512,694	455 : 3,513,108	618 : 3,513,206	299– 86 : 3,512,838
388 : 3,513,058	148 : 3,513,276	110 : 3,512,678	462 : 3,513,109	654 : 3,513,207	300– 21 : 3,512,839
446 : 3,513,059	3,513,277	229– 16 : 3,512,695	254– 8 : 3,512,755	666 : 3,513,208	301– 37 : 3,512,840
159– 16 : 3,512,569	156 : 3,513,278	30 : 3,512,696	93 : 3,512,756	3,513,209	302– 51 : 3,512,841
48 : 3,512,570	202–173 : 3,513,075	37 : 3,512,823	135 : 3,512,757	3,513,210	66 : 3,512,842
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21 : 3,513,061	29 : 3,513,077	44 : 3,512,698	19 : 3,512,759	674 : 3,513,212	21 : 3,512,844
3,513,062	49 : 3,513,078	45 : 3,512,699	32 : 3,512,760	3,513,213	22 : 3,512,845
22 : 3,513,063	204– 1 : 3,513,079	53 : 3,512,700	260– 2 : 3,513,111	679 : 3,513,214	84 : 3,512,846
92 : 3,513,064	.38 : 3,513,080	54 : 3,512,701	.5 : 3,513,110	680 : 3,513,215	307– 89 : 3,513,327
93 : 3,513,065	130 : 3,513,081	73 : 3,512,702	3,513,112	3,513,216	108 : 3,513,328
165 : 3,513,066	148 : 3,513,082	234– 33 : 3,512,704	3,513,113	683 : 3,513,217	223 : 3,513,329
162– 76 : 3,513,068	181 : 3,513,083	69 : 3,512,705	8 : 3,513,114	.15: 3,513,218	225 : 3,513,330
129 : 3,513,069	206– 16 : 3,512,631	235– 30 : 3,512,706	21 : 3,513,115	.53: 3,513,219	241 : 3,513,331
164– 37 : 3,512,571	46 : 3,512,632	51 : 3,512,707	22 : 3,513,117	.59: 3,513,220	252 : 3,513,332
41 : 3,512,572	52 : 3,512,633	58 : 3,512,708	23 : 3,513,116	830 : 3,513,221	273 : 3,513,333
82 : 3,512,573	3,512,634	61.11: 3,513,298	3,513,118	836 : 3,513,222	296 : 3,513,334
89 : 3,512,574	3,512,635	3,513,299	28.5 : 3,513,119	838 : 3,513,223	308– 2 : 3,512,847
157 : 3,512,575	79 : 3,512,636	78 : 3,512,709	29.6 : 3,513,120	872 : 3,513,224	5 : 3,512,848
323 : 3,512,576	208– 46 : 3,513,084	150.2 : 3,513,300	.7 : 3,513,121	3,513,225	6 : 3,512,849
165– 1 : 3,512,577	60 : 3,513,085	.53: 3,513,301	33.8 : 3,513,122	876 : 3,513,226	9 : 3,512,850
26 : 3,512,578	112 : 3,513,086	151.1 : 3,513,302	37 : 3,513,123	887 : 3,513,227	10 : 3,512,851
3,512,579	143 : Re.26,883	160 : 3,513,303	45.9 : 3,513,124	261– 25 : 3,512,761	3,512,852
36 : 3,512,580	159 : 3,513,087	236– 34 : 3,512,710	47 : 3,513,125	87 : 3,512,762	36.1 : 3,512,853
81 : 3,512,581	189 : 3,513,088	239– 25 : 3,512,711	51.5 : 3,513,126	141 : 3,512,763	160 : 3,512,854
105 : 3,512,582	310 : 3,513,089	63 : 3,512,712	52 : Re.26,881	263– 32 : 3,512,764	184 : 3,512,855
166– .5 : 3,512,583	209– 74 : 3,512,637	127 : 3,512,713	67 : 3,513,128	34 : 3,512,765	3,512,856
57 : 3,512,584	3,512,638	168 : 3,512,714	72 : 3,513,129	264– 25 : 3,513,228	3,513,480
245 : 3,512,585	210– 19 : 3,513,090	189 : 3,512,715	75 : 3,513,130	28 : 3,513,229	310– 11 : 3,513,335
273 : 3,512,586	3,513,091	265.29: 3,512,716	3,513,131	108 : 3,513,067	3,513,336
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3,512,591	3,512,642	546 : Re.26,889	3,513,135	267– 1 : 3,512,768	156 : 3,513,341
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3,513,251	169 : 3,512,646	41.3 : 3,513,306	.5 : 3,513,139	57 : 3,512,772	234.5 : 3,512,858
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	3,512,795		3,512,783		3,512,978		3,512,922		3,513,473		3,513,178
	3,513,156		3,512,793		3,512,980		3,512,943	40	: 3,512,229		3,513,229
	3,513,378		3,512,804		3,512,994		3,512,944		3,512,266		3,513,325
20	: 3,512,237		3,512,831		3,513,022		3,512,968		3,512,284	48	: 3,512,196
	3,512,339		3,512,844		3,513,031		3,512,973		3,512,368		3,512,206
	3,512,347		3,512,846		3,513,034		3,512,982		3,512,418		3,512,277
	3,512,348		3,512,915		3,513,038		3,512,985		3,512,583		3,512,394
	3,512,487		3,512,947		3,513,048		3,512,987		3,512,711		3,512,399
	3,512,543		3,512,990		3,513,071		3,512,991		3,512,787		3,512,407
	3,512,550		3,513,134		3,513,091		3,513,009		3,512,801		3,512,421
	3,512,683		3,513,155		3,513,096		3,513,019		3,512,841		3,512,486
	3,512,828		3,513,196		3,513,108		3,513,020		3,512,851		3,512,544
	3,513,149		3,513,301		3,513,110		3,513,030		3,512,911		3,512,560
	3,513,233		3,513,327		3,513,118		3,513,063		3,513,043		3,512,570
21	: 3,512,514		3,513,355		3,513,119		3,513,081		3,513,056		3,512,585
	3,512,634		3,513,372		3,513,136		3,513,095		3,513,087		3,512,592
	3,513,085		3,513,377		3,513,157		3,513,102		3,513,100		3,512,739
	3,513,479		3,513,404		3,513,158		3,513,104		3,513,132		3,512,753
22	: 3,512,473		3,513,428		3,513,176		3,513,126		3,513,141		3,512,840
	3,512,492		3,513,465		3,513,179		3,513,183		3,513,147		3,512,934
	3,512,554	27	: 3,512,180		3,513,198		3,513,185		3,513,152		3,512,935
	3,512,598		3,512,253		3,513,201		3,513,246		3,513,215		3,512,989
	3,512,621		3,512,279		3,513,204		3,513,258		3,513,219		3,513,016
	3,512,650		3,512,355		3,513,208		3,513,323		3,513,319		3,513,076
	3,512,811		3,512,405		3,513,214		3,513,328		3,513,326		3,513,216
	3,513,010		3,512,414		3,513,223		3,513,333		3,513,383		3,513,283
	3,513,092		3,512,439		3,513,224		3,513,337		3,513,460		3,513,287
	3,513,130		3,512,460		3,513,225		3,513,339		3,513,468		3,513,288
	3,513,291		3,512,555		3,513,231		3,513,345	41	: 3,512,288		3,513,375
23	: 3,512,842		3,512,563		3,513,245		3,513,353		3,512,427		3,513,379
	3,513,072		3,512,643		3,513,297		3,513,365		3,512,600		3,513,463
24	: 3,512,255		3,512,661		3,513,344		3,513,381		3,512,880	49	: 3,512,472
	3,512,480		3,512,779		3,513,347		3,513,415		3,513,248		3,512,806
	3,512,498		3,512,883		3,513,364		3,513,435		3,513,420		3,513,051
	3,512,522		3,512,892		3,513,374		3,513,447	42	: Re.26,884	50	: 3,512,252
	3,512,579		3,512,981		3,513,398		3,513,449		Re.26,886	51	: 3,512,488
	3,512,712		3,513,021		3,513,403		3,513,458		3,512,216		3,512,496
	3,512,730		3,513,188		3,513,405		3,513,466		3,512,226		3,512,505
	3,512,736	29	: Re.26,885		3,513,406		3,513,467		3,512,231		3,512,538
	3,512,854		3,512,275		3,513,421		3,513,470		3,512,259		3,512,728
	3,512,888		3,512,314		3,513,439	37	: 3,512,203		3,512,273		3,512,882
	3,512,908		3,512,344		3,513,452		3,512,920		3,512,300		3,512,887
	3,512,942		3,512,469	35	: 3,512,864		3,512,941		3,512,319		3,512,909
	3,513,125		3,512,482	36	: Re.26,879		3,513,260		3,512,334		3,513,166
	3,513,127		3,512,569		3,512,182	39	: Re.26,880		3,512,338		3,513,236
	3,513,129		3,512,664		3,512,187		3,512,183		3,512,393		3,513,407
	3,513,314		3,512,673		3,512,199		3,512,204		3,512,412	53	: Re.26,881
	3,513,343		3,512,676		3,512,205		3,512,208		3,512,424		3,512,336
	3,513,412		3,512,686		3,512,215		3,512,213		3,512,494		3,512,370
	3,513,471		3,512,718		3,512,218		3,512,222		3,512,540		3,512,479
25	: 3,512,198		3,512,720		3,512,223		3,512,247		3,512,573		3,512,485
	3,512,224		3,512,809		3,512,225		3,512,257		3,512,591		3,512,548
	3,512,240		3,512,955		3,512,241		3,512,294		3,512,638		3,512,562
	3,512,274		3,513,097		3,512,244		3,512,298		3,512,652		3,512,667
	3,512,359		3,513,139		3,512,254		3,512,308		3,512,682		3,512,702
	3,512,400		3,513,213		3,512,280		3,512,356		3,512,708		3,512,757
	3,512,462		3,513,311		3,512,287		3,512,374		3,512,767		3,512,954
	3,512,595	30	: 3,512,316		3,512,302		3,512,402		3,512,818		3,513,068
	3,512,689		3,512,620		3,512,307		3,512,428		3,512,826		3,513,321
	3,512,761		3,512,956		3,512,327		3,512,435		3,512,838	54	: Re.26,889
	3,512,771		3,513,443		3,512,375		3,512,449		3,512,853		3,513,189
	3,512,834	31	: 3,512,283		3,512,390		3,512,459		3,512,916		3,513,237
	3,512,848		3,512,750		3,512,432		3,512,481		3,512,953	55	: 3,512,201
	3,512,850		3,512,986		3,512,441		3,512,512		3,512,960		3,512,202
	3,512,927		3,513,399		3,512,452		3,512,575		3,512,970		3,512,304
	3,512,969	32	: 3,512,363		3,512,458		3,512,597		3,513,050		3,512,379
	3,512,972		3,512,444		3,512,478		3,512,599		3,513,053		3,512,392
	3,513,027		3,512,928		3,512,503		3,512,626		3,513,055		3,512,410
	3,513,080	33	: 3,512,474		3,512,506		3,512,668		3,513,098		3,512,437
	3,513,114		3,512,974		3,512,516		3,512,669		3,513,103		3,512,445
	3,513,257		3,513,424		3,512,518		3,512,700		3,513,122		3,512,475
	3,513,294		3,513,462		3,512,537		3,512,704		3,513,160		3,512,528
	3,513,313	34	: 3,512,190		3,512,549		3,512,725		3,513,169		3,512,627
	3,513,354		3,512,239		3,512,556		3,512,740		3,513,190		3,512,697
	3,513,358		3,512,242		3,512,565		3,512,744		3,513,191		3,512,708
	3,513,369		3,512,270		3,512,582		3,512,747		3,513,199		3,512,756
	3,513,390		3,512,285		3,512,601		3,512,776		3,513,253		3,512,788
	3,513,394		3,512,296		3,512,615		3,512,778		3,513,275		3,512,827
	3,513,414		3,512,306		3,512,637		3,512,817		3,513,277		3,512,894
	3,513,425		3,512,309		3,512,640		3,512,858		3,513,284		3,512,900
	3,513,437		3,512,313		3,512,646		3,512,898		3,513,299		3,512,912
26	: 3,512,235		3,512,326		3,512,649		3,512,902		3,513,317		3,513,273
	3,512,236		3,512,330		3,512,672		3,512,903		3,513,332		3,513,444
	3,512,268		3,512,337		3,512,681		3,512,904		3,513,356	56	: 3,512,181
	3,512,295		3,512,366		3,512,701		3,512,914		3,513,361		3,512,289
	3,512,395		3,512,422		3,512,707		3,512,948		3,513,367		3,512,345

Design Patents

1	217,603	6	217,643	17	217,648	27	217,651	34	217,614	42	217,598
5	217,624		217,644		217,649		217,652		217,615	44	217,633
6	217,582	8	217,642	21	217,604		217,653		217,641	45	217,617
	217,593	9	217,613		217,605	34	217,584	36	217,590	47	217,629
	217,608	17	217,591		217,606		217,586		217,619	48	217,625
	217,609		217,594		217,607		217,587		217,634		217,637
	217,612		217,596	22	217,626		217,588	37	217,621	50	217,601
	217,620		217,597	25	217,592		217,589		217,622	53	217,583
	217,628		217,646	26	217,618		217,595		217,623	54	217,630
	217,639		217,647	27	217,650		217,602		217,635	55	217,631

Defensive Publications Applications

(Notice of Dec. 16, 1969, 869 O.G. 687)

36	T874,006	36	T874,007	36	T874,008	36	T874,009	36	T874,010	141	T874,005

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE
Official Gazette of the United States Patent Office

May 19, 1970 Volume 874 Number 3

TRADEMARKS
NOTICES

U.S. Department of Commerce Field Offices To Serve as Receiving Stations Only in Declared Emergencies

During the recent postal emergency, Field Offices of the U.S. Department of Commerce were designated as receiving stations for the U.S. Patent Office (according to the Notices of March 19, 1970, 872 O.G. 1383 and March 26, 1970, 873 O.G. TM 2). In view of the subsequent resumption of normal postal operations, that emergency arrangement was discontinued in accordance with the notice of March 27, 1970, 873 O.G. 319. After April 15, 1970, the normal practice with respect to the filing of all letters and other papers relating to patent and trademark matters in the U.S. Patent Office was resumed.

The Patent Office has received suggestions proposing that the Field Offices continue to serve as receiving stations for the U.S. Patent Office. These suggestions have received careful and sympathetic consideration. However, it has been concluded that any activities of the Field Offices in this connection must be restricted, in the future, to any emergency officially announced by the Patent Office as requiring such action.

RICHARD A. WAHL,
Acting Commissioner of Patents.

Apr. 27, 1970.

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Samuel Wm. Evans, d.b.a. DoAll Wood Plating Co., Canoga Park, Calif., Reg. No. 606,046. Canc. No. 9381.

Marjorie H. Herziger, assignee, by mesne assignment, of Milwaukee Lubricants Co., Milwaukee, Wis., Reg. No. 271,041, Canc. No. 9454.

Security Electronics, Inc., Omaha, Neb., Reg. No. 860,996. Canc. No. 9473.

Schloss Bros. & Co., Inc., assignee of Porter Clothing Co., Inc., Baltimore, Md., Reg. No. 269,758, Canc. No. 9501.

Maurice Babani, New York, N.Y., Reg. No. 362,335, Canc. No. 9510.

Ida Pearl Quarles, d.b.a. Mrs. Pearl Quarles, Akron, Ohio, Reg. No. 340,564, Canc. No. 9513.

Harold Cohen, d.b.a. Chok-A-Fizz Products Co., Chicago, Ill., Reg. No. 599,131, Canc. No. 9517.

JOHN H SCHNEIDER,
Assistant Commissioner of Patents.

CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	21,090
Date of oldest new application	January 24, 1969
Date of oldest amended application (filing date)	February 21, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4-4-69	11-9-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	1-24-69	10-20-66
(III) C. R. FOWLER, Classes 19, 21, 23, 26, 31, 34, 35, 36	9-4-69	2-21-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	3-21-69	11-15-66
Renewals (All Classes)	2-5-70	----------
Sec. 12(c) Publications (All Classes)	2-12-70	----------

Applications filed during the month of March 1970—2,908

Registrations Issued ---------- 292—No. 891,126 to No. 891,417
Renewals Issued ---------- 140

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 259,231. (See Reg. No. 284,266.)

Reg. No. 284,266 ("SCOVILL S" AND DESIGN), Scovill Manufacturing Company, Sheet brass and unfinished forgings; **Reg. No. 574,022** (S SCOVILL AND DESIGN), same, Brass pipe and plumbing supplies—namely, basin supply pipes, bath supply pipes, tank supply pipes, basin waste tubes, sink and tray waste tubes, extension tubes, trap offsets, tubular traps, anti-syphon traps, sink traps, waste and overflows, sink funnels, strainers, slip nuts, closet screws, tray plugs, flush tank fittings, and tank shelves; **Reg. No. 588,939** (SCOVILL AND LETTER S IN A DESIGN), same, Sheet brass, tubing stock, rod and wire stock, brass forgings; **Reg. No. 665,924** (SCOVILL), same, Aluminum, brass, bronze, copper and nickel silver mill products such as sheet and strip stock, either flat or coiled, tubing, rod, wire and special-shaped drawn products; **Reg. No. 672,709** (SCOVILL AND DESIGN), same; **Reg. No. 804,997**, same; **Reg. No. 850,616**, same, Stationery supplies made of metal—namely, devices for holding together sheets of paper or the like; **Reg. No. 865,194** (SCOVILL), same, Thumb tacks, blind rivets, slide fasteners, and tire valves and caps; **Reg. No. 872,478**, same, Magnets and electrical appliances—namely, food mixers, food blenders, coffee makers, food grinders, toasters, and irons; **Reg. No. 259,231** (HAMILTON BEACH), same, Electric drink mixers, electric vacuum cleaners, and electric motors for sewing machines; **Reg. No. 512,451**, same, Electrical apparatus—namely, drink mixers, food mixers, juice extractors, vacuum cleaners, glass washers, and electric motors for sewing machines and other fractional horsepower electric motors, **filed Feb. 3, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c250, *Scovill Manufacturing Company, etc. v. Dateline Electric Co., Ltd., etc.***

Reg. No. 512,451. (See Reg. No. 284,266.)

Reg. No. 574,022. (See Reg. No. 284,266.)

Reg. No. 588,939. (See Reg. No. 284,266.)

Reg. No. 665,924. (See Reg. No. 284,266.)

Reg. No. 672,709. (See Reg. No. 284,266.)

Reg. No. 685,666 (CHEMSEARCH), National Disinfectant Company, Cleaning compositions for building floors and walls; **Reg. No. 725,504** (NATIONAL CHEMSEARCH AND DESIGN), National Chemsearch Corporation of Texas, Liquid dust mop treatment that fireproofs mops; disinfectants, wetting agents, coolants, anti-corroding agents, fumigants, and industrial and institutional deodorants; **Reg. No. 725,717**, same, Industrial and institutional detergents, solvent degreaser, glass cleaner, soap, antiseptic lotion cleaner, sewer and drain pipe cleaners, sewerage system cleaners, and paint remover, **filed May 29, 1968,, D.C., N.D. Ohio (Toledo), Doc. C–68–165, *National Chemsearch Corp. v. Uni-Search Corp.*** Defendant permanently enjoined from infringing the above listed trademarks, Feb. 3, 1970.

Reg. No. 725,504. (See Reg. No. 685,666.)

Reg. No. 725,717. (See Reg. No. 685,666.)

Reg. No. 804,997. (See Reg. No. 284,266.)

Reg. No. 850,616. (See Reg. No. 284,266.)

Reg. No. 865,194. (See Reg. No. 284,266.)

Reg. No. 872,478. (See Reg. No. 284,266.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 296,494. Acoustron Corporation, Houston, Tex. Filed Apr. 25, 1968.

ACOUSTRON

Class 21—Electrical Apparatus, Machines, and Supplies

For Communication and Paging Transmitters, Receivers, and Antennas, and Systems and Components Therefor (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Audio Language and Stenographic Teaching Systems (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Recorders and Phonographs (Int. Cl. 9).

First use during or about December 1962.

SN 298,494. American Heritage Products, Inc., Portage, Ind. Filed May 20, 1968.

AMERICAN HERITAGE

Class 6—Chemicals and Chemical Compositions

For Air Freshener (Int. Cl. 5).

Class 52—Detergents and Soaps

For All Purpose Cleaner, Rug Shampoo, Window Cleaner, Laundry Cleaning Compound, and Liquid Cleaning Concentrate for Dishes and Glassware (Int. Cl. 3).

First use Feb. 15, 1968.

SN 305,259. Trans World Airlines, Inc., New York, N.Y. Filed Aug. 15, 1968.

GEORGE

Class 100—Miscellaneous

For Computerized Hotel Reservation Services (Int. Cl. 42).

Class 105—Transportation and Storage

For Computerized Car Rental and Airplane Reservation Services (Int. Cl. 39).

First use Apr. 19, 1968.

SN 305,488. Pitney-Bowes, Inc., Stamford, Conn. Filed Aug. 19, 1968.



Applicant disclaims exclusive right to the postmark circle and cancellation rectangle apart from the mark as shown.

Class 100—Miscellaneous

For Leasing of Postage Meters and Consulting Services in the Fields of Metered Mail, Mailing and Mail Handling (Int. Cl. 42).

Class 101—Advertising and Business

For Consulting Services and Designing of Advertising Dies for Mail Advertising (Int. Cl. 35).

First use at least as early as January 1942.

SN 311,811. American Uniform Company, Cleveland, Tenn. Filed Nov. 12, 1968.

DUST-TEX

Owner of Reg. Nos. 337,545 and 772,503.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Dust-Collecting Carpets (Int. Cl. 27).

Class 50—Merchandise Not Otherwise Classified

For Dust-Collecting Mats (Int. Cl. 27).

First use in or about 1956.

SN 315,653. El Fenix Corporation, d.b.a. El Fenix Restaurants, Dallas, Tex. Filed Dec. 19, 1968.



The drawing is lined for the color red, but no claim to color is made.

Class 46—Foods and Ingredients of Foods

For Canned and Bottled Hot Sauce, Chili Hot Dog Sauce, Tamales With Chili Gravy, Chili, and Enchilada Sauce (Int. Cl. 30).

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).

First use 1946.

SN 316,687. Simonsen Metal Products Corporation, Chicago, Ill. Filed Jan. 15, 1969.

SIMONSEN

Class 2—Receptacles

For Tool Boxes, Tote Boxes, Tote Trays, and Parts Bins (Int. Cl. 6).

Class 22—Games, Toys, and Sporting Goods

For Tackle Boxes (Int. Cl. 20).

Class 32—Furniture and Upholstery

For Mechanics' Chests, Machinists' Chests, Parts Cabinets, Mobile Tool Cabinets, and Stands for Chests (Int. Cl. 20).

First use 1931.

SN 319,096. Yamaha Hatsudoki Kabushiki Kaisha, Hamakita-shi, Shizuoka-ken, Japan. Filed Feb. 13, 1969.



Class 19—Vehicles

For Motorcycles, Snowmobiles, and Motorboats (Int. Cl. 12).
First use April 1963, in commerce April 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Outboard Motors for Motorboats (Int. Cl. 7).
First use March 1968; in commerce March 1968.

SN 320,168. McGraw-Edison Company, Elgin, Ill. Filed Feb. 26, 1969.

FOSTORIA

Owner of Reg. No. 571,936.

Class 21—Electrical Apparatus, Machines, and Supplies

For Rotisseries, Broilers, Fry Pans, Griddles, Table Ovens, Deep Fat Fryers, and Domestic Vacuum Cleaners (Int. Cls. 9 and 11).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Blenders, Mixers, Electric Knives, Can Openers, Electric Hair Clippers and Pet Clippers, Power-Driven Shoe Buffers, Power-Operated Shoe Polishing Kits, and Industrial Vacuum Cleaners (Int. Cls. 7 and 8).

Class 44—Dental, Medical, and Surgical Appliances

For Hand Vibrators, Hand Massagers, Scalp Massagers, Hair Dryers, and Hair Cutting Sets (Int. Cls. 8, 10, and 11).

First use 1936.

SN 330,076. Vitabath Inc., New York, N.Y. Filed June 16, 1969.

FOR FEET'S SAKE

Exclusive right to the use of the word "Feet" is disclaimed apart from the mark as shown.

Class 29—Brooms, Brushes, and Dusters

For Cosmetic Sponges With Abrasive Characteristics (Int. Cl. 21).

Class 51—Cosmetics and Toilet Preparations

For Cosmetic Foot Preparations—Namely, Refreshing and Deodorizing Sprays, Soothing and Deodorizing Creams, and Cosmetic Abrasive Creams (Int. Cls. 3 and 5).

First use Mar. 14, 1969.

SN 339,952. Richardson-Merrell Pty. Limited, Fairfield, New South Wales, Australia. Filed Oct. 7, 1969.

HERCO

Owner of Australian Reg. No. A72,887, dated July 30, 1938.

Class 51—Cosmetics and Toilet Preparations

For Hand Cream; Face, Hand and Body Lotions and Creams (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap and Hair Shampoos (Int. Cl. 3).

SN 342,573. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

ASTRO-SCOPE

Class 51—Cosmetics and Toilet Preparations

For Dusting Powder and Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Oct. 1, 1969.

SN 342,574. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

PATCHWORK QUILTS

Class 51—Cosmetics and Toilet Preparations

For Cologne and Dusting Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Oct. 1, 1969.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.
[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 308,474. Dublon, Incorporated, Newark, N.J. Filed Sept. 30, 1968.



For Plastic Compound in Liquid Form Adapted to Create a Foam Product When Heated or Cured (Int. Cl. 1).
First use Sept. 21, 1966.

SN 326,120. Pfister & Vogel Tanning Co., Inc., Milwaukee, Wis. Filed May 1, 1969.

PLAZA

For Leather (Int. Cl. 18).
First use on or about Dec. 15, 1968.

SN 326,335. Betfara Corp., Brooklyn, N.Y. Filed May 5, 1969.
For Synthetic Fibers (Int. Cl. 22).

ESTERLITE

First use Jan. 28, 1969.

SN 333,704. Fothergill and Harvey Limited, Summit, Littleborough, England. Filed July 28, 1969.

FLOMAT

Owner of British Reg. No. 852,894, dated Aug. 15, 1963.
For Materials (Non Textile) in Sheet Form, Made Wholly or Principally of Glass Fibres and Impregnated With Epoxy Resin for Use in Manufactures (Int. Cl. 21).

SN 335,445. Fiber Industries, Inc., Charlotte, N.C. Filed Aug. 14, 1969.



Owner of Reg. Nos. 702,735 and 813,284.
For Man-Made Fibers (Int. Cl. 22).
First use at least as early as February 1966; Feb. 2, 1960, in a different form.

SN 335,464. Nylon Engineering, Inc., Lowell, Mass. Filed Aug. 15, 1969.

POZNILON

For Nylon Resin (Int. Cl. 1).
First use Jan. 20, 1969.

SN 336,273. Ocean Leather Corp., Newark, N.J. Filed Aug. 13, 1969.

NOVELTAN

For Leather (Int. Cl. 18).
First use June 24, 1969.

SN 336,562. Exomet, Inc., Conneaut, Ohio. Filed Aug. 28, 1969.

EXOLITE

For Easily Ignitable Exothermic Material for Starting Charcoal Fires and the Like (Int. Cl. 4).
First use on or about Apr. 27, 1965.

Class 2—Receptacles

SN 317,248. Med-A-Safe, Beverly Hills, Calif. Filed Jan. 22, 1969.



The drawing is lined for the color red.
For Childproof Dispensers for Pharmaceuticals and the Like (Int. Cl. 20).
First use November 1968.

SN 319,927. The Mead Corporation, Dayton, Ohio. Filed Feb. 24, 1969.

CLUSTER-CLIP

Owner of Reg. Nos. 617,322, 839,796, and others.
For Paperboard Blanks for Packaging Bottles and the Like (Int. Cl. 16).
First use July 1968.

SN 325,670. S. E. Rykoff & Co., Los Angeles, Calif. Filed Apr. 28, 1969.

SERCO
CO-POLY

Owner of Reg. Nos. 669,679, 770,093, and 798,347.
For Plastic Bags Suitable for Use as Refuse Containers, as Container Liners, and for Similar Purposes (Int. Cl. 20).
First use Feb. 26, 1969.

SN 326,900. Mitsui & Co., Ltd., Minato-ku, Tokyo, Japan. Filed May 9, 1969.

HOM-AIDS

For Plastic Garbage Bags and Plastic Food Bags (Int. Cl. 21).
First use Mar. 1, 1969; in commerce Mar. 1, 1969.

SN 327,691. Lawrence E. Smithers, Silver Spring, Md. Filed May 19, 1969.

SANI-WAY

For Refuse Receptacle (Int. Cl. 21).
First use May 1, 1955.

SN 334,760. Growth International Industries Corp., Cleveland, Ohio, by merger and change of name from Bennett Industries, Inc., Peotone, Ill. Filed Aug. 8, 1969.

BENNETT

For Shipping Containers (Int. Cl. 20).
First use during or about 1946.

SN 342,884. NVF Company, Wilmington, Del. Filed Nov. 6, 1969.

DURALAST

For Molded Plastic Containers Used by Manufacturers for Transportation of Products or Material (Int. Cl. 20).
First use Oct. 6, 1969.

SN 343,574. Monsanto Company, St. Louis, Mo. Filed Nov. 14, 1969.

LOPLAX

For Rigid Plastic Containers With Gas Barrier Properties (Int. Cl. 20).
First use Oct. 18, 1969.

SN 344,402. Mipro Corporation, South San Francisco, Calif. Filed Nov. 24, 1969.

DROP-AWAY

For Trash Receptacles (Int. Cl. 21).
First use Oct. 13, 1969.

SN 344,952. Container Corporation of America, Chicago, Ill. Filed Dec. 1, 1969.

FRIGIPAK

For Containers and Cartons Made of Paperboard (Int. Cl. 16).
First use May 1, 1944.

SN 345,019. Scott Paper Company, Philadelphia, Pa. Filed Dec. 1, 1969.

CAPER

For Plastic Drinking Cups (Int. Cl. 21).
First use Jan. 3, 1969.

SN 345,022. Scott Paper Company, Philadelphia, Pa. Filed Dec. 1, 1969.

THERMO/SEVEN

For Plastic Drinking Cups (Int. Cl. 21).
First use Oct. 11, 1969.

SN 345,219. Union Carbide Corporation, New York, N.Y. Filed Dec. 3, 1969.

ALPHA

For Plastic Bags (Int. Cl. 20).
First use on or about July 14, 1969.

SN 345,721. Hankscraft Company, Reedsburg, Wis. Filed Dec. 9, 1969.

CRIB SET

For Plastic Feeding Dishes (Int. Cl. 21).
First use July 1967.

SN 345,880. Union Camp Corporation, Wayne, N.J. Filed Dec. 10, 1969.

BISON

For Grocery Bags (Int. Cl. 16).
First use Nov. 10, 1969.

SN 346,484. Keyes Fibre Company, Waterville, Maine. Filed Dec. 17, 1969.

KYS-GLAS

Owner of Reg. No. 408,909.
For Plastic Trays (Int. Cl. 21).
First use Sept. 22, 1969.

SN 346,485. Keyes Fibre Company, Waterville, Maine. Filed Dec. 17, 1969.

KYS-CORK

The word "Cork" is disclaimed apart from the mark as shown. Owner of Reg. No. 408,909.
For Cork-Surfaced Plastic Trays (Int. Cl. 21).
First use July 30, 1969.

SN 347,292. Love Box Company, Inc., Wichita, Kans. Filed Dec. 29, 1969.

RAIN-COTE

For Cardboard Boxes (Int. Cl. 16).
First use Aug. 1, 1969.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 321,398. New York Wire Works Limited, Montreal, Quebec, Canada. Filed Mar. 11, 1969.

PORTA-KENNEL

Priority claimed under Sec. 44(d) on Canadian application filed Oct. 31, 1968; Reg. No. 163,938, dated July 11, 1969.
For Carriers for the Housing and Transportation of Animals (Int. Cl. 6).
First use Dec. 16, 1968; in commerce Dec. 16, 1968.

SN 327,386. Jay Plastic Inc., Bayshore, N.Y. Filed May 15, 1969.

UP

For Plastic Card Holders and Plastic Wallet Inserts, Sold as Components of Wallets (Int. Cl. 18).
First use Feb. 10, 1967.

SN 329,323. Adidas-Fabrique de Chaussures de Sport, Landersheim, France. Filed June 6, 1969.

SOFTPROTECT

For Articles of Baggage, in Particular, Hand Bags and Shoulder Bags (Int. Cl. 18).
First use October 1967; in commerce October 1967.

SN 330,282. Hartmann Luggage Company, Lebanon, Tenn. Filed June 17, 1969.

DISPATCHE

For Hand Luggage—Namely, Overnight Cases and Suit Cases (Int. Cl. 18).
First use Apr. 10, 1969.

SN 330,283. Hartmann Luggage Company, Lebanon, Tenn. Filed June 17, 1969.

TOTE-TACHE

For Hand Luggage (Int. Cl. 18).
First use Apr. 10, 1969.

Class 4—Abrasives and Polishing Materials

SN 320,796. Clevepak Corporation, New York, N.Y. Filed Mar. 5, 1969.

GRIT-GARD

For Abrasive Tubes or Sleeves and Coverings Therefor (Int. Cl. 3).
First use Nov. 12, 1968.

SN 328,593. J. A. Sexauer Mfg. Co., Inc., White Plains, N.Y. Filed May 28, 1969.

SEXAUER PRODUCTS

Applicant disclaims the word "Products" apart from the mark as shown. Owner of Reg. Nos. 375,977, 861,261, and others.
For Polish for Closet Bowls, Porcelain, Enamel, and the Like (Int. Cl. 3).
First use during 1966; 1921 as to "Sexauer."

Class 5—Adhesives

SN 328,307. Kasen Industries, Newark, N.J. Filed May 26, 1969.

"TIMBER"

For Adhesive Pressure Sensitive Tape (Int. Cl. 16).
First use Jan. 17, 1969.

SN 340,017. Impact Plastics, Incorporated, Gastonia, N.C. Filed Oct. 7, 1969.

MARK I

For Pressure Sensitive Tape (Int. Cl. 17).
First use Dec. 20, 1968.

SN 342,816. Arid Sand Company, Inc., Akron, Ohio. Filed Nov. 6, 1969.

ARIDRY

Owner of Reg. No. 671,656.
For Foundry Sand Bonding Agent (Int. Cl. 1).
First use on or about July 1, 1966.

SN 344,408. Morgan Adhesives Company, Stow, Ohio. Filed Nov. 24, 1969.

TacKit

For Double Faced Adhesive Strip for Securing Articles in Position (Int. Cl. 17).
First use Oct. 22, 1969.

SN 346,521. Tanner Chemical Co., Inc., Greenville, S.C. Filed Dec. 17, 1969.

MOBILBOND

For Wood Adhesive for Use in the Mobile Home Industry (Int. Cl. 1).
First use Mar. 16, 1967.

SN 347,331. Shuford Mills, Inc., Hickory, N.C. Filed Dec. 29, 1969.

COLONIAL

For Pressure Sensitive Tape (Int. Cl. 17).
First use March 1963.

Class 6—Chemicals and Chemical Compositions

SN 289,342. Shin-Etsu Chemical Company, Chiyoda-ku, Tokyo, Japan. Filed Jan. 22, 1968.

PHARMACOAT

For Hydroxypropyl Methyl Cellulose for Use in the Manufacture of Pharmaceutical Preparations (Int. Cl. 1).
First use Nov. 18, 1967; in commerce Nov. 18, 1967.

SN 295,284. Metabolic Research Foundation, Inc., Houston, Tex. Filed Apr. 10, 1968.

CHEMISTROL

For Liquid Reagents To Be Utilized as a Laboratory Standard Having Known Compositions With Which Unknown Samples May Be Compared and/or Conformed for the Purpose of Providing Quality Control of Testing and Formulation in Clinical Biochemistry (Int. Cl. 1).
First use Feb. 23, 1968.

SN 314,620. S-K-H Corporation, Lindsay, Calif. Filed Dec. 16, 1968.

S-K-H

For Agricultural Sticker-Spreader Composition for Use With Agricultural Insecticides and Herbicides (Int. Cl. 1).
First use May 23, 1966.

SN 318,738. Ashland Oil & Refining Company, Ashland, Ky. Filed Feb. 10, 1969.

KELEX

For Reagent for Solvent Extraction of Metals From Ores, Including the Extraction of Copper From Copper Ore (Int. Cl. 1).
First use May 1, 1968.

SN 319,133. Colloidal Products Corporation, Sausalito, Calif. Filed Feb. 14, 1969.

BUFFER-X

Owner of Reg. No. 761,534.
For Spreader-Activator and Buffer for Agricultural Sprays (Int. Cl. 1).
First use Aug. 1, 1962.

SN 319,292. Dockside Research, Inc., New York, N.Y. Filed Feb. 17, 1969.

FASHION GARD

For Stain Repellent for Fabrics (Int. Cl. 1).
First use Feb. 13, 1969.

SN 319,293. Dockside Research, Inc., New York, N.Y. Filed Feb. 17, 1969.

TIE GARD

The word "Tie" is disclaimed from the mark as shown.
For Stain Repellent for Fabrics (Int. Cl. 1).
First use Feb. 13, 1969.

SN 324,179. Cotey Chemical Corporation, Lubbock, Tex. Filed Apr. 10, 1969.

MUD-NOX

For Mud-Drilling Additive—Namely, a Liquid Blend of Wetting Agents and Emulsifiers (Int. Cl. 1).
First use June 5, 1968.

SN 325,903. Thompson-Hayward Chemical Company, Kansas City, Kans. Filed Apr. 29, 1969.

DE-FEND

For Agricultural Insecticides (Int. Cl. 5).
First use Nov. 30, 1968.

SN 327,305. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company, New York, N.Y. Filed May 14, 1969.

LIQUEFASE

For Solubilizing Enzymes for Use in Industrial Applications (Int. Cl. 1).
First use Mar. 7, 1969.

SN 332,469. Fitzgerald Enterprises, Inc., Oakland, Calif. Filed July 14, 1969.

MYSTIC

For Photographic Chemical Compositions (Int. Cl. 1).
First use Feb. 1, 1969.

SN 333,169. National Foam System, Inc., West Chester, Pa. Filed July 22, 1969.

NATIONAL

Owner of Reg. Nos. 554,029 and 596,683.
For High Expansion Fire Extinguishing Foam Liquid (Int. Cl. 1).
First use December 1964.

SN 333,290. Norda Essential Oil & Chemical Company, Inc., New York, N.Y. Filed July 23, 1969.

GASLIGHT

For Essential Oils and Fragrances Used in the Manufacture of Perfumes and Cosmetics (Int. Cl. 3).
First use June 30, 1969.

SN 333,291. Norda Essential Oil & Chemical Company, Inc., New York, N.Y. Filed July 23, 1969.

TANGELO

For Essential Oils and Fragrances Used in the Manufacture of Perfumes and Cosmetics (Int. Cl. 3).
First use June 26, 1969.

SN 334,394. Sterwin Laboratories Inc., New York, N.Y. Filed Aug. 4, 1969.

WARDEN-50

Owner of Reg. No. 811,199.
For Disinfectant and Deodorant Preparation (Int. Cl. 5).
First use Apr. 9, 1969.

SN 335,278. Vigilant Products Company, Inc., Carlstadt, N.J. Filed Aug. 13, 1969.

AIR FREE

For Room Deodorizing Agent (Int. Cl. 5).
First use Mar. 1, 1969.

SN 335,731. American Cyanamid Company, Wayne, N.J. Filed Aug. 20, 1969.

IREX

For Infrared Absorbing Chemical (Int. Cl. 1).
First use Aug. 4, 1969.

Class 7—Cordage

SN 326,103. John Shaw Limited, Worksop, England. Filed May 1, 1969.



Applicant disclaims the pictorial representation of the wire rope apart from the mark as shown. Owner of British Reg. No. 659,081, dated May 14, 1947.
For Wire Ropes (Int. Cl. 6).

Class 8—Smokers' Artides, Not Including Tobacco Products

SN 323,534. Colibri Lighters Limited, London, England. Filed Apr. 3, 1969.

BENLOW

Owner of British Reg. No. B644,569, dated Feb. 6, 1946.
For Pyrophoric Lighters for Smokers, and Cigarette Cases (Not of Precious Metal or Coated Therewith) (Int. Cl. 34).

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 319,145. D & M Distributing Co., Inc., Homewood, Ala. Filed Feb. 14, 1969.

LANCE

For Small Arms Cartridge Cases, Sold Empty for Sportsmen (Int. Cl. 13).
First use Dec. 28, 1968.

SN 343,961. Electronic Specialty Co., Pasadena, Calif. Filed Nov. 19, 1969.

EEMCo

For Machine Gun Chargers, Machine Gun Drives, and Cartridge Ejectors (Int. Cl. 13).
First use on or before Feb. 28, 1967, on machine gun drives.

SN 346,054. Canadian Industries Limited, Montreal, Quebec, Canada. Filed Dec. 12, 1969.

LPV

Owner of Canadian Reg. No. 106,342, dated Apr. 12, 1957.
For Blasting Caps (Int. Cl. 13).

Class 10—Fertilizers

SN 338,134. Continental Oil Company, Ponca City, Okla. Filed Sept. 17, 1969.

TCF

For Fertilizer (Int. Cl. 1).
First use on about Mar. 8, 1968.

Class 11—Inks and Inking Materials

SN 334,131. Sun Chemical Corporation, New York, N.Y. Filed July 31, 1969.

FLEX VAC

For Printing Inks (Int. Cl. 2).
First use Apr. 15, 1969.

SN 334,133. Sun Chemical Corporation, New York, N.Y. Filed July 31, 1969.

PRINT LITH

For Printing Inks (Int. Cl. 2).
First use June 30, 1969.

Class 12—Construction Materials

SN 305,407. Keith Barry Critchlow, London, England. Filed Aug. 19, 1968.



Owner of British Reg. No. 917,588, dated Nov. 22, 1967.
For Prefabricated Buildings and Component Panels Therefor (Int. Cl. 19).

SN 305,905. The Alumiline Corporation, Pawtucket, R.I. Filed Aug. 26, 1968.



Owner of Reg. No. 739,610.
For Sliding Partitions Made of Metal and Glass (Int. Cl. 19).
First use on or about Aug. 14, 1968.

SN 312,907. Paulsel Lumber Company, Fort Worth, Tex. Filed Nov. 22, 1968.

Gyp-Sheet

For Construction Board for Exterior Sheeting To Be Covered by Outside Wall Surfaces (Int. Cl. 19).
First use Oct. 15, 1968.

SN 327,835. Cumberland Corporation, Chattanooga, Tenn. Filed May 21, 1969.



For Masonry Wall Metal Reinforcing—Namely, Trusses and Ladders Made From Embossed Rods (Int. Cl. 6).
First use at least as early as Sept. 11, 1968.

SN 328,566. Marvin T. Reed, d.b.a. Fastenna Mount, Portland, Oreg. Filed May 28, 1969.

FASTENNA

For Antenna Mounts (Int. Cl. 6).
First use Mar. 21, 1969.

SN 331,107. E. L. Bruce Co. (Incorporated), Memphis, Tenn. Filed June 27, 1969.

DORIC

For Prefinished Hardwood Moldings (Int. Cl. 19).
First use Nov. 9, 1968.

SN 345,670. Pre-Built Homes, Inc., Detroit, Mich. Filed Dec. 8, 1969.



For Houses and Similar Structures, Including Factory Completed Modules To Be Assembled Together on Site and Form a Complete Structure (Int. Cl. 19).
First use May 12, 1969.

SN 346,599. Boise Cascade Corporation, Boise, Idaho. Filed Dec. 18, 1969.

SILVERSPUN

For Ceiling Tileboard (Int. Cl. 19).
First use Oct. 7, 1968.

Class 13—Hardware and Plumbing and

SN 275,455. Numatics, Incorporated, Highland, Mich. Filed July 6, 1967.

VIGILANTE

For Two-Hand Safety Control System for a Fluid Power Unit Comprised of Hand-Operated Control Valves, Pilot-Operated Valves, Time-Delay Devices and Connecting Lines (Int. Cl. 7).
First use Apr. 7, 1967.

SN 306,329. Bar-O-Matic Sales Co., d.b.a. Bar-O-Matic Dispensers, Van Nuys, Calif. Filed Aug. 30, 1968.

BAR-O-MATIC

For Bar Dispensers, Parts Thereof and Accessories Therefor (Int. Cl. 6).
First use May 28, 1958.

SN 312,747. Bryce Berger Limited, Hucclecote, Gloucester, England. Filed Nov. 21, 1968.

BRYCE

Owner of British Reg. No. 765,539, dated May 14, 1957; and U.S. Reg. No. 858,886.
For Nozzles, Nozzle Holders, and Governors, all Being Parts of Fuel Injection Pumps (Int. Cl. 7).

SN 313,914. Dart Union Company, Providence, R.I. Filed Dec. 9, 1968.

SEA-LECT

For Valves, Fittings, Hose Adapters, Seacocks, Piping, Strainers, and Turnbuckles, all Designed Particularly for Marine Use (Int. Cl. 6).
First use in or about February 1968.

SN 314,613. Punch-Lok Company, Chicago, Ill. Filed Dec. 16, 1968.



"The Sign of a Good Hose Clamp"

No registration rights are claimed for the words "Hose Clamp" or the representation of the hose clamp apart from the mark as shown, but applicant waives none of its common law rights in the mark shown or any feature thereof.
For Clamps Made of Strip Steel for Hoses and Conduits and the Like (Int. Cl. 6).
First use Dec. 16, 1952.

SN 316,489. Valtek Incorporated, Provo, Utah. Filed Jan. 13, 1969.



The drawing is lined for the color red, but applicant makes no claim to colors.
For Industrial Valves (Int. Cl. 6).
First use July 1966.

SN 319,219. Zimmer Manufacturing Industries, Inc., Detroit, Mich. Filed Feb. 14, 1969.



Owner of Reg. No. 866,093.
For Fasteners (Int. Cl. 6).
First use Oct. 7, 1968.

SN 320,926. Ajax Hardware Corporation, City of Industry, Calif. Filed Mar. 6, 1969.

WIND-O-LOK

For Window Locking Devices (Int. Cl. 6).
First use Feb. 12, 1969.

SN 321,099. Textron Inc., Providence, R.I. Filed Mar. 7, 1969.

textron

For Slide Fasteners (Int. Cl. 6).
First use Feb. 19, 1969.

SN 322,078. The Midland Metal Spinning Company Limited, Wombourn, Wolverhampton, England. Filed Mar. 18, 1969.



Owner of British Reg. No. 917,629, dated Nov. 23, 1967.
For Domestic Utensils and Containers—Namely, Stewpans, Omelette Pans, Frypans, Milk Pans, Casseroles, Cake Tins, Baking Pans and Baking Sheets, Fish Friers, Teasets, Teapots, Jugs, Basins, Percolators, Kettles, Egg Poachers, Pressure Cookers, and Parts for These Goods (Int. Cl. 21).

SN 322,397. American Standard Inc., New York, N.Y. Filed Mar. 21, 1969.

TRIPLE CONCEPT

Owner of Reg. No. 748,308.
For Kitchen Sinks (Int. Cl. 6).
First use on or about Nov. 12, 1968.

SN 324,603. Henry A. Patnaude, Sacramento, Calif. Filed Apr. 15, 1969.

KURV-ANCHOR

For Anchors for Pool Covers and Other Industrial Purposes (Int. Cl. 6).
First use Feb. 26, 1969.

SN 324,752. Purolator, Inc., Rahway, N.J. Filed Apr. 16, 1969.

PUROFLEX HT

Owner of Reg. Nos. 211,610, 604,467, and others.
For Couplings, Connectors, Joints and Jointings for Ducts, Pipes, Conduits, Tubing, and Hoses (Int. Cl. 6).
First use Oct. 27, 1967.

SN 325,132. Elpo Industries, Inc., Fair Lawn, N.J. Filed Apr. 22, 1969.

HANG UPS

For Decorator Hooks (Int. Cl. 6).
First use Apr. 15, 1969.

SN 325,401. Scovill Manufacturing Company, Waterbury, Conn. Filed Apr. 23, 1969.

MACRO

For Dip Tubes for Aerosol Valves (Int. Cl. 6).
First use Nov. 5, 1968.

SN 325,896. Sealed Unit Parts Co., Inc., Allenwood, N.J. Filed Apr. 29, 1969.

FULL-FLOW

For Access Valve for Fluid Carrying Pipe (Int. Cl. 6).
First use Nov. 8, 1968.

SN 326,768. Industrial Sales Co., Inc., Baltimore, Md. Filed May 8, 1969.

RAPID-LINK

For Chain Connectors (Int. Cl. 6).
First use Mar. 21, 1969.

SN 327,796. Halliburton Company, d.b.a. Halliburton Services, Duncan, Okla. Filed July 9, 1969.

BIG INCH

For Pipe Manifold Systems and Components (Int. Cl. 6).
First use Apr. 7, 1969.

SN 330,357. Cole National Corporation, Cleveland, Ohio. Filed June 18, 1969.



For Key Rings and Key Chains (Int. Cl. 6).
First use on or about March 1966.

SN 332,100. Fuji Kinzoku Kosaku Kabushiki Kaisha (Fuji Metal Mfg. Co., Ltd.), Nishi-ku, Osaka, Japan. Filed July 9, 1969.

CARP

Owner of Japanese Reg. No. 337,555, dated Dec. 6, 1940.
For Valves (Int. Cl. 6).

SN 338,929. Reef-Baker Corporation, East Detroit, Mich. Filed Sept. 25, 1969.

Expello

Owner of Reg. No. 434,868.
For Automatic Condensation Valves (Int. Cl. 6).
First use Aug. 4, 1969; Oct. 19, 1945 in a different form.

SN 338,930. Reef-Baker Corporation, East Detroit, Mich. Sept. 25, 1969.

Thermo-Expello

Owner of Reg. No. 434,868.
For Automatic Condensation Valves (Int. Cl. 6).
First use July 2, 1969.

SN 340,050. Textron Inc., Providence, R.I. Filed Oct. 7, 1969.

PERMA-PULL

Owner of Reg. No. 600,271.
For Internally Tapped Fasteners (Int. Cl. 6).
First use July 31, 1969.

SN 340,056. Unipak, Inc., Boston, Mass. Filed Oct. 7, 1969.

PlumbERGENCY

For Hardware and Plumbing Supplies—Namely, Washing Machine Accessories; Pipe Fittings and Accessories; Faucets and Accessories; Bathroom and Shower Accessories; Copper Tubing and Accessories; Closet Tank Accessories; Clean-Out Wires; Shut-Off and Radiator Valves; Heating Specialties; Traps; Stove and Refrigerator Connectors; Door Stops; Caster Cups, and Furniture Tips (Int. Cls. 6 and 11).
First use June 12, 1968.

SN 340,490. American Standard Inc., New York, N.Y. Filed Oct. 13, 1969.

NU-RE-NU

For Faucets, Valves, Spouts, Trim, Plumbing Fittings (Int. Cls. 6 and 11).
First use on or about May 2, 1955.

SN 342,255. Four Seasons Industries, Ltd., Morton Grove, Ill. Filed Oct. 31, 1969.

Skiddle

For Metal Cookware (Int. Cl. 21).
First use July 24, 1969.

SN 348,474. Chemex Corporation, New York, N.Y. Filed Jan. 14, 1970.



Owner of Reg. Nos. 623,874, 754,610, and others.
For Coffeemakers (Int. Cl. 21).
First use Nov. 25, 1969; January 1941 in a different form.

Class 14—Metals and Metal Castings and Forgings

SN 304,193. Adamas Carbide Corporation, Kenilworth, N.J. Filed Aug. 2, 1968.

Titan-60

Owner of Reg. No. 770,220.
For Titanium Carbide Base Cutting Tool Stock (Int. Cl. 6).
First use July 18, 1968.

Class 16—Protective and Decorative Coatings

SN 310,078. Fuller Laboratories, Inc., Eden Prairie, Minn. Filed Oct. 21, 1968.

TRU-OIL

For Gun Stock Finishing Oil and Gun Stock Finishing Kit, Including Steel Wool Pad, Fine and Coarse Production Papers, and Finishing Oil (Int. Cl. 2).
First use 1952.

SN 330,641. Stafford-Reeves Inc., New York, N.Y. Filed June 20, 1969.

ACRYLART

For Acrylic Polymer Artists' Paints, Sold in Tubes (Int. Cl. 2).
First use Feb. 1, 1968.

SN 333,807. California Products Corporation, Cambridge, Mass. Filed July 29, 1969.

PRO-PAINT

For Polyvinyl Acetate Flat Paint for Interior Surfaces Such as Smooth Plaster, Asbestos Board, Dry Wall, Wallpaper, Woodwork, Masonry, Wallboards, Stucco, and Concrete (Int. Cl. 2).
First use May 3, 1960.

SN 334,584. Hancock Paint & Varnish Co., Norwell, Mass. Filed Aug. 6, 1969.



Owner of Reg. No. 258,549.
For Paints (In Paste and Ready-Mixed Form) and Varnishes (Int. Cl. 2).
First use July 17, 1967; Mar. 24, 1928, as to "Hancock."

SN 334,793. Standard T Chemical Company, Inc., Chicago, Ill. Filed Aug. 8, 1969.

STAN-BUFF

For Floor Finish in the Nature of a Protective Coating (Int. Cl. 2).
First use Apr. 3, 1969.

Class 17—Tobacco Products

SN 318,822. Reemtsma Cigarettenfabriken G.m.b.H, Hamburg, Germany. Filed S.R. Feb. 10, 1969; Am. P.R. Oct. 3, 1969.

COLLIE 62

Owner of German Reg. No. 760,886, dated Feb. 23, 1962.
For Cigarettes (Int. Cl. 34).

SN 338,012. Loew's Theatres, Inc., New York, N.Y. Filed Sept. 16, 1969.

GREAT SMOKIES

For Little Cigars (Int. Cl. 34).
First use July 31, 1969.

SN 349,420. American Brands, Inc., New York, N.Y. Filed Jan. 28, 1970.

MILLHILL

Owner of Reg. No. 802,565.
For Cigarettes (Int. Cl. 34).
First use July 8, 1969.

Class 18—Medicines and Pharmaceutical Preparations

SN 326,926. Thayer Laboratories, Inc., New York, N.Y. Filed May 9, 1969.

RACEPIN

For Epinephrine, Used as Component in a Medicated Liquid for Oral Use Against Asthma, or Other Nasal-Throat Conditions (Int. Cl. 5).
First use at least as early as August 1962.

SN 327,353. Bracco Industria Chimica S.p.A., Milan, Italy. Filed May 15, 1969.

BRADILAN

Owner of Italian Reg. No. 151,924, dated Nov. 15, 1960.
For Vasodilator Preparations (Int. Cl. 5).

Class 19—Vehicles

SN 289,438. The Wilson Motor Bodies Limited, Burlington, Ontario, Canada. Filed Jan. 28, 1968.



Owner of Canadian Reg. No. 165,768, dated Oct. 17, 1969.
For Truck Bodies (Int. Cl. 12).

SN 305,971. Opti-Cap Inc., Corpus Christi, Tex. Filed Aug. 26, 1968.

SUPER-COOLER

For Attachment for an Engine Cooling System Which Compensates for Expansion or Contraction of the Coolant in the System (Int. Cl. 12).
First use at least as early as July 25, 1968.

SN 341,136. Bosworth Marine Corporation, Evanston, Ill. Filed Oct. 20, 1969.



For Boats (Int. Cl. 12).
First use Mar. 15, 1968.

SN 344,285. Fairchild Hiller Corporation, Germantown, Md. Filed Nov. 24, 1969.

F-28

Owner of Reg. Nos. 759,119, 865,648, and others.
For Aircraft and Parts Thereof (Int. Cl. 12).
First use Nov. 21, 1969.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 272,594. Anthony R. and Julia M. Digiovanni (joint owners), d.b.a. Tiger Alarms, San Clemente, Calif. Filed May 29, 1967.



Applicant disclaims the words "Alarm Systems" apart from the mark as shown.
For Burglar Alarm Systems and Alarm Components (Int. Cl. 9).
First use Mar. 10, 1967.

SN 284,488. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka, Japan. Filed Nov. 9, 1967.

PANASONIC

Owner of U.S. Reg. Nos. 769,858, 808,808, and others.
For Hi Fi Amplifiers, Speakers, Microphones, Transceivers, Car Radios, Television Cameras, Video Tape Cameras, Dry Cell Batteries, Flashlights, Battery Operated Electric Body Warmers, Electric Irons, Electric Toasters, Electric Rice Cookers, Electric Fans, Electric Juicers, Electric Blenders, Electric Egg Cookers, Radio-Phonograph Combinations, and Video Tape Recorders (Int. Cls. 7, 9, and 11).
First use at least as early as Mar. 27, 1965; in commerce at least as early as Mar. 27, 1965; at least as early as July 15, 1964, in another form.

SN 303,207. Tinker and Rasor, San Gabriel, Calif. Filed July 19, 1968.

JEEP STIK

For Electrical Holiday Detectors for Detecting Holidays, or Defects, in Protective Coatings or Coverings Applied to Steel Pipes (Int. Cl. 9).
First use on or about June 15, 1968.

SN 309,705. Pennwalt Corporation, Philadelphia, Pa., by merger and change of name from Wallace & Tiernan Inc., East Orange, N.J. Filed Oct. 15, 1968.

POLATROL

For Cathodic Protection Apparatus Principally for Corrosion Control (Int. Cl. 9).
First use Sept. 11, 1968.

SN 339,019. Jones Motrola Corporation, Stamford, Conn. Filed Sept. 26, 1969.

MOTAK

For Electric Motor Generators (Int. Cl. 7).
First use July 28, 1969.

SN 343,514. Car Tapes, Inc., Chicago, Ill. Filed Nov. 14, 1969.

UNIMOUNT

For Stereo Speakers (Int. Cl. 9).
First use on or about Aug. 8, 1969.

SN 344,978. The Edwin F. Guth Company, St. Louis, Mo. Filed Dec. 1, 1969.

VERTOL

For Electric Lighting Fixtures (Int. Cl. 11).
First use Nov. 14, 1969.

SN 345,189. McGraw-Edison Company, Elgin, Ill. Filed Dec. 3, 1969.

PLATE MASTER

For Electromagnets (Int. Cl. 9).
First use Mar. 19, 1969.

SN 345,190. McGraw-Edison Company, Elgin, Ill. Filed Dec. 3, 1969.

SCRAP MASTER

For Electromagnets (Int. Cl. 9).
First use Sept. 23, 1969.

SN 345,191. McGraw-Edison Company, Elgin, Ill. Filed Dec. 3, 1969.

MILL MASTER

For Electromagnets (Int. Cl. 9).
First use Apr. 11, 1969.

Class 22—Games, Toys, and Sporting Goods

SN 293,833. John Letters & Company Limited, Glasgow, Scotland. Filed Mar. 21, 1968.

SILVER GOOSE

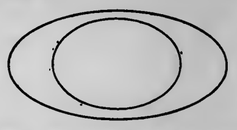
Priority claimed under Sec. 44(d) on British Reg. No. 920,142, dated Jan. 25, 1968. Owner of U.S. Reg. Nos. 731,791 and 733,719.
For Golf Clubs (Int. Cl. 28).

SN 299,374. Northwestern Golf Company, Chicago, Ill. Filed May 29, 1968.

PERMA-LAC

For Golf Club Heads Incorporated as a Component Part of Golf Clubs (Int. Cl. 28).
First use Jan. 1, 1966.

SN 308,550. W. J. Voit Rubber Corp., Santa Ana, Calif. Filed Sept. 30, 1968.



For Golf Playing Equipment—Namely, Golf Club Woods, Irons and Putters, and Golf Balls and Bags (Int. Cl. 28).
First use September 1966.

SN 315,072. Arthur Fischer, d.b.a. Artur Fischer, Feinmechanik, Plastikwerk, Werkzeugbau, Tumlingen, Kreis Freudenstadt, Germany. Filed Dec. 23, 1968.



Priority claimed under Sec. 44(d) on German application filed June 29, 1968; Reg. No. 848,522, dated Aug. 13, 1968.
For Building Toy Block Sets for Erecting of Toy Models (Int. Cl. 28).

SN 315,437. Alex D. Palmer, d.b.a. Tek Method Company, Chicago, Ill. Filed Dec. 30, 1968.

Gradual Despair

For Puzzles Having Multiple Flat Interlocking Pieces (Int. Cl. 28).
First use on or before Dec. 21, 1968.

SN 315,520. Carron Net Company, Inc., Two Rivers, Wis. Filed Jan. 2, 1969.

HERCULES

For Sports Nets—Namely, Tennis Nets and Volleyball Nets (Int. Cl. 28).
First use on or about Jan. 3, 1958.

SN 315,757. Gym Dandy, Inc., Bossier City, La. Filed Jan. 3, 1969.

SWINGDOM KINGDOM

For Home Play Equipment—Namely, Swing Sets, Climbers and Towers, Slides, Gliders, Rockers, Merry-Go-Rounds, and Parts and Assemblies Thereof (Int. Cl. 28).
First use Nov. 7, 1968.

SN 317,191. A & A Mfg. Co., Spring Lakes, Mich. Filed Jan. 22, 1969.

OLSAM

For Fishing Lures (Int. Cl. 28).
First use Sept. 19, 1968.

SN 317,205. George O. Charrier, Cincinnati, Ohio. Filed Jan. 22, 1969.

BID • • • ASK

For Game Apparatus, Sold as a Unit for Playing a Stock Market Parlor Game (Int. Cl. 28).
First use Dec. 21, 1968.

SN 318,556. Murray Laufer, d.b.a. Gem Precision, New York, N.Y. Filed Feb. 6, 1969.

CHESS NUTS

The word "Chess" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for Playing a Chess Game (Int. Cl. 28).
First use on or about Dec. 20, 1968.

SN 319,097. Wilbur Henry Adams, New York, N.Y. Filed Mar. 7, 1969.

ONE WAY

For Puzzle Toy (Int. Cl. 28).
First use Feb. 14, 1969.

SN 321,074. Pittman Products, Inc., d.b.a. Sportsways, Huntington Park, Calif. Filed Mar. 7, 1969.

AVALON

For Masks, Snorkels and Fins for Underwater Diving (Int. Cl. 28).
First use Jan. 12, 1966.

SN 321,286. Southern Athletic Service, Inc., Leesburg, Fla. Filed Mar. 10, 1969.



Trojan

For Protective Equipment Worn by Athletes—Namely, Protective Head Coverings, Shoulder Pads, Hip Pads, Rib Pads, Knee Pads, Thigh Pads, Injury Pads, Shin Guards, and Leg Guards (Int. Cl. 28).
First use Apr. 17, 1968, on shoulder pads.

SN 322,356. A. G. Spalding & Bros. Inc., Chicopee, Mass. Filed Mar. 20, 1969.

THE SMASHER

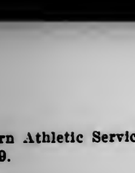
For Tennis Rackets (Int. Cl. 28).
First use June 18, 1968.

SN 322,491. Skor-Mor Corporation, Anaheim, Calif. Filed Mar. 21, 1969.

POOZLE

For Colored Dice Puzzles (Int. Cl. 28).
First use Feb. 18, 1969.

SN 322,536. Aero Mini Incorporated, Manhasset, N.Y. Filed Mar. 24, 1969.



For Toy or Hobby-Type Precision Model Aircraft Designed and Constructed in Miniature to Actual Aircraft, but not a Measuring and Scientific Appliance (Int. Cl. 28).
First use on or about Mar. 1, 1969.

SN 322,873. S. S. Kresge Company, Detroit, Mich. Filed Mar. 26, 1969.



For Tents, Boat Cushions Designed for the Purpose of Functioning as Life Preservers, and Life Saving Vests (Int. Cls. 9 and 22).
First use on or before Dec. 13, 1968 on tents.

SN 323,308. Kenner Products Company, Cincinnati, Ohio. Filed Apr. 1, 1969.

PEEK-A-VIEW

For Picture-Type, Light-Up Toys Particularly Adapted for Use in Cribs or Playpens (Int. Cl. 28).
First use on or about Sept. 12, 1968.

SN 323,532. Cameo Doll Products Co., Inc., Port Allegany, Pa. Filed Apr. 3, 1969.

KEWPIE ♡ GAL

Owner of Reg. Nos. 707,169, 852,653, and others.
For Dolls (Int. Cl. 28).
First use Feb. 7, 1969.

SN 323,799. Createk, Los Angeles, Calif. Filed Apr. 7, 1969.

INFO-MANIA

For Equipment for Playing a Word Game (Int. Cl. 28).
First use July 17, 1968.

SN 323,800. Createk, Los Angeles, Calif. Filed Apr. 7, 1969.

SPLURGE

For Equipment for Playing a Game of Chance (Int. Cl. 28).
First use July 17, 1968.

SN 323,801. Createk, Los Angeles, Calif. Filed Apr. 7, 1969.

PENETRATION

For Equipment for Playing a Game of Double Strategy (Int. Cl. 28).
First use July 17, 1968.

SN 323,802. Createk, Los Angeles, Calif. Filed Apr. 7, 1969.

ad·dic'tion

For Equipment for Playing a Word Game (Int. Cl. 28).
First use July 17, 1968.

SN 323,944. Dell Plastics Company, Inc., Brooklyn, N.Y. Filed Apr. 8, 1969.

ZOOMEROO

For Winged Plastic Toy That Is Launched Into the Air With a Rubber Band and Returns to the Ground in a Spinning Fashion (Int. Cl. 28).
First use at least as early as Mar. 2, 1969.

SN 325,219. Raybestos-Manhattan, Inc., Passaic, N.J. Filed Apr. 22, 1969.

BONNIE BELLE

For Bowling Balls (Int. Cl. 28).
First use Aug. 16, 1968.

SN 325,479. Fil-Back Company, Inc., High Point, N.C. Filed Apr. 24, 1969.

GOLDEN STALLION

For Paddle Balls and Athletic Balls, Especially Footballs and Basketballs (Int. Cl. 28).
First use Dec. 1, 1968.

SN 325,723. Crestline Manufacturing Company, Santa Ana, Calif. Filed Apr. 28, 1969.

BOOB CUBE

No claim of exclusive right is made to "Cubes" for the goods recited.
For Puzzle Comprising Cubes Which Are To Be Arranged in Specific Order (Int. Cl. 28).
First use Oct. 31, 1968.

SN 325,725. Crestline Manufacturing Company, Santa Ana, Calif. Filed Apr. 28, 1969.

SPACE PROBE

For Equipment for Playing a Game in Which a Ball Is Rolled to One of a Number of Receptacles in Accordance With the Skill Exercised by the Player (Int. Cl. 28).
First use Mar. 3, 1965.

SN 326,213. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed May 2, 1969.

TENNIS PRIDE

The word "Tennis" is disclaimed apart from the mark.
For Grips for Tennis Racquets (Int. Cl. 28).
First use during April 1966.

SN 326,837. Taurus Creations Inc., Natick, Mass. Filed May 9, 1969.



For Board Games, Adult Party Games, Toys, Card Games, and Hobby and Craft Kits (Int. Cl. 28).
First use at least as early as Apr. 30, 1969.

SN 330,114. Dayton-Hudson Corporation, Minneapolis, Minn., by change of name from Dayton Corporation, Minneapolis, Minn. Filed June 16, 1969.

GALAXY

For Sleeping Bags for Outdoor or Campers' or Similar Recreational Use (Int. Cl. 20).
First use on or about Mar. 30, 1964.

SN 330,659. Emile Bernat & Sons Co., Uxbridge, Mass. Filed June 23, 1969.

PIGTAIL PETS

Owner of Reg. No. 668,115.
For Packages Containing Material for Making Toy Animals and Dolls of Yarn (Int. Cl. 28).
First use at least as early as May 1, 1969; at least as early as Aug. 13, 1957 in a different form.

SN 334,323. Hasbro Industries, Inc., Pawtucket, R.I. Filed Aug. 4, 1969.

MATCH-A-BRUSH

For Toy Paint Set (Int. Cl. 28).
First use on or about Feb. 1, 1969.

SN 335,412. Louis Marx & Co., Inc., New York, N.Y. Filed Aug. 15, 1969.

NOBLE KNIGHT

No claim is made to the word "Knight" apart from the mark as shown.
For Toy Articulated Figures, Including Toy Armor and Accessories Therefor (Int. Cl. 28).
First use May 15, 1968.

SN 335,517. Kal Kan Foods, Inc., Los Angeles, Calif. Filed Aug. 18, 1969.

ANIMAL SACKERS

The word "Animal" is disclaimed apart from the association shown, without waiver of applicant's common law rights in the composite mark.
For Large Size Play Bags Designed To Be Worn by Children Having Animal or Other Caricatures Imprinted Thereon (Int. Cl. 28).
First use July 28, 1969.

SN 340,328. Parker Brothers, Inc., Salem, Mass. Filed Oct. 10, 1969.

CON-TAC-TIX

Owner of Reg. No. 515,115.
For Equipment for Playing a Board and Ball Game. (Int. Cl. 28).
First use June 18, 1969.

SN 341,213. Spectra Sports, Inc., San Francisco, Calif. Filed Oct. 20, 1969.



For Bicycle-Like Skiing Device (Int. Cl. 28).
First use Aug. 21, 1969.

SN 345,245. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969.

SIZZLERS

For Toy Miniature Automobiles (Int. Cl. 28).
First use Oct. 24, 1969.

SN 345,246. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969.

SHOW STOPPERS

For Toy Equipment for Performing Magical Effects (Int. Cl. 28).
First use Oct. 29, 1969.

SN 345,249. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969

SORCERER'S SURPRISE

For Toy Equipment for Performing Magical Effects (Int. Cl. 28).
First use Oct. 30, 1969.

SN 345,252. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969.

VAMPIRE

For Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 30, 1969.

SN 345,253. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969.

DOMINATOR

For Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 30, 1969.

SN 345,760. Mattel, Inc., Hawthorne, Calif. Filed Dec. 10, 1969.

REV RUNNER

For Mechanical Power Booster for Toy Miniature Automobiles (Int. Cl. 28).
First use Oct. 29, 1969.

SN 346,181. Mattel, Inc., Hawthorne, Calif. Filed Dec. 15, 1969.

SPOIL SPORT

For Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 9, 1969.

SN 346,565. Mattel, Inc., Hawthorne, Calif. Filed Dec. 18, 1969.

HITHERY THITHERY

For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).
First use Oct. 9, 1969.

SN 346,571. Mattel, Inc., Hawthorne, Calif. Filed Dec. 18, 1969.

DARTING DAREDEVIL

For Toy Top (Int. Cl. 28).
First use Oct. 29, 1969.

SN 346,573. Mattel, Inc., Hawthorne, Calif. Filed Dec. 18, 1969.

REVVIN' HEAVEN

For Toy Miniature Automobile (Int. Cl. 28).
First use Nov. 18, 1969.

SN 346,574. Mattel, Inc., Hawthorne, Calif. Filed Dec. 18, 1969.

MANTIS

For Toy Miniature Automobile (Int. Cl. 28).
First use Nov. 18, 1969.

SN 346,575. Mattel, Inc., Hawthorne, Calif. Filed Dec. 18, 1969.

REARIN' END

For Toy Miniature Automobile (Int. Cl. 28).
First use Nov. 18, 1969.

SN 346,696. Mattel, Inc., Hawthorne, Calif. Filed Dec. 19, 1969.

HOT HEAD

For Toy Miniature Automobile (Int. Cl. 28).
First use Nov. 18, 1969.

SN 346,697. Mattel, Inc., Hawthorne, Calif. Filed Dec. 19, 1969.

PEEPING BOMB

For Toy Miniature Automobile (Int. Cl. 28).
First use Nov. 18, 1969.

SN 346,698. Mattel, Inc., Hawthorne, Calif. Filed Dec. 19, 1969.

WHIP CREAMER

For Toy Miniature Automobile (Int. Cl. 28).
First use Nov. 18, 1969.

SN 347,170. Mattel, Inc., Hawthorne, Calif. Filed Dec. 29, 1969.

INDY TRAIL

For Make and Play Toy Accessory Pack Containing Moulds, Plastic Material and Automobile Parts for Making Toy Automobiles (Int. Cl. 28).
First use Nov. 11, 1969.

SN 349,425. Mattel, Inc., Hawthorne, Calif. Filed Jan. 23, 1970.

CHILDHOOD CLASSICS

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Sept. 8, 1969.

SN 349,926. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Jan. 29, 1970.

LPG

For Golf Balls (Int. Cl. 28).
First use Jan. 17, 1969.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 270,980. American Tradex Corporation, Linden, N.J. Filed May 8, 1967.

TRAMAC

For Construction Machinery—Namely, Single and Double Drum Vibratory Rollers, Demolition Hammers, and Surface Compactors (Int. Cl. 7).
First use Apr. 25, 1967.

SN 297,667. Hiroshi Fukuba, Nagareyama-shi, Chiba-ken, Japan. Filed May 8, 1968.

FUKUBA

The term "Fukuba" in English has a meaning of "a happy place."
For Carpet Sweepers (Int. Cl. 21).
First use June 2, 1966; in commerce June 2, 1966.

SN 310,248. G. D. Peters & Co. (Engineering) Limited, Slough, England. Filed Oct. 22, 1968.

DEFECAMAT

Owner of British Reg. No. 829,640, dated Jan. 16, 1962.
For Machines for Treatment of Sewage in Such Manner as To Reduce to a Minimum the Toxic Effect Upon Land or Water Onto/Into Whichever the Resulting Treated Effluent Is Deposited, and Parts Therefor (Int. Cl. 7).

SN 318,177. The Entwistle Company, Providence, R.I. Filed Feb. 3, 1969.

TEC

For Wire and Cable Handling and Processing Equipment—Namely, Automatic Reeling and Coiling Machines, Shaft-Type Dual Reel Take-Ups, Shaftless Dual Reel Take-Ups, Shaft-Type Reelers, Coilers, Spoolers, Collapsible Coiling Reels, Single Reel Shaftless Take-Ups, Shaftless Reel Pay-Offs, Continuous Dual Flyer Pay-Offs, Shaft-Type Pay-Offs, Cooling Capstans, Machines for Pulling, Tensioning and Feeding Wire, Cable, Rod and Tubing, Wire Marking Machines, Spiral Striping Machines, Wire Labeling Machines, and Insulation Patching Presses; and Wire and Cable Extrusion Systems Which May Include in Various Combinations the Following Equipment: Shaft-Type Dual Reel Take-Ups, Coilers, Spark Test Systems, Single Reel Shaftless Take-Ups, Measuring Machines, Electric Counters, Shaftless Reel Pay-Offs, Shaft-Type Pay-Offs, Cooling Capstans, Machines for Pulling, Tensioning and Feeding Wire, Cable, Rod and Tubing, and Wire Marking Machines (Int. Cl. 7).
First use on or about Jan. 15, 1969.

SN 321,345. Buro Patent AG., Glarus, Switzerland. Filed Jan. 31, 1969.

TELELIFT

Priority claimed under Sec. 44(d) on Swiss Reg. No. 235,635, dated Dec. 2, 1968.
For Automatic Track Conveyor System for Storing and Retrieving Articels From Bins, Shelves, and the Like (Int. Cl. 7).

SN 325,774. Hazel Pearson Handicrafts, Inc., Rosemead, Calif. Filed Apr. 28, 1969.

ADJUST-O-PEG

For Handicraft Weaving Looms (Int. Cl. 7).
First use Feb. 18, 1969.

SN 328,498. SCM Corporation, Cleveland, Ohio. Filed May 28, 1969.

GULFLO

For Chemical Process Equipment for Recovering Byproducts From the Manufacture of Wood Pulp, Said Chemical Process Equipment Comprising Individually and in Assembled Array, Heat Exchangers, Decanters, Scrubbers, Tanks, and Appurtenant Equipment, Sold as a Unit (Int. Cl. 7).
First use Mar. 31, 1967.

SN 333,860. Wood Industries, Inc., Plainfield, N.J. Filed July 29, 1969.

COLORFLEX

For Printing Press (Int. Cl. 7).
First use June 8, 1969.

SN 339,604. Star-New Era, Inc., South Hackensack, N.J. Filed Oct. 2, 1969.

COMPSTAR

Owner of Reg. Nos. 844,051 and 844,052.
For Type Setting and Type Casting Machines, Controls Therefor and Parts Thereof (Int. Cl. 7).
First use on or about June 2, 1969.

SN 340,760. Benfur Engineering Company, Grand Rapids, Mich. Filed Oct. 15, 1969.

JED

For Replacement Parts for Abrasive Blasting Machines (Int. Cl. 7).
First use July 1956.

SN 342,472. Interpace Corporation, Parsippany, N.J. Filed Nov. 3, 1969.

PULSATROL

For Pulsation Dampeners (Int. Cl. 7).
First use Dec. 22, 1965.

SN 342,532. Studebaker Corporation, Muskegon, Mich. Filed Nov. 3, 1969.

CARPETMATIC

For Electrically Operated Commercial Carpet Cleaning Machines (Int. Cl. 7).
First use on or about Aug. 7, 1967.

SN 342,537. Studebaker Corporation, Muskegon, Mich. Filed Nov. 3, 1969.

MINI-MATIC

For Floor Scrubbing and Wet Vacuum Pickup Machines (Int. Cl. 7).
First use on or about June 26, 1969.

SN 342,533. Studebaker Corporation, Muskegon, Mich. Filed Nov. 3, 1969.

NAPSAC

For Electrically Operated Commercial Vacuum Cleaners (Int. Cl. 7).
First use on or about June 16, 1969.

SN 343,319. Miehle-Goss-Dexter, Incorporated, Chicago, Ill. Filed Nov. 12, 1969.

Suburban

Owner of Reg. No. 708,719.
For Printing Presses and Parts Thereof (Int. Cl. 7).
First use Mar. 3, 1960.

SN 343,383. Clipper Manufacturing Company, Inc., Grandview, Mo. Filed Nov. 13, 1969.

P.D.P.

Owner of Reg. No. 759,951.
For Cutting Blades for Masonry Saws (Int. Cl. 7).
First use Oct. 31, 1969.

SN 343,706. Ing. C. Olivetti & C., S.p.A., Ivrea, Italy. Filed Nov. 17, 1969.

VALENTINE

Owner of Italian Reg. No. 220,382, dated Feb. 5, 1968.
For Typewriters and Parts Thereof (Int. Cl. 16).

SN 344,015. Power-Pak Products, Inc., Buffalo, N.Y. Filed Nov. 19, 1969.

LITE-A-LOY

For Fire Extinguishers (Int. Cl. 9).
First use Aug. 25, 1969.

SN 344,438. Scoville Manufacturing Company, Waterbury, Conn. Filed Nov. 24, 1969.

GOLD MEDALLION

For Pneumatic and Hydraulic Cylinders (Int. Cl. 7).
First use June 1, 1967.

SN 348,226. Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wuerzburg, Germany. Filed Jan. 12, 1970.

KOEBAU COMODORE

Owner of German Reg. No. 812,326, dated Oct. 3, 1965; and U.S. Reg. No. 642,589.
For Rotary Offset Printing Presses (Int. Cl. 7).

SN 349,147. Waltham Machine Works, Inc., Waltham, Mass. Filed Jan. 21, 1970.

WALTHAM

Owner of Reg Nos. 178,465 and 511,629.
For Thread Milling Machines, Automatic Tap Flute Milling Machines, Automatic Tap Square Milling Machines, Pinion and Gear Cutting Machines, Cutter Sharpener Machines, and Sub-Press Die Sets (Int. Cl. 7).
First use Jan. 1, 1922.

Class 25—Locks and Safes

SN 342,149. Domestic Broom and Brush Co., Inc., Brooklyn, N.Y. Filed Oct. 30, 1969.

LION

For Lock Sets, Chain Lock Sets, Padlocks, Cylinders for Locks, Double Cylinder Locks, Night Latch Locks and Dead Locks (Int. Cl. 6).
First use January 1967.

Class 26—Measuring and Scientific Appliances

SN 285,566. Western Geophysical Company, Houston, Tex., assignee of Marine Geophysical Services Corporation, Houston, Tex. Filed Nov. 24, 1967.

HYDRO-SEIN

For High Velocity Mechanical Actuator Used as an Accoustical Seismic Energy Source in Marine Seismic Explorations (Int. Cl. 9).
First use at least as early as March 1967.

SN 297,486. British Aircraft Corporation (Operating) Limited, Filton, Bristol, England. Filed May 7, 1968.

AUTOGRAT

For Digital Readout With, Associated Transducers Connected to the Machinery Concerned, a Measuring Scale and a Control Unit; All Used to Measure Dimensions and Positions for Use in Association With Such Machine Tools as Lathes, Boring Machines, Drilling Machines, and the Like (Int. Cl. 9).
First use July 1961; in commerce October 1965.

SN 303,639. Atlas-Rand Corp., Paramus, N.J. Filed July 26, 1968.

TARGETRONIC

For Projection Slides and Slide Projectors (Int. Cl. 9).
First use June 27, 1968.

SN 304,632. Tek Bearing Company, Inc., d.b.a. Auto Safety Equipment Company, Farmingdale, N.Y. Filed Aug. 7, 1968.



Applicant disclaims the word "Log" except as used in connection with the mark.
For Instruments for Measuring and Recording Variable Characteristics Such as Speed, Mileage, Time and the Like for Motor Vehicles, Especially Those Engaged in Interstate Commerce (Int. Cl. 9).
First use June 22, 1968.

SN 305,561. Mobility Systems, Inc., Santa Clara, Calif. Filed Aug. 20, 1968.

MOBILITY SYSTEMS

For the purpose of registration, no claim is made to the exclusive right to use "Systems."
For Computer Controlled Materials Handling System for Processing and Physically Moving Goods in a Warehouse, Including Computer Controlled Vehicles Therefor and Parts Thereof (Int. Cl. 9).
First use at least as early as July 1968.

SN 309,994. Seron Manufacturing Company, Joliet, Ill. Filed Oct. 18, 1968.



Applicant disclaims the representation of the eye glasses and of the holder apart from the mark as shown. Owner of Reg. No. 678,857.
For Eye Glass Holders Designed To Be Attached to a Pair of Eye Glasses to Prevent Them From Falling off (Int. Cl. 9).
First use on or before June 30, 1954.

SN 311,022. Dymedia, Incorporated, Palo Alto, Calif. Filed Oct. 31, 1968.



For Instructional Testing Materials—Namely, Portable Mechanical Response Boards for Self-Instructional Practice and for Evaluative Testing; Automatic Electronic Test Scorers; Computer Compatible Cards for Use With the Above Response Boards and Electronic Scorers; and Mobile Storage Cabinets for All of the Above (Int. Cls. 9 and 16).
First use Aug. 19, 1968.

SN 311,023. Dymedia, Incorporated, Palo Alto, Calif. Filed Oct. 31, 1968.

DYMEDIA

For Instructional Testing Materials—Namely, Portable Mechanical Response Boards for Self-Instructional Practice and for Evaluative Testing; Automatic Electronic Test Scorers; Computer Compatible Cards for Use With the Above Response Boards and Electronic Scorers; and Mobile Storage Cabinets for All of the Above (Int. Cls. 9 and 16).
First use Aug. 19, 1968.

SN 314,080. Jeffrey Galion Inc., Columbus, Ohio. Filed Dec. 10, 1968.

JEFFREY

Owner of Reg. Nos. 510,939, 853,999, and others.
For Electrical and Electronic Controls for Indicating, Recording and Controlling a Number of Continuous Proportioning Units, Used in Controlling the Flow of Liquids and Granular Bulk Material (Int. Cl. 9).
First use in or about September 1967.

SN 314,357. Ing. C. Olivetti & C., S.p.A., Ivrea, Italy. Filed Dec. 12, 1968.

INSPECTOR

For Dimension Measuring Machine and Automated Sensing and Display Equipment Therefor and the Respective Components Thereof (Int. Cl. 9).
First use Jan. 1, 1965; in commerce Jan. 1, 1965.

SN 315,494. Parfumhaus Gottschalk, Munich, Germany. Filed Dec. 31, 1968.

CANDAHAR

For Men's and Women's Sunglasses (Int. Cl. 9).
First use about June 1, 1963; in commerce Sept. 9, 1968.

SN 317,379. Radiation Machinery Corporation, Parsippany, N.J. Filed Jan. 23, 1969.



For Gamma Irradiators (Int. Cl. 9).
First use Apr. 16, 1968.

SN 317,380. Radiation Machinery Corporation, Parsippany, N.J. Filed Jan. 23, 1969.

GAMMATOR

For Gamma Irradiators (Int. Cl. 9).
First use Apr. 16, 1968.

SN 324,137. Spiras Systems, Inc., Waltham, Mass., assignee of Ira Systems, Inc., Waltham, Mass. Filed Apr. 10, 1969.

IRASCOPE

For Computer Input-Output Display Terminals (Int. Cl. 9).
First use Nov. 6, 1968.

SN 324,490. The Plastic Contact Lens Company, Chicago, Ill. Filed Apr. 14, 1969.

WESLEY-JESSEN

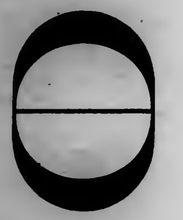
For Optical Contact Lenses Adapted To Be Applied to the Eyes of the Person, and Contact Lens Cases (Int. Cl. 9).
First use December 1955.

SN 326,709. Duncan Audio-Visual, Inc., Rochester, N.Y. Filed May 2, 1969.

AUDIBANK

For Audio-Visual Rear Screen Projector With Film Strips and Synchronized Sound Tape for Use in Training Bank Employees (Int. Cl. 9).
First use at least as early as Aug. 12, 1968.

SN 326,956. Societe des Lunetiers, Paris (Seine), France. Filed May 6, 1969.



Owner of French Reg. No. 739,626, dated Feb. 23, 1968.
For Spectacles, Eyeglasses, Eyeglass Lenses and Frames (Int. Cl. 9).

SN 327,250. Helen D. Farnsworth, Mt. Prospect, Ill. Filed May 14, 1969.

VRC

For Timing Strips for Attachment to the Sides of Fluid Dispensing Containers (Int. Cl. 9).
First use Apr. 30, 1969.

SN 327,946. Mechtron-Genco Corporation, Alliance, Ohio. Filed May 19, 1969.

LEVELGUARD

For Material Level Sensors (Int. Cl. 9).
First use Mar. 13, 1969.

SN 327,973. Excellon Industries, Torrance, Calif. Filed May 21, 1969.

OPIC I

For Optical Programming and Inspection Devices for Preparing Tapes for Numerically Controlled Drilling Machine (Int. Cl. 9).
First use in or about July 1967.

SN 328,396. Adlerwerke vorm. Heinrich Kleyer Aktiengesellschaft, Frankfurt am Main, Germany. Filed May 27, 1969.

ADLER mark 12

Owner of Reg. Nos. 713,145, 717,855, and 717,896.
For Calculating Machines, Parts Thereof and Protective Covers Therefor (Int. Cl. 9).
First use February 1969; in commerce February 1969.

SN 329,359. Infotechnics, Inc., Van Nuys, Calif. Filed June 6, 1969.

INFO TECHNICS

For Digital Computer Memory Unit (Int. Cl. 9).
First use Jan. 25, 1969.

SN 329,434. Bremson Research, Inc., Kansas City, Mo. Filed June 9, 1969.

BONUS PHOTO

The word "Photo" is disclaimed apart from the mark as shown without waiving any common law rights therein.
For Accessory Kits for Adapting Photographic Printers and Cutters for Multiple Print Processing (Int. Cl. 9).
First use Apr. 24, 1969.

SN 329,705. Electronic Detection Corp., Greenwich, Conn. Filed June 11, 1969.

DETECTRON

For Electronic Intrusion Detection Systems and Component Parts Thereof (Int. Cl. 9).
First use May 28, 1969.

SN 330,902. Blount & George, Inc., Jacksonville, Ark. Filed June 25, 1969.

a9L

For Laser Instrument, Known as Automatic Grade Light (Int. Cl. 9).
First use June 24, 1968.

SN 331,584. Block Engineering, Inc., Cambridge, Mass. Filed July 2, 1969.

DIGILAB

For Computer-Controlled Spectrometers (Int. Cl. 9).
First used as early as June 5, 1969.

SN 331,722. Burleigh Brooks, Inc., Englewood, N.J. Filed July 3, 1969.

COMPUTAR

For Photographic Equipment—Namely, Camera Lenses (Int. Cl. 9).
First use at least as early as September 1968.

SN 332,439. Ansan Tool and Manufacturing Company, Inc., Chicago, Ill. Filed July 14, 1969.

WATER WAITER

The word "Water" is disclaimed apart from the mark as shown. Owner of Reg. No. 710,596.
For Combined Sprinkling Meter and Shutoff Valve (Int. Cl. 9).
First use June 20, 1969.

SN 333,249. Comstock & Wescott, Inc., Cambridge, Mass. Filed July 23, 1969.

SPINVISION

For Derotator—Namely, Apparatus for Making a Rotary Object Appear Stationary (Int. Cl. 9).
First use July 1, 1969.

SN 334,364. Optical Coating Laboratory, Inc., Santa Rosa, Calif. Filed Aug. 4, 1969.

OCLI-LENS

Owner of Reg. No. 802,673.
For Sunglasses (Int. Cl. 9).
First use July 10, 1969.

SN 336,353. Sykes Datatronics Inc., Rochester, N.Y. Filed Aug. 26, 1969.

COMPU/CORDER

For Electrically Powered Magnetic Tape Transport Operating Under Computer Control to Input and Output Digital Data From a Computer (Int. Cl. 9).
First use June 30, 1969.

SN 336,380. Servo Corporation of America, Hicksville, N.Y. Filed Aug. 27, 1969.

SERVOSCAN

For Remote Control Supervisory Systems Comprising Field Input-Output Units, Field Transceivers, Office Input-Output Units, Office Transceivers, and Control Consoles (Int. Cl. 9).
First use May 21, 1969.

SN 336,408. Beconta Inc., New York, N.Y. Filed Aug. 27, 1969.

BARUFFALDI

For Eye Glasses and Goggles (Int. Cl. 9).
First use in 1959.

SN 337,503. American Photocopy Equipment Company, Evanston, Ill. Filed Sept. 10, 1969.

VEND-O-STAT

Owner of Reg. Nos. 630,405, 861,856, and others.
For Photocopy Machines (Int. Cl. 9).
First use Oct. 7, 1966.

SN 337,940. The Kalart Company Inc., Plainville, Conn. Filed Sept. 15, 1969.

KALAVOX

For Slide Projectors; Sound Slide Projectors; Cassettes for Sound Slide Projectors; Slides for Sound Slide Projectors; Trays for Sound Projectors; and Sound Slide Projectors and Remote Control Devices for Slide Projectors and Sound Slide Projectors (Int. Cl. 9).
First use May 29, 1969.

SN 339,391. Flow Laboratories Inc., Rockville, Md. Filed Oct. 1, 1969.



Owner of Reg. No. 781,589.
For Laboratory Equipment—Namely, Tissue Culture Tubes, Tissue Culture Flasks, Tissue Culture Racks and Rack Covers, Pipette Canisters, Laboratory Inventory Control Systems Comprising Storage Racks and Containers for Storage of Vials, Bottles and Tubes Containing Laboratory Materials, and Catalog Cards and Card Boxes for Recording a Description of the Materials Stored in the Containers and Racks; Roller Drum Assemblies for Growth of Tissue Cultures and Preparation of Virus Pools, Roller Drum Tubes, Roller Drum Tube Caps, Roller Drum Tube Carriers, Roller Drum Tube Brushes, and Titration and Dilution Equipment (Int. Cl. 9).
First Use at least as early as April 1962.

SN 341,105. Elements, Inc., Madison, Wis. Filed Oct. 20, 1969.

RAP

For Light Box for Projecting a Flux of Visual Light Patterns (Int. Cl. 9).
First use Sept. 2, 1969.

SN 342,183. Security Systems, Inc., Siloam Springs, Ark. Filed Oct. 30, 1969.

CAM-WIDE

For Cameras (Int. Cl. 9).
First use Oct. 1, 1968.

SN 342,678. Varian Associates, Palo Alto, Calif. Filed Nov. 3, 1969.

ISODOT

For Laser Systems Useful for Aligning Objects for Impingement by a Radiation Beam (Int. Cl. 9).
First use on or about Sept. 17, 1969.

SN 342,686. Wheaton Glass Company, Millville, N.J. Filed Nov. 4, 1969.

CELSTIR

For Suspension Culture Flasks (Int. Cl. 9).
First use August 1969.

SN 343,666. Computer Communications, Inc., Inglewood, Calif. Filed Nov. 17, 1969.

CCI

For Computer Peripheral Equipment—Namely, Peripheral Controllers, Displays, Keyboards, Magnetic Tape Units, Card Readers, Printers, Multiplexers, and Computer Channel Adapters (Int. Cl. 9).
First use Oct. 29, 1969.

SN 343,935. Bennett Brothers, Inc., New York, N.Y. Filed Nov. 19, 1969.

BENNETT

Owner of Reg. Nos. 752,940, 878,707, and others.
For Optical Instruments Consisting of Binoculars, Monoculars, Telescopes, and Microscopes (Int. Cl. 9).
First use Nov. 3, 1969.

SN 344,014. The Plastic Contact Lens Company, Chicago, Ill. Filed Nov. 19, 1969.

MULTI-RANGE

For Contact Lenses (Int. Cl. 9).
First use during October 1969.

SN 344,024. Spex Industries, Inc., Metuchen, N.J. Filed Nov. 19, 1969.

UVISIR

For Spectrometer for Ultraviolet, Visible and Infrared Spectroscopy (Int. Cl. 9).
First use June 1, 1969.

SN 344,460. Technidyne, Inc., Livermore, Calif. Filed Nov. 24, 1969.

MICRO-TALLY

For Adding Machine (Int. Cl. 9).
First use Oct. 24, 1969.

SN 345,037. Kalvar Corporation, New Orleans, La. Filed Nov. 18, 1969.



For Machines for Processing Vesicular Photographic Film (Int. Cl. 9).
First use at least as early as May 15, 1968.

SN 345,348. Kee Lox Manufacturing Company, Rochester, N.Y. Filed Dec. 4, 1969.

KEE LECTRO

For Photocopying Machines (Int. Cl. 9).
First use June 1967.

SN 345,614. Instructional Concepts, Inc., Manhasset, N.Y. Filed Dec. 8, 1969.

TUTOR-SET

For Rear Screen Projector (Int. Cl. 9).
First use June 15, 1969.

SN 346,265. M.T.I. Corporation, New York, N.Y. Filed Dec. 15, 1969.

UNI-MIKE

For Micrometers (Int. Cl. 9).
First use May 1, 1969.

SN 349,267. ESB Incorporated, Philadelphia, Pa. Filed Jan. 22, 1970.

INFRA-BAN

For Lenses Which Ban the Passage of Infra-Red Rays (Int. Cl. 9).
First use Nov. 12, 1969.

SN 349,964. Forox Corporation, Mamaroneck, N.Y. Filed Jan. 29, 1970.

FOROX

For Cameras and Copy Stands for Slides and Film Strips (Int. Cl. 9).
First use at least as early as August 1969.

SN 350,654. ESB Incorporated, Philadelphia, Pa. Filed Feb. 6, 1970.

KOVER-WELD

Owner of Reg. Nos. 406,430, 575,464, and others.
For Welding Goggles (Int. Cl. 9).
First use Nov. 12, 1969.

Class 27 — Horological Instruments

SN 302,130. Rich Company, Los Angeles, Calif. Filed July 5, 1968.

MAGNETRON

For Ladies' and Men's Watches (Int. Cl. 14).
First use Aug. 11, 1966.

Class 28 — Jewelry and Precious-Metal Ware

SN 315,193. Zale Corporation, Dallas, Tex. Filed Dec. 26, 1968.

"Pendant of Life"

The word "Pendant" is disclaimed apart from the mark as shown.
For Pendants (Int. Cl. 14).
First use May 1, 1968.

SN 325,551. Marbro Mfg., Inc., Providence, R.I. Filed Apr. 25, 1969.

MARBRO

For Jewelry for Personal Wear and Adornment (Int. Cl. 14).
First use March 1969.

Class 31 — Filters and Refrigerators

SN 301,476. Ultradynamics Corp., Paterson, N.J. Filed June 26, 1968.

ULTRA-PURE

For Water Treatment Apparatus Comprising Ion Exchange Media, Filtering Media, or Semi-Permeable Membranes for the Removal or Rejection of Undesirable Suspended Matter or Matter in Solution (Int. Cl. 11).
First use at least November 1967.

SN 306,261. Millipore Corporation, Bedford, Mass. Filed Aug. 29, 1968.



The mark comprises a design of three rectangular bars and may be considered as forming an abstract letter "M."
For Microporous Filters (Int. Cl. 11).
First use Aug. 13, 1968.

SN 348,473. Chemex Corporation, New York, N.Y. Filed Jan. 14, 1970.

CHEMEX

Owner of Reg. Nos. 623,874, 754,610, and others.
For Filter Papers (Int. Cl. 16).
First use Dec. 8, 1969; 1941 as to the mark "Chemex."

SN 349,532. Air Purification Products Co., Glendale, Calif. Filed Jan. 26, 1970.

STA-MED

For Air Purification Filter System Consisting of a Cabinet, a Pre-Filter, a Particulate Collection Cell, and an Activated Carbon Cell (Int. Cl. 11).
First use Dec. 3, 1969.

Class 32 — Furniture and Upholstery

SN 319,161. Gottlob Gussmann Süddeutsche Bettpolsterfabrik, Pleidelsheim, Germany. Filed Feb. 14, 1969.

FERROPLASTIC

Owner of German Reg. No. 850,127, dated Oct. 1, 1968; and U.S. Reg. No. 842,086.
For Mattresses, Upholstered Furniture, Spring Cores and Springs for Mattresses and Upholstered Furniture (Int. Cl. 20).

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 317,298. Air Reduction Company, Incorporated, New York, N.Y. Filed Jan. 23, 1969.

AX 90

For Welding Electrodes (Int. Cl. 9).
First use April 1967.

SN 317,299. Air Reduction Company, Incorporated, New York, N.Y. Filed Jan. 23, 1969.

AX 110

For Welding Electrodes (Int. Cl. 9).
First use Mar. 26, 1968.

SN 323,286. Food Equipment, Inc., Dallas, Tex. Filed Apr. 1, 1969.

VAPORATOR

For Steam Chambers for the Application of High Temperature Steam to Animal and Fowl Carcasses (Int. Cl. 11).
First use Mar. 6, 1969.

SN 336,623. Yamamoto Vinyter Co., Ltd., Tennoji-ku, Osaka, Japan. Filed Aug. 28, 1969.

Vinyter

For High Frequency Welder (Int. Cl. 9).
First use January 1965; in commerce January 1965.

SN 341,793. Crane Co., New York, N.Y. Filed Oct. 27, 1969.

NATIONAL-U.S.

No claim is made to the letters "U.S." apart from the mark as shown.
For Boilers and Heat Exchangers, and Parts Therefor, for Domestic Purposes (Int. Cl. 11).
First use August 1960.

SN 341,885. Montgomery Brothers, Inc., Burlingame, Calif. Filed Oct. 27, 1969.

TETON

Owner of Reg. No. 763,597.
For Electric Duct Heaters and Electric Suspension Unit Heaters (Int. Cl. 11).
First use Feb. 21, 1968.

SN 342,137. Carrier Corporation, Syracuse, N.Y. Filed Oct. 30, 1969.

WEATHERMAKER

Owner of Reg. Nos. 261,359 and 544,551.
For Room Air Conditioners, Self-Contained Air Conditioning Units, Air Cooled Condensing Units, Central Air Conditioning Stations for Cooling, Heating, Dehumidifying, Humidifying, Filtering and Circulation of Air for Comfort and Industrial Applications, Sprayed Coil Units, Furnaces, Fan Coil Units, Heat Pumps, and Airconditioning Units for Washing, Heating, Cooling, Humidifying, and Dehumidifying Air in Industrial and Commercial Applications, Heating, Lighting, and Ventilating Apparatus (Int. Cl. 11).
First use January 1965.

SN 342,313. Procedyne Corporation, New Brunswick, N.J. Filed Oct. 31, 1969.

THERMOCAL

For Fluidized Bed Apparatus Comprising a Mass of Solid Particles Contained in a Vessel and Through Which Air or Other Gas May Be Circulated Under Pressure for Treating of Piece Parts at High Temperatures (Int. Cl. 11).
First use in or about January 1965.

SN 342,560. Weld Mold Company, Brighton, Mich. Filed Nov. 3, 1969.

POLYFORGE

For Consumable Metallic Arc Welding Electrodes (Int. Cl. 9).
First use Oct. 13, 1969.

SN 342,561. Weld Mold Company, Brighton, Mich. Filed Nov. 3, 1969.

POLYMATIC

For Welding Electrodes in the Form of Solid and Flux Cored Wire (Int. Cl. 6).
First use Oct. 13, 1969.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 335,258. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Aug. 13, 1969.

IRONSIDES

For Belting, Hose, Rubber Diaphragms for Pumps and Screens, and Dredging Sleeves Employed as Flexible Connections Between Pipes Used for Carrying Dredged Material (Int. Cl. 17).
First use during 1909.

SN 335,285. Amerace Esna Corporation, New York, N.Y. Filed Aug. 14, 1969.

Flat Line

For Garden Hose (Int. Cl. 17).
First use at least as early as June 1969.

SN 335,287. Amerace Esna Corporation, New York, N.Y. Filed Aug. 14, 1969.

Open Flow

For Garden Hose (Int. Cl. 17).
First use at least as early as June 1969.

SN 335,311. Amerace Esna Corporation, New York, N.Y. Filed Aug. 14, 1969.

Oval-Line

For Garden Hose (Int. Cl. 17).
First use at least as early as June 1969.

SN 337,205. A. J. Sparks and Company, Grand Rapids, Mich. Filed Sept. 5, 1969.

SOKITOOIT

For Conveyor Belting (Int. Cl. 7).
First use July 7, 1969.

SN 342,770. Uniroyal, Inc., New York, N.Y. Filed Nov. 5, 1969.

UNIROYAL MINE CUSHION

Applicant makes no claim to the words "Mine Cushion" apart from the mark as shown, but waives no common law rights. Owner of Reg. No. 765,499.
For Vehicle Tires (Int. Cl. 12).
First use Aug. 27, 1967.

SN 342,771. Uniroyal, Inc., New York, N.Y. Filed Nov. 5, 1969.

PREMIUM SAFETY PATROL

Applicant makes no claim to the word "Premium" apart from the mark as shown. Owner of Reg. No. 764,688.
For Vehicle Tires (Int. Cl. 12).
First use Oct. 27, 1966.

SN 343,269. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Nov. 12, 1969.

SHOVELER

For Resilient Vehicle Tires (Int. Cl. 12).
First use Oct. 20, 1969.

SN 343,694. The Gates Rubber Company, Denver, Colo. Filed Nov. 17, 1969.

SR-780

For Pneumatic Tires (Int. Cl. 12).
First use Sept. 16, 1969.

SN 343,695. The Gates Rubber Company, Denver, Colo. Filed Nov. 17, 1969.

SR-700

For Pneumatic Tires (Int. Cl. 12).
First use Aug. 29, 1969.

SN 343,754. Reid Enterprises, Inc., Long Beach, Calif. Filed Nov. 17, 1969.

MINIGROOVE

For Mechanical Seals (Int. Cl. 17).
First use Feb. 24, 1969.

SN 349,734. The Fitzgerald Manufacturing Company, Torrington, Conn. Filed Jan. 27, 1970.

CLERO-PAK

For Gaskets (Int. Cl. 17).
First use Mar. 7, 1967.

Class 36 — Musical Instruments and Supplies

SN 286,823. James Charles How, d.b.a. James How & Co., Sidcup, Kent, England. Filed Dec. 13, 1967.

ROTOSOUND

Applicant disclaime the word "Sound" apart from the mark as shown. Priority claimed under Sec. 44(d) on British Reg. No. 910,737, dated June 15, 1967.
For Strings for Musical Instruments, Plectrum Holders for Guitars, "De Capo" (Adjustable Bridge) Devices for Guitars, Electrical Pick-Up Units for Guitars, Electrical Pick-Up Units and Contact Microphones for Double Basses, Electronic Amplifiers and Amplifier Cables for Use With Electrical Musical Instruments, Cables for Use with Electrical Guitars, "Fuzz Boxes" for Use With Electrical Guitars, and "Meow Boxes" for Use With Electrical Guitars (Int. Cl. 15).

SN 324,268. Mortone Magnetics, Inc., Woodmere, N.Y. Filed Apr. 11, 1969.

MORTONE

For Magnetic Recording Tape (Int. Cl. 9).
First use Jan. 15, 1969.

SN 332,347. Heath Company, Benton Harbor, Mich. Filed July 11, 1969.

HEATHKIT

Owner of Reg. Nos. 520,346, 755,990, and others.
For Musical Instruments—Namely, Organs, Metronomes, and Parts Therefor (Int. Cls. 9 and 15).
First use at least as early as Nov. 13, 1962.

SN 335,977. GRT Corporation, Sunnyvale, Calif. Filed Aug. 22, 1969.

GRT

Owner of Reg. No. 856,003.
For Magnetic Tape Apparatus—Namely, Tape Winders (Int. Cl. 9).
First use April 1969.

SN 348,271. Richard W. Crampton, d.b.a. Sonic Service, Louisville, Ky. Filed Jan. 12, 1970.

RIVERGATE

For Phonograph Records (Int. Cl. 9).
First use Nov. 22, 1968.

SN 348,421. Gibson, Inc., Kalamazoo, Mich. Filed Jan. 13, 1970.



For Guitars (Int. Cl. 15).
First use December 1968.

SN 348,422. Gibson, Inc., Kalamazoo, Mich. Filed Jan. 13, 1970.



For Guitars (Int. Cl. 15).
First use February 1962.

SN 348,423. Gibson, Inc., Kalamazoo, Mich. Filed Jan. 13, 1970.



For Guitars (Int. Cl. 15).
First use June 1960.

SN 348,530. Gibson, Inc., Kalamazoo, Mich. Filed Jan. 14, 1970.



For Guitars (Int. Cl. 15).
First use June 18, 1969.

SN 349,073. Haddon Record Corp., Haddonfield, N.J. Filed Jan. 29, 1970.

HAPPY HOUSE

For Phonograph Records (Int. Cl. 9).
First use Aug. 11, 1969.

Class 37—Paper and Stationery

SN 177,682. The Chesapeake Corporation of Virginia, West Point, Va. Filed Sept. 25, 1963.

SUPERWATERFINISH

For Kraft Paper (Int. Cl. 16).
First use Apr. 25, 1949.

Class 38—Prints and Publications

SN 279,242. Bank of Montreal, Montreal, Quebec, Canada. Filed June 26, 1967.



Priority claimed under Sec. 44(d) on Canadian application filed Jan. 28, 1967; Reg. No. 156,191, dated Mar. 29, 1968. The mark consists of a fanciful representation of the letter "M" surmounting a rectangular horizontal bar.
For Brochures in the Nature of News Releases (Int. Cl. 16).
First use May 1, 1967; in commerce May 1, 1967.

SN 322,603. Henry Wheeler Chase, Greenwich, Conn. Filed Mar. 24, 1969.



Owner of Reg. Nos. 367,066 and 804,295.
For Economic Reports and Economic Educational Studies (Int. Cl. 16).
First use Dec. 1, 1968.

SN 325,889. Howard Odzer and Frank A. Peluso (joint owners), d.b.a. Marketiming, New York, N.Y. Filed Apr. 29, 1969.

MARKETIMING

For Stock Market Investment Advisory Letters, Published Periodically (Int. Cl. 16).
First use January 1964.

SN 329,821. Airguide Publications, Inc., Long Beach, Calif. Filed June 12, 1969.

FLIGHT GUIDE

For Airport and Frequency Manuals (Int. Cl. 16).
First use June 1961.

SN 330,218. The Tribune Publishing Co., Oakland, Calif. Filed June 16, 1969.

Saturday Oakland Tribune

The word "Saturday" is disclaimed. The drawing is lined for the color red.
For Newspaper (Int. Cl. 16).
First use Mar. 15, 1969.

SN 330,219. The Tribune Publishing Co., Oakland, Calif. Filed June 16, 1969.

Sunday Oakland Tribune

The word "Sunday" is disclaimed. The drawing is lined for the color blue.
For Newspaper (Int. Cl. 16).
First use Jan. 22, 1967.

SN 331,366. General Electric Company, Schenectady, N.Y. Filed June 30, 1969.



Applicant disclaims the word "International" apart from the mark as a whole.
For Magazine (Int. Cl. 16).
First use September 1965.

SN 333,735. Meredith Corporation, Des Moines, Iowa. Filed July 28, 1969.

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For Series of Educational Publications—Namely, Workbooks, Test Sheets, and Teachers' Books for Student Instruction (Int. Cl. 16).
First use June 28, 1968.

SN 336,084. California State Chamber of Commerce, Agriculture and Industry, Sacramento, Calif. Filed Aug. 25, 1969.

Pacific Business

For Magazine (Int. Cl. 16).
First use May 15, 1969.

SN 337,820. McGraw-Hill, Inc., New York, N.Y. Filed Sept. 12, 1969.

Electronics New product preview

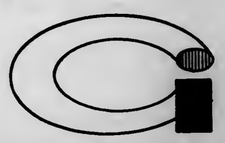
No registration rights are claimed for the expression "New Products Preview" apart from the mark as shown.
For Monthly Magazine (Int. Cl. 16).
First use Aug. 1, 1969; Apr. 15, 1930, as to the word "Electronics."

SN 340,748. Afco Communications Co., Chicago, Ill. Filed Oct. 15, 1969.

TWENTY DAYS

For Periodically Published Magazines (Int. Cl. 16).
First use June 27, 1969.

SN 347,502. Galtech, Inc., Fort Myers, Fla. Filed Dec. 31, 1969.



The mark consists of a stylized "GI" design. The lining on the drawing is for purposes of shading only.
For Nautical Charts Reproduced on Photo-Transparencies (Int. Cl. 9).
First use Apr. 13, 1969.

Class 39—Clothing

SN 264,097. The Pop-Op Corporation, New York, N.Y. Filed Feb. 6, 1967.



For Blouses, Shirts, Socks, and Dresses (Int. Cl. 25).
First use Jan. 31, 1967.

SN 299,612. Sarani Tailleur, Kowloon, Hong Kong. Filed May 2, 1968.

SARANI TAILLEUR

No registration rights are claimed for the word "Tailleur" apart from the mark shown, but the applicant waives none of its common law rights in the mark shown or any feature thereof.
For Tailored Clothes—Namely, Suits, Dresses, Coats, Sportshirts, Jackets, and Slacks (Int. Cl. 25).
First use Apr. 25, 1964; in commerce May 25, 1964.

SN 309,834. Broadway-Hale Stores, Inc., Los Angeles, Calif. Filed Oct. 17, 1968.

DELAMO

Owner of Reg. No. 550,333.
For Men's Suits, Coats, Jackets, and Slacks (Int. Cl. 25).
First use Sept. 16, 1965.

SN 320,031. Caribbean Shoe Corporation, Miami, Fla. Filed Feb. 25, 1969.

Kicks-Kicks-Kicks

For Shoes (Int. Cl. 25).
First use Sept. 30, 1968.

SN 321,343. Uniroyal, Inc., New York, N.Y. Filed Feb. 17, 1969.



The drawing is lined for the color yellow.
For Firemen's Boots (Int. Cl. 9).
First use at least as early as Jan. 1, 1961.

SN 322,605. A. I. Meyer Corporation, Boston, Mass. Filed Mar. 24, 1969.

COLCHESTER

For Sport Coats for Men and Boys (Int. Cl. 25).
First use August 1968.

SN 325,204. John Kiesewetter, Newfoundland, N.J. Filed Apr. 22, 1969.

GripAll

For Rubber Gloves (Int. Cl. 25).
First use on or about Nov. 30, 1968.

SN 327,290. Miwon Industrial Co., Ltd., Seoul, Korea. Filed May 14, 1969.

MIWON

For Sweaters (Int. Cl. 25).
First use Jan. 1, 1960; in commerce Dec. 10, 1963.

SN 329,546. Wayne-Gossard Corporation, Humboldt, Tenn. Filed June 9, 1969.

PANTY-SET

For Ladies' Hosiery (Int. Cl. 25).
First use on or about Apr. 18, 1969.

SN 330,333. Saddleman's, Inc., El Paso, Tex. Filed June 18, 1969.

SADDLEMAN'S

For Men's Apparel—Namely, Slacks and Sport Coats (Int. Cl. 25).
First use Feb. 1, 1969.

SN 330,993. D'Orsay Mills, Inc., Reading, Pa. Filed June 26, 1969.

ENGINEERED TOP

For Men's Hosiery (Int. Cl 25)
First use June 16, 1969

SN 333,868. Alamo Manufacturing Co., Inc., New York, N.Y. Filed July 30, 1969.

Owner of Reg. No. 858,990.
For Ladies' Dresses, Slacks, Skirts, Jackets, Blouses, Jumpers, Culottes, and Scarves (Int. Cl. 25).
First use July 7, 1969.

SN 334,176. Melville Shoe Corporation, New York, N.Y. Filed Aug. 13, 1969.

KINSMAN

For Men's Shoes (Int. Cl. 25).
First use Aug. 11, 1969.

SN 336,070. Pembrooke Lingerie Co., Inc., New York, N.Y. Filed Aug. 25, 1969.

MINI-TWIN

For Intimate Apparel—Namely, Slips and Sleepwear, Half-Slips, Bras, Foundations; and Leisurewear—Namely, Robes, Lounging Pajamas, Shifts, Negligees, and Dusters (Int. Cl. 25).
First use March 1969.

SN 336,990. The United States Shoe Corporation, Cincinnati, Ohio. Filed Sept. 4, 1969.

Divertimento

The English translation of the Spanish word "Divertimento" is "fun, merriment, sport, or amusement."
For Ladies' Shoes (Int. Cl. 25).
First use at least as early as July 21, 1969.

SN 337,639. Coterie of London, Ltd., New York, N.Y. Filed Sept. 11, 1969.

SW1

For Ladies' Knit Suits and Dresses (Int. Cl. 25).
First use Mar. 21, 1969.

SN 338,119. Joseph Bancroft & Sons Company, New York, N.Y. Filed Sept. 17, 1969.

pantcho

For Panty Hose Attached to Slacks for Loungewear (Int. Cl. 25).
First use Aug. 30, 1969.

SN 338,600. New Process Company, Warren, Pa. Filed Sept. 22, 1969.

COZY GAL

For Women's Coats (Int. Cl. 25).
First use June 16, 1969.

SN 338,601. New Process Company, Warren, Pa. Filed Sept. 22, 1969.

CASUAL GAL

For Women's Dresses (Int. Cl. 25).
First use Nov. 13, 1967.

SN 339,137. Cheryl Fabrics, Inc., Spartanburg, S.C. Filed Sept. 29, 1969.

LADY "C"

For Women's Dresses (Int. Cl. 25).
First use July 23, 1969.

SN 339,702. Barbour Welting Company, Inc., Brockton, Mass. Filed Oct. 3, 1969.

BONWELTS

For Shoe Welting (Int. Cl. 25).
First use in or about June 1960.

SN 340,112. Ludeane H. Benson, Tremonton, Utah. Filed Oct. 8, 1969.

Lu Deane's

For Women's Clothing, Specifically, Dresses, Suits, Coats, Slips, Underwear, Nightgowns, Pajamas, and Pegnoirs (Int. Cl. 25).
First use Nov. 26 1966.

SN 340,803. Robby Len, Inc., New York, N.Y. Filed Oct. 15, 1969.

SWIMAGINATION

For Swimwear, Beachwear, and Playsuits (Int. Cl. 25).
First use Sept. 10, 1969.

SN 342,469. International Paper Company, New York, N.Y. Filed Nov. 3, 1969.

Supertot

For Disposable Diapers (Int. Cl. 25).
First use Sept. 25, 1969.

SN 347,378. Kimberly-Clark Corporation, Neenah, Wis. Filed Dec. 30, 1969.

NEW FREEDOM

Owner of Reg. No. 877,479.
For Sanitary Panties (Int. Cl. 25).
First use Sept. 18, 1969.

Class 40—Fancy Goods, Furnishings, and Notions

SN 264,138. Fashion Tress, Inc., Miami Beach, Fla. Filed Feb. 7, 1967.

CHEETAH

For Ladies' Wigs and Hair Pieces (Int. Cl. 26).
First use on or about Jan. 1, 1967.

SN 295,440. Sam Kalinsky & Son, Inc., New York, N.Y. Filed Apr. 11, 1968.

ESS-KAY

For Wigs, Wiglets, and Hair Pieces (Int. Cl. 26).
First use Jan. 2, 1966.

SN 315,925. James of California, Inc., Dayton, Ohio. Filed Jan. 6, 1969.

James of California

Applicant claims exclusive right to use of the phrase "Of California" as part of its composite mark, but not otherwise.
For Headpieces—Namely, Wigs, Falls, and Wiglets (Int. Cl. 26).
First use at least as early as Nov. 1, 1968.

SN 323,356. Paragon Hair Goods, Ltd., New York, N.Y. Filed Apr. 1, 1969.

JOYE

For Wigs (Int. Cl. 26).
First use Oct. 15, 1968.

SN 329,160. Zsa Zsa Limited, New York, N.Y. Filed June 4, 1969.

ZSA ZSA LASH

Applicant disclaims the word "Lash" apart from the mark as a whole, while reserving all common law rights therein.
For False Eyelashes (Int. Cl. 3).
First use May 2, 1969.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 334,392. Souveran Fabrics Corp., New York, N.Y. Filed Aug. 4, 1969.

SCANDEX-K

For Textile Fabric Made of Natural and Synthetic Yarn (Int. Cl. 24).
First use April 1968.

Class 44—Dental, Medical, and Surgical Appliances

SN 330,675. Medaids, Inc., Los Angeles, Calif. Filed June 23, 1969.

MEDAIDS

For Medical Instruments—Namely, Oxygen Monitors, Volumetric Controllers for Respirators, and Carbon Dioxide Monitors (Int. Cl. 10).
First use Dec. 16, 1968.

SN 335,246. The Lawton Company, Inc., New York, N.Y. Filed Aug. 13, 1969.

DURA-CUT

For Surgical Scissors (Int. Cl. 10).
First use May 4, 1969.

SN 337,481. Coles Electronic Corporation, Philadelphia, Pa. Filed Sept. 10, 1969.

MINISURG

Owner of Reg. Nos. 824,143 and 824,144.
For Radio Frequency Electrosurgical Unit Used in Surgical Treatment or Intervention (Int. Cl. 10).
First use Aug. 1, 1969.

SN 338,982. American Optical Corporation, Southbridge, Mass. Filed Sept. 26, 1969.

RED DEVIL

For Respirators and Parts Therefor (Int. Cl. 9).
First use as early as 1962.

Class 45—Soft Drinks and Carbonated Waters

SN 330,444. Canada Dry Corporation, New York, N.Y. Filed June 18, 1969.

CANADA DRY ROOTi

Owner of Reg. Nos. 513,120, 819,993, and others.
For Root Beer (Int. Cl. 32).
First use May 16, 1966.

Class 46—Foods and Ingredients of Foods

SN 288,076. The Borden Company, New York, N.Y. Filed Jan. 4, 1968.

YODELS

For Devils Food Cake (Int. Cl. 30).
First use on or about Aug. 15, 1962.

SN 309,908. Salt's Enterprises, San Rafael, Calif. Filed Oct. 17, 1968.

H. SALT, ESQ.

"H. Salt" is the name of a living individual whose consent is of record.
For Cooked Fish and Chips, Vinegar, Wheat Flour Batter Mix, and Frozen Fish (Int. Cls. 29 and 30).
First use about Jan. 2, 1967.

SN 311,785. Irsin Restaurant Corporation, d.b.a. Peter Pan, New York, N.Y. Filed Nov. 12, 1968.

THE SKINNY FREEZE

No registration rights are claimed for the word "Freeze" apart from the mark shown.
For Low Calorie Milk Shake Made With a Dry Milk Base Sold in Frozen and Spoonable Form, and a Mix Therefor (Int. Cl. 30).
First use Nov. 8, 1968.

SN 318,925. Schluderberg-Kurdle Company, Inc., Baltimore, Md. Filed Feb. 11, 1969.

SILVER LABEL

No claim of exclusive use is made to a label colored silver.
For Fresh, Canned, Frozen, Smoked, and Processed Ham, Pork, Bacon, and Luncheon Meats (Int. Cl. 29).
First use February 1966.

SN 323,537. David & Frere (1967) Ltee, Montreal, Quebec, Canada. Filed Apr. 3, 1969.

David

For Small Cakes and Cookies (Int. Cl. 30).
First use on or about July 7, 1954; in commerce on or about July 7, 1954.

SN 332,786. Whipco Foods, Inc., Chicago, Ill. Filed July 17, 1969.

VAN PARK

For Packaged Foods Sold to the Consuming Public, Particularly Prepared Meats (Int. Cl. 29).
First use June 20, 1969.

SN 335,644. Graham Cheese Corporation, Elnora, Ind. Filed Aug. 19, 1969,

GRAHAM FARMS

The Portrait is that of "Ziba F. Graham" whose consent is of record. The drawing is lined for the color green.
For Cheese and Butter (Int. Cl. 29).
First use May 1945.

SN 339,609. The Theobald Industries, Harrison, N.J. Filed Oct. 2, 1969.

ROYAL DUTCH BRAND

Applicant disclaims the word "Brand."
For Vegetable Oil Shortening (Int. Cl. 29).
First use July 15, 1969.

SN 341,789. Michael J. Cave, d.b.a. Gourmet Foods, Rockford, Ill. Filed Oct. 27, 1969.

EAST FLANDERS

For Salad Dressings (Int. Cl. 29).
First use Aug. 31, 1969.

SN 347,002. Pilgrim Corporation, d.b.a. Pilgrim Industries, Pittsburg, Tex. Filed Dec. 23, 1969.

PILGRIM'S PRIDE

For Fresh Eggs and Ice Packed Dressed Poultry (Int. Cl. 29).
First use Dec. 2, 1969.

SN 347,554. James W. Macchiaroli, d.b.a. Anthony Brokerage, Phoenix, Ariz. Filed Jan. 2, 1970.



For Fresh Citrus Fruits and Fresh Grapes (Int. Cl. 31).
First use at least as early as November 1967.

SN 349,930. Reese Finer Foods, Inc., Chicago, Ill. Filed Jan. 29, 1970.

JOSEF

For Remoulade Sauce (Int. Cl. 30).
First use at least as early as December 1962.

Class 47—Wines

SN 323,869. M. S. Walker, Inc., Boston, Mass. Filed Apr. 7, 1969.

COSTA DO SOL

"Costa do Sol" may be translated as "Coast of the Sun."
For Wines—Namely, Portuguese Rosé Wines (Int. Cl. 33).
First use about August 1968.

Class 49—Distilled Alcoholic Liquors

SN 313,450. Joseph E. Seagram & Sons, Inc., New York, N.Y. Filed Dec. 2, 1968.

CRAIG DUFF

"Craig Duff" is not the name of a particular living individual. Owner of Reg. Nos. 274,479 and 809,109.
For Blended Whiskey (Int. Cl. 33).
First use Nov. 21, 1968.

SN 348,855. Joseph E. Seagram & Sons, Inc., New York, N.Y. Filed Jan. 19, 1970.

NORDIC LION

For Whiskey (Int. Cl. 33).
First use Dec. 12, 1969.

Class 50—Merchandise Not Otherwise Classified

SN 291,745. John Berg Manufacturing Co., Chicago, Ill. Filed Feb. 23, 1968.

MILLWRIGHT

For Ladders (Int. Cl. 20).
First use Jan. 5, 1928.

SN 322,329. Precision Valve Corporation, Yonkers, N.Y. Filed Mar. 20, 1969.

STENCILTIQUE

For Decorating Kits—Namely, Paints, Stencils, and Spraymakers, Sold as a Unit (Int. Cl. 16).
First use Feb. 13, 1969.

Class 51—Cosmetics and Toilet Preparations

SN 337,203. Scrubbletoys, Inc., St. Louis, Mo. Filed Sept. 5, 1969.

SCRUBBLES

For Bubble Bath (Int. Cl. 3).
First use Aug. 26, 1969.

SN 338,292. Alberto-Culver Company, Melrose Park, Ill. Filed Sept. 19, 1969.

EXCITEMENT

Owner of Reg. Nos. 868,246 and 868,255.
For Toothpaste (Int. Cl. 3).
First use July 17, 1968.

SN 341,909. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1969.

COULEUR PARISIENNE

"Couleur Parisienne" translated into English means "Parisian color."
For Hair Tinting, Dyeing, and Coloring Preparation (Int. Cl. 3).
First use Aug. 29, 1969.

SN 341,911. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1969.

INSTANT YOU

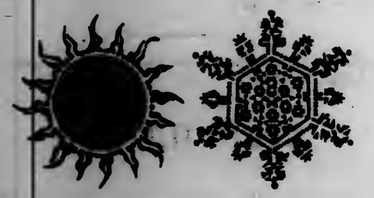
For Hair Tinting, Dyeing, and Coloring Preparation (Int. Cl. 3).
First use Oct. 7, 1969.

SN 342,261. The Gillette Company, d.b.a. The Toni Company, Boston, Mass. Filed Oct. 31, 1969.

CURL FREE

Owner of Reg. No. 802,020.
For Hair Relaxer Lotion, Relaxer Powder, Stabilizer Powder, Conditioner, Sold in Combination (Int. Cl. 3).
First use Jan. 10, 1964.

SN 342,453. Holiday Magic, San Rafael, Calif. Filed Nov. 3, 1969.



For Suntan Cream (Int. Cl. 3).
First use May 28, 1967.

SN 342,612. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

LIP BEAMER

Applicant disclaims the word "Lip" apart from the mark as shown.
For Lipstick Glosser (Int. Cl. 3).
First use Aug. 27, 1969.

SN 342,611. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

FAIR WEATHER FRIEND

For Lip Pomade and Sun Tan Lotion (Int. Cl. 3).
First use Aug. 27, 1969.

SN 342,663. Lawrence Palmer, Inc., Searingtown, N.Y. Filed Nov. 4, 1969.

ON ICE

For Men's Cologne and After Shave Lotion (Int. Cl. 3).
First use Oct. 1, 1969.

SN 342,664. Lawrence Palmer, Inc., Searingtown, N.Y. Filed Nov. 4, 1969.

MR. RIGHT

For Men's Cologne; After Shave Lotion; and Skin Blemish Cover-Up (Int. Cl. 3).
First use Oct. 1, 1969.

SN 342,723. Beecham Inc., Clifton, N.J. Filed Nov. 5, 1969.

CONCENTRATION

For Mouthwash (Int. Cl. 3).
First use June 9, 1969.

SN 343,312. La Maur, Inc., Minneapolis, Minn. Filed Nov. 12, 1969.

HYPO

For Hair Conditioner and Setting Lotion (Int. Cl. 3).
First use Oct. 28, 1969.

SN 343,379. Elizabeth Arden Sales Corporation, New York, N.Y. Filed Nov. 13, 1969.

MASCARETIC

For Mascara (Int. Cl. 3).
First use Oct. 14, 1969.

SN 343,953. Helene Curtis Industries, Inc., Chicago, Ill. Filed Nov. 19, 1969.

RESIST

For Concentrated Hair Setting Gel (Int. Cl. 3).
First use on or about Oct. 7, 1969.

SN 344,090. Bristol-Myers Company, New York, N.Y. Filed Nov. 20, 1969.

SOFTIQUE

Owner of Reg. No. 712,257.
For After-Bath Moisturizer and Refresher (Int. Cl. 3).
First use Sept. 10, 1969.

SN 344,174. Bristol-Myers Company, New York, N.Y. Filed Nov. 20, 1969.

BODY & SOUL

Owner of Reg. No. 887,252.
For Hair Coloring Preparations (Int. Cl. 3).
First use Oct. 6, 1969.

SN 344,322. Briseis S.A., Almeria, Spain. Filed Nov. 24, 1969.

TULIPAN NEGRO BRISEIS

Owner of Spanish Reg. No. 364,024, dated July 26, 1960; and U.S. Reg. No. 738,373.
For Perfumery and Eau de Cologne (Int. Cl. 3).

SN 344,392. L'Oreal, Paris, France. Filed Nov. 24, 1969.
For Perfume and Toilet Water (Int. Cl. 3).

EMINENCE

First use Oct. 20, 1908; in commerce Oct. 20, 1908.

SN 344,532. Avon Products, Inc., New York, N.Y. Filed Nov. 25, 1969.

ADD-A-CURL

For Hair Setting Lotion and Hair Spray (Int. Cl. 3).
First use Oct. 21, 1969.

SN 345,575. Union Carbide Corporation, New York, N.Y. Filed Dec. 8, 1969.

SELDOM

For Personal Deodorant (Int. Cl. 5).
First use on or about Nov. 24, 1969.

SN 347,813. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed Jan. 6, 1970.

FIRMESSCENCE 770

For Moisturizing Lotion (Int. Cl. 3).
First use Nov. 21, 1969.

SN 348,081. MEM Company, Inc., Northvale, N.J. Filed Jan. 9, 1970.

WINDDRIFT

For Toilet Preparations—Namely, Eau de Cologne, and Lotion Used as After-Shave Lotion (Int. Cl. 3).
First use Dec. 18, 1969.

Class 52—Detergents and Soaps

SN 281,495. Servicemaster Industries, Inc., Downers Grove, Ill. Filed Sept. 29, 1967.

SOCKO

For All Purpose Cleaner (Int. Cl. 3).
First use Aug. 31, 1967.

SN 302,583. Samuel Bonat & Bro., Inc., West Paterson, N.J. Filed July 12, 1968.

SUNGLOW

For Hair Shampoo (Int. Cl. 3).
First use 1933.

SN 324,912. W. R. Grace & Co., New York, N.Y. Filed Apr. 18, 1969.

CUT-AWAY

For Drainpipe Opener and Degreaser (Int. Cl. 3).
First use Jan. 14, 1969.

SN 328,600. J. A. Sexauer Mfg. Co., Inc., White Plains, N.Y. Filed May 28, 1969.

SEXAUER PRODUCTS

Applicant disclaims the word "Products" apart from the mark as shown. Owner of Reg. Nos. 375,977, 861,261, and others.
For Closet Bowl Enamel, Porcelain Cleaners, Waste Pipe Cleaner, Scale Removers, Rust Removers, and Sewer System Cleaner (Int. Cl. 3).
First use during 1966; 1921 as to "Sexauer."

SN 335,730. Airwick Industries, Inc., Carlstadt, N.J. Filed Aug. 20, 1969.

airkem enzymatic system

The words "Enzymatic System" are disclaimed apart from the mark as shown. Owner of Reg. No. 731,945 and others.
For Enzymatic Preparation for Removing Grease and Other Organic Deposits From Drains and Traps (Int. Cl. 3).
First use April 1968.

SN 344,374. W. R. Grace & Co., New York, N.Y. Filed Nov. 24, 1969.

BOAST

For Liquid Chlorinated Dishwashing Compound (Int. Cl. 3).
First use Oct. 3, 1969.

SN 349,278. Morton International, Inc., Chicago, Ill. Filed Jan. 22, 1970.



Owner of Reg. Nos. 103,357, 875,298, and others.
For Cleaning Preparation for Removing Iron and Rust Deposits From Water Softeners, Metals, Porcelain, and Glass (Int. Cl. 3).
First use on or about July 16, 1969; on or about Nov. 6, 1914, in a different form.

SN 349,542. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 26, 1970.

DYNAMO

Owner of Reg. No. 645,230.
For All Purpose Cleaner (Int. Cl. 3).
First use Dec. 9, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 291,777. San Diego 200th Anniversary, Inc., San Diego, Calif. Filed Feb. 23, 1968.



The numerical designation "1769–1969" and the phrase "San Diego 200th Anniversary" are disclaimed apart from the mark.

For Association Services—Namely, Promoting the Economy of the City of San Diego by Conducting an Exposition (Int. Cl. 41).

First use September 1966.

SN 293,352. CER Geonuclear Corporation, Las Vegas, Nev. Filed Mar. 15, 1968.

The lining found in the drawing of record forms a part of the mark and does not indicate color.

For Research and Consultation Services in the Area of Promoting, Developing and Conducting Peaceful Uses of Nuclear Explosives (Int. Cl. 42).

First use July 5, 1966.

SN 296,532. S and S Distributors, Incorporated, d.b.a. S & S Distributors, Kingfisher, Okla. Filed Apr. 25, 1968.



The term "Drive-In" is disclaimed apart from the mark as shown.

For Restaurant Services (Int. Cl. 42).

First use Sept. 1, 1966.

SN 305,309. The Biscuit and Cracker Manufacturers' Association, Chicago, Ill. Filed Aug. 16, 1968.

B & CMA

For Promotional Association Services for Biscuit and Cracker Manufacturers—Namely, Consulting Services and Conferences on Management and Production Processing, Correspondence Courses in Biscuit and Cracker Technology, and Publication of Technical Handbooks and Bulletins (Int. Cl. 42).

First use prior to 1965.

SN 309,233. Burger King Corporation, Miami, Fla. Filed Oct. 9, 1968.

THE BURGERS ARE BIGGER AT BURGER KING

Owner of Reg. No. 722,375.

For Drive-In Restaurant Services (Int. Cl. 42).

First use July 29, 1968.

SN 317,716. The Chicken Chef Systems Incorporated, Jackson, Miss. Filed Jan. 28, 1969.



For Restaurant Services (Int. Cl. 42).

First use June 6, 1968.

SN 317,718. The Chicken Chef Systems Incorporated, Jackson, Miss. Filed Jan. 28, 1969.

BIG CHICKEN

Applicant disclaims any rights in the word "Chicken" apart from the mark.

For Restaurant Services (Int. Cl. 42).

First use Dec. 6, 1968.

SN 318,910. Inter-Varsity Christian Fellowship of the United States of America, Chicago, Ill. Filed Feb. 11, 1969.

NURSES CHRISTIAN FELLOWSHIP

No exclusive claim is made to the word "Nurses" apart from the mark as shown. Owner of Reg. No. 653,195.

For Promotion of Religious Awareness Among Nurses and Nursing Students by Organization and Guidance of Inter-Denominational Christian Groups (Int. Cl. 42).

First use June 21, 1952.

SN 319,356. A. Pomerants & Company, Philadelphia, Pa. Filed Feb. 17, 1969.

COMMUNIGRAPHICS

For Graphic Design Services—Namely, the Design of Packaging, Stationery, Advertising and Promotional Material, and Design of Trademarks and Corporate Logotypes for Others (Int. Cl. 42).

First use Jan. 20, 1969.

SN 319,937. Omnicare Inc., New York, N.Y. Filed Feb. 24, 1969.

OMNICARE

For Medical-Dental Health Center Services and Office Rental and Medical and Dental Equipment Rental Services (Int. Cl. 42).

First use Dec. 9, 1968.

SN 321,607. Country Kitchen Incorporated, of Middletown, Ohio., Cincinnati, Ohio. Filed Mar. 13, 1969.



Owner of Reg. Nos. 724,610, 742,443, and others.

For Restaurant Services (Int. Cl. 42).

First use October 1961.

SN 323,477. Seismic Computing Corp., Houston, Tex. Filed Apr. 2, 1969.

ANSAC

For Seismic Exploration and Processing of Seismic Data for Others (Int. Cl. 42).

First use at least as early as about Sept. 24, 1968.

SN 325,769. Vincent R. Metallo, Washington, D.C. Filed Apr. 28, 1969.



The words "Hair Styling for Men" are disclaimed apart from the mark as shown.

For Men's Hair Styling (Int. Cl. 42).

First use Apr. 7, 1969.

SN 326,331. American Airlines, Inc., New York, N.Y. Filed May 5, 1969.

FLAGSHIP

Owner of Reg. No. 664,203.

For Hotel Services (Int. Cl. 42).

First use Apr. 4, 1969.

SN 326,649. Robert E. Hattis Engineers, Inc., Deerfield, Ill. Filed May 7, 1969.



For Engineering Services—Namely, Architectural, Structural, Mechanical, Electrical, and Industrial (Int. Cl. 42).

First use at least as early as July 1, 1957.

SN 327,185. White Palace Systems, Inc., Cincinnati, Ohio. Filed May 13, 1969.



The drawing is lined to indicate the color orange and color is claimed as a feature of the mark.

For Restaurant Services (Int. Cl. 42).

First use at least as early as Jan. 10, 1969.

SN 328,043. Julian H. Eady, Decatur, Ga. Filed May 22, 1969.

DODGE HOUSE

For Restaurant Services (Int. Cl. 42).

First use Mar. 26, 1967.

SN 328,178. Holly Grills, Inc., Grand Rapids, Mich. Filed May 23, 1969.

HOLLY'S

For Restaurant Services (Int. Cl. 42).

First use on or about Jan. 1, 1924.

SN 328,181. Holly Grills, Inc., Grand Rapids, Mich. Filed May 23, 1969.

HOLLY'S LANDING

For Restaurant Services (Int. Cl. 42).

First use on or about Jan. 7, 1968.

SN 328,298. Holly Grills, Inc., Grand Rapids, Mich. Filed May 26, 1969.



For Restaurant Services (Int. Cl. 42).

First use on or about Jan. 7, 1968.

SN 330,809. Social Dynamics, Incorporated, Boston, Mass. Filed June 24, 1969.

SOCIAL DYNAMICS

For Consulting and Program Planning Services in the Field of Human Relations (Int. Cl. 42).
First use June 1, 1966.

SN 330,818. Cave Inn Corp., Washington, D.C. Filed June 24, 1969.

THE CAVE

For Restaurant and Night Club Services (Int. Cl. 42).
First use Dec. 6, 1968.

SN 331,166. James L. Crawford, d.b.a. Watchbird Systems Company, Wichita, Kans. Filed June 27, 1969.



For Security and Protection Type Services Which Utilize Closed Circuit Television for Monitoring, Surveillance, and Alarms (Int. Cl. 42).
First use Apr. 15, 1969.

SN 331,623. Luigi's, Inc., Camp Hill, Pa. Filed June 25, 1969.

COSTY'S

For Restaurant Services (Int. Cl. 42).
First use May 15, 1969.

SN 331,951. William H. Upham, Milwaukee, Wis. Filed July 7, 1969.

TRAFFICPOWER

For Advising and Counseling Various Companies in the Fields of Traffic Safety and Courtesy (Int. Cl. 42).
First use Sept. 28, 1966.

SN 333,045. Consolidated Equities Corporation, Atlanta, Ga. Filed July 22, 1969.

PEACHTREE HOUSE

For Restaurant Services (Int. Cl. 42).
First use July 1957.

SN 346,803. Host Enterprises, Inc., East Lampeter Township, Pa. Filed Dec. 22, 1969.

HOST TOWN

For Motel Services (Int. Cl. 42).
First use January 1960.

SN 347,694. The Texan International, Inc., Saginaw, Mich. Filed Jan. 5, 1970.



For Restaurant Services (Int. Cl. 42).
First use July 1, 1968.
Subj. to Intf. with SN 330,660 and SN 330,661.

SN 349,559. Taco Bell, Inc., Torrance, Calif. Filed Jan. 26, 1970.



For Restaurant Services (Int. Cl. 42).
First use on or about Dec. 16, 1969.

Class 101 — Advertising and Business

SN 280,614. The Mailing House, Inc., Los Angeles, Calif. Filed Sept. 18, 1967.



For Direct Mail Advertising—Namely, Preparation of Mailing Lists, Private Mailing List Maintenance, Addressing, Mimeographing, Automatic Typing, Typewriter Addressing, Mailings to Occupants, List Compiling, Label Affixing, Collating, Folding, Enclosing, Sealing, Metering, Sorting, Stamping, Bundling, Third Class Mailing, Hand Addressing, and Premium Handling (Int. Cl. 35).
First use prior to Jan. 23, 1956.

SN 304,680. Stop & Shop, Inc., Boston, Mass. Filed Aug. 7, 1968.



For Drugstore Services at Retail (Int. Cl. 35).
First use June 17, 1968.

SN 309,316. Universal Communications, Inc., New York, N.Y. Filed Oct. 9, 1968.

unicom

For Procuring Advertising Facilities on Radio, Television and in Publications for Others (Int. Cl. 35).
First use Feb. 1, 1968.
Subj. to Intf. with SN 309,634.

SN 311,197. Bates & Springer, Inc., Cleveland, Ohio. Filed Sept. 26, 1968.



For Real Estate Brokerage and Property Management Services (Int. Cl. 35).
First use Mar. 1, 1963.

SN 316,264. Wax & Wicker Works, Inc., Raleigh, N.C. Filed Jan. 9, 1969.

WAX & WICKER WORKS

For Retail Gift Shop Services (Int. Cl. 35).
First use as early as Nov. 7, 1968.

SN 316,443. La Salle-Deitch Company, Inc., Elkhart, Ind. Filed Jan. 13, 1969.



The drawing is lined for the colors blue and green.
For Manufacturers' Representative Services in the Field of Mobile Home Furnishings and Accessories (Int. Cl. 35).
First use June 1, 1964.

SN 317,873. Republic Software Products, Inc., East Orange, N.J., assignee of Republic Systems and Programming, Inc., Secaucus, N.J. Filed Jan. 29, 1969.

MIRACL

For Computer Programming (Int. Cl. 35).
First use at least as early as Nov. 20, 1968.

SN 319,601. Herron-Kienzle, Inc., Westport, Conn. Filed Feb. 19, 1969.



ROYAL BINGO

The word "Bingo" is disclaimed apart from the mark as shown. The drawing is lined for the color red, no claim is made to color as forming a part of the mark.
For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).
First use Dec. 15, 1968.

SN 321,638. The Reuben H. Donnelley Corporation, New York, N.Y. Filed Mar. 13, 1969.

DRIS

Owner of Reg. No. 570,822.
For Marketing Research Services in the Field of Consumer Goods to the Order and/or Specification of Others (Int. Cl. 35).
First use on or before Mar. 1, 1968.

SN 321,719. GAF Corporation, New York, N.Y. Filed Mar. 14, 1969.

GAF

Owner of Reg. Nos. 509,124, 837,005, and others.
For Promoting the Sale of Goods of Photographic Dealers by Providing to Photographic Dealers Advertising Copy, Advertising Mats, and Aid in Placing Advertisements (Int. Cl. 35).
First use Feb. 24, 1969.

SN 321,899. Broadway-Hale Stores, Inc., Los Angeles, Calif. Filed Mar. 17, 1969.

WEINSTOCK'S

For Retail Department Store Services (Int. Cl. 35).
First use July 1967; 1874 in a different form.

SN 322,567. Domenico's Gondola, Inc., Long Beach, Calif. Filed Mar. 24, 1969.

DOMENICO'S GONDOLAS

For Aid in the Establishment and Operation of Restaurants for Others (Int. Cl. 35).
First use on or about Oct. 31, 1968.

SN 323,471. Petty Geophysical Engineering Company, San Antonio, Tex. Filed Apr. 2, 1969.

VIVA

For Computer Programming Services in the Field of Seismic Exploration (Int. Cl. 35).
First use January 1969.

SN 323,652. Robert M. Randolph, d.b.a. Planagement Associates, Northbrook, Ill. Filed Apr. 4, 1969.

PLANAGEMENT

For Management Consulting Services Consisting of Advice and Counsel in Financial Management, Planning and Personnel Utilization (Int. Cl. 35).
First use Mar. 31, 1969.

SN 323,942. Cyber-Tronics, Inc., New Hyde Park, N.Y. Filed Apr. 8, 1969.

CTI

Owner of Reg. No. 803,230.
For Computer Programming Services (Int. Cl. 35).
First use Apr. 28, 1960.

SN 327,170. Real Estate Central, Inc., Washington, D.C. Filed May 13, 1969.

REAL ESTATE CENTRAL

The words "Real Estate" are disclaimed apart from the mark as shown.
For Real Estate Brokerage Services (Int. Cl. 35).
First use Apr. 5, 1967.

SN 333,502. National Pizza Corporation, St. Louis, Mo. Filed July 25, 1969.

NATIONAL PIZZA

The term "Pizza" is disclaimed apart from the mark as shown.
For Rendering Technical Assistance to Others in Establishing and Operating Franchise Locations at Which Pizza Is Sold (Int. Cl. 42).
First use Jan. 15, 1969; May 1967 as to "National Pizza."

SN 336,542. Computer Specialties, Inc., Minneapolis, Minn. Filed Aug. 28, 1969.

COMPUTABOWL

For Computing Periodic Bowling Statistics (Int. Cl. 35).
First use July 14, 1969.

SN 337,406. Leonard's Pit Barbecue, Inc., Memphis, Tenn. Filed Sept. 9, 1969.

LEONARD'S IS WHAT REAL PIT BARBECUE IS ALL ABOUT

Applicant claims the exclusive right to use the expression "Real Pit Barbecue" as part of its mark, but not otherwise, without waiving common law rights to any feature thereof. Owner of Reg. No. 881,043.
For Restaurant and Catering Services (Int. Cl. 35).
First use during February 1969; at least as early as 1922 as to "Leonard's."

SN 337,596. Case Thompson, Inc., Albuquerque, N. Mex. Filed Sept. 10, 1969.

SPEEDWAY PRINTING

The word "Printing" is disclaimed apart from the mark as shown.
For Quick Printing Services (Int. Cl. 35).
First use June 23, 1969.

SN 338,478. MBA Enterprises, Inc. (Delaware corporation), New York, N.Y., assignee of MBA Enterprises, Inc. (Massachusetts corporation), New York, N.Y. Filed Sept. 22, 1969.

MBA

Owner of Reg. No. 868,442.
For Personnel Recruiting, Research, and Reporting Services (Int. Cl. 35).
First use Nov. 7, 1968.

SN 339,959. Petroleum Service Advertising, Inc., Blue Island, Ill. Filed Oct. 7, 1969.

BATTER UP FOR CASH

Owner of Reg. No. 881,447.
For Promotion of Gasoline and Oil Service Station Services and Goods for the Benefit of Others by Means of a Program Carried Out Through Advertising, Store Window Advertising Displays and Signs, Game Cards and Instructions, Promotional Literature and Promotional Games (Int. Cl. 35).
First use May 1, 1968.

Class 102 — Insurance and Financial

SN 321,746. Arthur A. Anderson, New York, N.Y. Filed Mar. 14, 1969.

SOURCE

For Managing Financial Matters and Providing Investment Research (Int. Cl. 36).
First use February 1969.

SN 325,743. General United Group, Incorporated, Des Moines, Iowa. Filed Apr. 28, 1969.

GENERAL UNITED

For Insurance Services—Namely, Accident, Health, and Life Insurance (Int. Cl. 36).
First use Dec. 31, 1968.

SN 347,812. Independent Life & Accident Insurance Company, Jacksonville, Fla. Filed Jan. 6, 1970.

INDEPENDENT FIRE

For the purposes of registration, no claim is made to the exclusive right to use the word "Fire" apart from the mark as shown. Owner of Reg. Nos. 865,523 and 865,524.
For Underwriting Fire and Extended Coverage Insurance (Int. Cl. 36).
First use Dec. 10, 1969.

Class 103 — Construction and Repair

SN 311,694. Josephus Pullen, Jr., Chicago, Ill. Filed Nov. 8, 1968.

TERMI-TROL

For Termite Prevention and Extermination Services (Int. Cl. 37).
First use March 1967.

SN 314,783. Guardian Corporation, Denver, Colo. Filed Dec. 18, 1968.

GUARDIAN TRANSMISSIONS

Applicant disclaims exclusive rights in and to the word "Transmissions" apart from the mark as shown.
For Rebuilding, Repair and Installation of Automotive Automatic Transmissions (Int. Cl. 37).
First use Oct. 19, 1964.

SN 316,177. Audio Speaker Techtronics, Inc., New York, N.Y. Filed Jan. 9, 1969.

AST

For Services of Repairing and Servicing Electronic Musical Instruments, Hi-Fi Speakers, Musical Instrument Speakers and Cabinets and Sound Columns (Int. Cl. 37).
First use Apr. 4, 1968.

SN 331,776. Ron Pass & Associates Ltd., Maryland Heights, Mo. Filed July 3, 1969.

PASSPOINT

For Automatic Car Wash Services (Int. Cl. 37).
First use June 2, 1969.

SN 331,777. Ron Pass & Associates Ltd., Maryland Heights, Mo. Filed July 3, 1969.

PASSPOINT

For Automatic Car Wash Services (Int. Cl. 37).
First use June 17, 1969.

SN 342,583. Airway Equipment Rental Co., Inc., South Ozone Park, N.Y. Filed Nov. 4, 1969.

SNOWLIFT

For Airport Snow Removal Services (Int. Cl. 37).
First use May 12, 1958.

Class 105 — Transportation and Storage

SN 311,998. Allied Tube & Conduit Corporation, Harvey, Ill. Filed Nov. 13, 1968.



For Delivery of Tubing (Int. Cl. 39).
First use Aug. 28, 1968.

SN 324,437. Fun in the Sun Tours, Inc., Abington, Pa. Filed Apr. 14, 1969.

FUN IN THE PUERTO RICO SUN

Applicant disclaims the words "Puerto Rico" apart from the mark as shown. Owner of Reg. Nos. 820,506 and 865,527.
For Travel Agency Services, Tour Planning and Making Reservations (Int. Cl. 39).
First use Mar. 30, 1968.

SN 324,139. Fun in the Sun Tours, Inc., Abington, Pa. Filed Apr. 14, 1969.

FUN IN THE JAMAICAN SUN

Applicant disclaims the word "Jamaican" apart from the mark as shown. Owner of Reg. Nos. 820,506 and 865,527.
For Travel Agency Services, Tour Planning and Making Reservations (Int. Cl. 39).
First use Mar. 30, 1968.

SN 324,141. Fun in the Sun Tours, Inc., Abington, Pa. Filed Apr. 14, 1969.

FUN IN THE VIRGIN ISLANDS SUN

Applicant disclaims the words "Virgin Islands" apart from the mark as shown. Owner of Reg. Nos. 820,506 and 865,527.
For Travel Agency Services, Tour Planning and Making Reservations (Int. Cl. 39).
First use Mar. 30, 1968.

Class 106 — Material Treatment

SN 280,928. Perfection Photo Co., Inc., d.b.a. Pittsburgh Free Film Co., Greensburg, Pa. Filed Sept. 18, 1967.



For Mail Order Photo-Finishing Services (Int. Cl. 40).
First use Dec. 9, 1964.

SN 322,955. Brazing & Metal Treating, Inc., Cleveland, Ohio. Filed Mar. 27, 1969.

BMT

Owner of Reg. No. 880,203.
For Heat Treating of Metal—Namely, Annealing, Stress Relieving, and the Brazing and Assembly of Metal Parts, to the Individual Specifications of Others (Int. Cl. 40).
First use Jan. 2, 1968.

Class 107 — Education and Entertainment

SN 308,238. Daniel Starch & Staff, Inc., Mamaroneck, N.Y. Filed Sept. 25, 1968.

STARCH

For Maintaining an Ad-File Library for the Rental of Information Relating to Advertising Histories of Brands and Companies, and Providing Teachers and Students at Institutions of Higher Education With Instructional and Study Materials Concerning the Analysis of Advertising Effectiveness (Int. Cl. 41).
First use in or about 1932.

SN 314,093. The Lamplighter Club, Inc., New Orleans, La. Filed Dec. 10, 1968.



"Chase" identifies "John Chase," a living individual whose consent is of record.
For Private Recreation Club Services (Int. Cl. 41).
First use on or about Aug. 24, 1967.

SN 317,880. Spa International, Inc., Houston, Tex. Filed Jan. 29, 1969.



For Instructional Services in Body Care and Body Health, Including Physical Fitness, Weight Reduction and Control, and Therapeutic Treatment (Int. Cl. 41).
First use in about July 1963.
Subj. to Intf. with SN 335,878.

SN 328,640. Stephen C. Ames, Houston, Tex. Filed May 29, 1969.

MOVING SIDEWALKS

For Entertainment Services Rendered by a Musical Group (Int. Cl. 41).
First use October 1966.

SN 336,268. Foundation of Baton Rouge, Baton Rouge, La. Filed Aug. 13, 1969.

MODEL OF THE YEAR

For Staging Annual Beauty Contests for Models and Aspiring Models (Int. Cl. 41).
First use Oct. 22, 1963.
Subj. to Intf. with SN 268,888 and SN 288,331.

SN 340,740. San Francisco Warriors, San Francisco, Calif. Filed Oct. 15, 1969.

WARRIORS

For Entertainment Services in the Nature of Basketball Exhibitions (Int. Cl. 41).
First use Oct. 28, 1962.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

891,126. NAS. The Richardson Company. SN 303,447. Pub. 3-3-70. Filed 7-23-68.

891,127. LAMBRIGHT AND GREEN BOLL DESIGN. J. H. Lambright, d.b.a. Lambright Seed Farm. SN 318,790. Pub. 3-3-70. Filed 2-10-69.

891,128. WYO-JEL. Ashland Oil & Refining Company. SN 320,787. Pub. 3-3-70. Filed 3-5-69.

891,129. SANISORB. Sullivan's Pet Supply Co., Inc., d.b.a. Pet Dealers Supply Co. SN 324,848. Pub. 3-3-70. Filed 4-17-69.

891,130. MOR-FLO. Morton International, Inc. SN 335,726. Pub. 3-3-70. Filed 8-20-69.

Class 2 — Receptacles

891,131. GROEN. Dover Corporation. MULTIPLE CLASS (Classes 2, 13, 23, 31, and 34). SN 307,436. Pub. 3-3-70. Filed 9-16-68.

891,132. STYLIZED E DESIGN. National Union Electric Corporation. MULTIPLE CLASS (Classes 2 and 21). SN 310,815. Pub. 3-3-70. Filed 10-30-68.

891,133. S SIMONSEN AND DESIGN. Simonsen Metal Products Corporation. MULTIPLE CLASS (Classes 2, 13, 22, and 32). SN 316,838. Pub. 3-3-70. Filed 1-16-69.

891,134. MOBILAIRE. Mobile Metal Products Inc. SN 321,962. Pub. 3-3-70. Filed 3-17-69.

891,135. OLYMPIA. American Hospital Supply Corporation. MULTIPLE CLASS (Classes 2 and 28). SN 323,221. Pub. 3-3-70. Filed 4-1-69.

891,136. LITTER-CHEET. Bennie L. Berg. SN 337,398. Pub. 3-3-70. Filed 9-9-69.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

891,137. REPRESENTATION OF A DOG. Superior Pet Products, Inc. SN 300,849. Pub. 3-3-70. Filed 6-19-68.

891,138. SNUGLI. Michael C. Moore. SN 306,677. Pub. 3-3-70. Filed 9-6-68.

891,139. PERMALIFE. Sternco Industries, Inc. SN 323,141. Pub. 3-3-70. Filed 3-28-69.

891,140. THE VALMATIC. Lark Luggage Corp. SN 325,880. Pub. 3-3-70. Filed 4-29-69.

891,141. THE CHARGER. Lark Luggage Corp. SN 326,385. Pub. 3-3-70. Filed 5-5-69.

891,142. EXPEDITOR I. Reliable Luggage, Inc. SN 326,906. Pub. 3-3-70. Filed 5-9-69.

891,143. MONTEGO. Reliable Luggage, Inc. SN 329,891. Pub. 3-3-70. Filed 6-12-69.

Class 4 — Abrasives and Polishing Materials

891,144. COTTON MAID. Gem, Incorporated. MULTIPLE CLASS (Classes 4, 6, and 52). SN 329,028. Pub. 3-3-70. Filed 6-4-69.

891,145. GLASSITE. James H. Rhodes & Company. SN 333,603. Pub. 3-3-70. Filed 7-25-69.

Class 5 — Adhesives

891,146. ADTAR. Utilities Research Corporation. SN 323,745. Pub. 3-3-70. Filed 4-4-69.

891,147. SNA-3. Atlantic Gummed Paper Corporation. SN 328,523. Pub. 3-3-70. Filed 5-28-69.

Class 6 — Chemicals and Chemical Compositions

891,144. (See Class 4 for this trademark.)

891,148. PI DELTA (DESIGN). Loew Chemical Corporation, by change of name from The Promaco Corporation. SN 298,244. Pub. 3-3-70. Filed 5-15-68.

891,149. RTM. Transene Company, Incorporated. SN 303,634. Pub. 3-3-70. Filed 7-25-68.

891,150. CYCLO-SORB. Desert Minerals, Inc. SN 304,313. Pub. 3-3-70. Filed 8-5-68.

891,151. WRINKLES AWAY. Ashburn Chemical Company, Inc. SN 307,964. Pub. 3-3-70. Filed 9-23-68.

891,152. ALBERTSONS. Albertson's, Inc. (Delaware corporation), by merger and change of name from Albertson's, Inc. (Nevada corporation). MULTIPLE CLASS (Classes 6, 46, and 52). SN 309,415. Pub. 3-3-70. Filed 10-11-68.

891,153. CARATOP. Geigy Chemical Corporation. SN 326,869. Pub. 3-10-70. Filed 5-9-69.

891,154. DOW CORNING Z-6040. Dow Corning Corporation. SN 316,739. Pub. 3-3-70. Filed 1-16-69.

891,155. DOW CORNING Z6030. Dow Corning Corporation. SN 316,740. Pub. 3-3-70. Filed 1-16-69.

891,156. DOW CORNING Z-6020. Dow Corning Corporation. SN 316,741. Pub. 3-3-70. Filed 1-16-69.

891,157. GULF AND ORANGE DISC DESIGN. Gulf Oil Corporation. SN 320,262. Pub. 3-3-70. Filed 2-27-69.

891,158. TINOREX. Geigy Chemical Corporation. SN 326,368. Pub. 3-3-70. Filed 5-5-69.

891,159. KOTEX. Kimberly-Clark Corporation. SN 335,299. Pub. 3-3-70. Filed 8-14-69.

891,160. KOTEX STAINGARD. Kimberly-Clark Corporation. SN 335,300. Pub. 3-3-70. Filed 8-14-69.

891,161. KINSTARCH. Diamond Shamrock Corporation. SN 335,402. Pub. 3-3-70. Filed 8-15-69.

891,162. KOTIQUE. Kimberly-Clark Corporation. SN 336,292. Pub. 3-3-70. Filed 7-24-69.

Class 8 — Smokers' Articles, Not Including Tobacco Products

891,163. NESOR. Rosen Enterprises, Inc. SN 326,488. Pub. 3-3-70. Filed 5-5-69.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

891,164. MC KINZIE MICHAELS AND DESIGN. Michaels of Oregon Co. SN 316,225. Pub. 3-3-70. Filed 1-9-69.

891,165. SEIS-MO-JET. Commercial Solvents Corporation. SN 317,580. Pub. 3-3-70. Filed 1-27-69.

891,166. HYDRALIN. Commercial Solvents Corporation. SN 318,892. Pub. 3-3-70. Filed 2-11-69.

891,167. SHARPS. Sharps Arms Company. SN 329,313. Pub. 3-3-70. Filed 6-6-69.

891,168. METROPOLITAN. Colt's Inc. SN 330,824. Pub. 3-3-70. Filed 6-24-69.

Class 11 — Inks and Inking Materials

891,169. PCI PRECISION COLORS INK AND DESIGN. Precision Colors, Inc. SN 301,446. Pub. 3-3-70. Filed 6-26-68.

Class 12 — Construction Materials

891,170. FI:X. Forest Interiors Corporation. SN 294,343. Pub. 3-3-70. Filed 3-28-68.

891,171. CRESTWOOD. Lloyd A. Fry Roofing Company. SN 330,159. Pub. 3-3-70. Filed 6-16-69.

891,172. PERMA-SASH PS-HUMANS AND HOUSE DESIGN. Julian L. Gregory. SN 330,598. Pub. 3-3-70. Filed 6-20-69.

891,173. ESLITE. Sekisui Products Inc. SN 331,073. Pub. 3-3-70. Filed 6-26-69.

891,174. MOONBURST. Simpson Timber Company. SN 338,862. Pub. 3-3-70. Filed 9-25-69.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

891,131. (See Class 2 for this trademark.)

891,133. (See Class 2 for this trademark.)

891,175. HPC AND DESIGN. Hydraulic Products Company, Inc. MULTIPLE CLASS (Classes 13, 14, 21, and 23). SN 315,483. Pub. 3-3-70. Filed 12-31-68.

891,176. TJ AND DESIGN. Societes des Clapets TJ. SN 315,607. Pub. 3-3-70. Filed 1-2-69.

891,177. CAMEO. Aluminum Specialty Company. SN 318,147. Pub. 3-3-70. Filed 2-3-69.

891,178. HEARTHSTONE. Block China Company. MULTIPLE CLASS (Classes 13, 30, and 33). SN 318,622. Pub. 3-3-70. Filed 2-7-69.

891,179. SAFE T BAR LOCK. Marvin Katz and Donald C. Green (joint owners), d.b.a. Doorjam Products. SN 324,471. Pub. 3-3-70. Filed 4-14-69.

891,180. KIRKY. Lloyd E. Kirkland, d.b.a. Kirky Manufacturing Company. SN 332,354. Pub. 3-3-70. Filed 7-11-69.

891,181. WINDOW-PAKS. Bliss & Laughlin Industries Incorporated. SN 335,911. Pub. 3-3-70. Filed 8-22-69.

Class 14 — Metals and Metal Castings and Forgings

891,175. (See Class 13 for this trademark.)

891,182. NF AND DESIGN. National Forge Company. MULTIPLE CLASS (Classes 14 and 23). SN 308,801. Pub. 3-3-70. Filed 10-3-68.

891,183. SACILOR. Societe des Acieres de Lorraine "Sacilor." SN 316,550. Pub. 3-3-70. Filed 1-14-69.

891,184. K-7. Steichrome Manufacturing, Inc. SN 334,635. Pub. 3-3-70. Filed 8-6-69.

Class 15 — Oils and Greases

891,185. CHLOROLUBE. Economics Laboratory, Inc. SN 318,037. Pub. 3-3-70. Filed 1-31-69.

Class 16 — Protective and Decorative Coatings

891,186. TASK FORCE. Insilco Corporation, assignee of Enterprise Paint Manufacturing Company. SN 286,897. Pub. 3-18-69. Filed 12-7-67.

891,187. SACI. Continental Oil Company. SN 290,828. Pub. 3-3-70. Filed 2-12-68.

891,188. VERSAPOX. Union Tank Car Company (Delaware corporation), by assignment and change of name from Union Tank Car Company (New Jersey corporation). SN 292,637. Pub. 3-3-70. Filed 3-6-68.

891,189. LOGIC 52. Chemtrust Industries Corp. SN 323,334. Pub. 3-3-70. Filed 4-1-69.

891,190. GALLERY OF COLORS. Montgomery Ward & Co., SN 337,497. Pub. 3-3-70. Filed 9-10-69.

Class 17 — Tobacco Products

891,191. WEBB'S. Webb's City, Inc. SN 330,865. Pub. 3-3-70. Filed 6-24-69.

891,192. HOUSE OF ORANGE. American Brands, Inc. SN 335,416. Pub. 3-3-70. Filed 8-15-69.

Class 18 — Medicines and Pharmaceutical Preparations

891,193. BUD'S. Ralph D. Phillips, d.b.a. Black Creek Pharmaceutical Co. SN 308,630. Pub. 3-3-70. Filed 10-1-68.

891,194. BETAVET. Schering Corporation. SN 309,992. Pub. 3-3-70. Filed 10-18-68.

891,195. TANDRISONE. Geigy Chemical Corporation. SN 326,868. Pub. 3-3-70. Filed 5-9-69.

891,196. PAREST. Parke, Davis & Company. SN 337,237. Pub. 3-3-70. Filed 9-8-69.

891,197. STREPTO-PEN. Ralston Purina Company. SN 338,017. Pub. 3-3-70. Filed 9-16-69.

Class 19 — Vehicles

891,198. SYNERAVIA. Tissmetal Lionel-DuPont. MULTIPLE CLASS (Classes 19 and 21). SN 275,709. Pub. 3-3-70. Filed 7-10-67.

891,199. COBALT. Cobalt Marine, Incorporated. SN 325,338. Pub. 3-3-70. Filed 4-28-69.

891,200. STINGER AND DESIGN. Trail-A-Sled, Inc. SN 335,387. Pub. 3-3-70. Filed 8-14-69.

891,201. SUPER STINGER AND DESIGN. Trail-A-Sled, Inc. SN 335,388. Pub. 3-3-70. Filed 8-14-69.

Class 21 — Electrical Apparatus, Machines, and Supplies

891,132. (See Class 2 for this trademark.)

891,175. (See Class 13 for this trademark.)

891,198. (See Class 19 for this trademark.)

891,202. MSL AND DESIGN. MSL Industries, Inc. SN 256,110. Pub. 9-19-67. Filed 10-10-66.

891,203. WELLS FARGO. Baker Industries, Inc. CONSOLIDATED CERTIFICATE. SN 285,717, pub. 2-24-70, filed 11-28-67, Cl. 21; SN 284,150, pub. 9-16-69, filed 11-6-67, Cls. 100 and 103.

891,204. SCI Sorensen-Christian" Industries, Inc. MULTIPLE CLASS (Classes 21 and 22). SN 295,060. Pub. 3-3-70. Filed 4-5-68.

891,205. LIVING JEWEL. Edward Craven Walker. SN 301,984. Pub. 3-3-70. Filed 7-3-68.

891,206. CONCORD. Concord Electronics Corporation. MULTIPLE CLASS (Classes 21 and 36). SN 310,273. Pub. 3-3-70. Filed 10-23-68.

891,207. PHILIPS AND SHIELD DESIGN. N.V. Philips' Gloeilampenfabrieken. SN 315,258. Pub. 3-3-70. Filed 12-26-68.

891,208. BON VIVANT. Proctor-Silex Incorporated. SN 323,362. Pub. 3-3-70. Filed 4-1-69.

891,209. MISCELLANEOUS DESIGN. Proctor-Silex Incorporated. MULTIPLE CLASS (Classes 21 and 24). SN 323,506. Pub. 3-3-70. Filed 4-3-69.

891,210. DD DOLBY SYSTEM. Dolby Laboratories Inc. SN 326,862. Pub. 3-3-70. Filed 5-9-69.

891,211. MIL-AIR AND DESIGN. Mil-Air Electronics Corporation. SN 328,187. Pub. 3-3-70. Filed 5-23-69.

891,212. PUREX AND DESIGN. Purex Corporation, Ltd. MULTIPLE CLASS (Classes 21, 23, 31, 34, and 50). SN 330,987. Pub. 3-3-70. Filed 6-26-69.

891,213. ARROW HART AND DESIGN. Arrow-Hart, Inc. SN 331,006. Pub. 3-3-70. Filed 6-26-69.

891,214. DEFIANCE. Defiance International, Ltd. SN 331,594. Pub. 3-3-70. Filed 7-2-69.

891,215. VORTA AND DESIGN. Vorta Systems, Inc. SN 332,429. Pub. 3-3-70. Filed 7-14-69.

891,216. JUBILEE. Jubilee Manufacturing Co. SN 333,052. Pub. 3-3-70. Filed 7-22-69.

891,217. CHROMACOLOR. Zenith Radio Corporation. SN 338,733. Pub. 2-24-70. Filed 9-24-69.

Class 22 — Games, Toys, and Sporting Goods

891,133. (See Class 2 for this trademark.)

891,204. (See Class 21 for this trademark.)

891,218. GYM-I-NEE AND DESIGN. Gym-I-Nee Associates. SN 297,114. Pub. 3-3-70. Filed 8-25-67.

891,219. KIK-BAK AND DESIGN. Wells Manufacturing Co., Inc. SN 308,730. Pub. 3-3-70. Filed 10-2-68.

891,220. K-KIDS HAVE MORE FUN. Chemtoy Corporation, by change of name from Chemical Sundries Co., Inc. SN 308,770. Pub. 3-3-70. Filed 10-3-68.

891,221. EARLYPLAY. Bilo v. G. K. Kristiansen. SN 316,879. Pub. 3-3-70. Filed 1-17-69.

891,222. ADIDAS AND DESIGN. Adidas-Sportschuhfabriken Adi Dassler K.G. MULTIPLE CLASS (Classes 22 and 39). SN 318,280. Pub. 3-3-70. Filed 2-4-69.

891,223. MINI-MISS AND FLOWERS DESIGN. Athol Plastics Corp. SN 319,021. Pub. 3-3-70. Filed 2-13-69.

891,224. BUSY BATH. Kohner Bros., Inc. SN 323,458. Pub. 3-3-70. Filed 4-2-69.

891,225 KODIAK. Kodiak Corporation. SN 325,131. Pub. 3-3-70. Filed 4-22-69.

891,226. FLEXDRIVE. Metal Racquets, Inc. SN 326,896. Pub. 3-3-70. Filed 5-9-69.

891,227. JAUNTY AND DESIGN. George Frost Company. SN 329,465. Pub. 3-3-70. Filed 6-9-69.

891,228. HARDY. The Hardy Company. SN 329,472. Pub. 3-3-70. Filed 6-9-69.

891,229. BOUNCE BOWL. Bar Zim Toy Mfg. Co., Inc. SN 331,270. Pub. 3-3-70. Filed 6-30-69

891,230 TURTLEDOVE AND DESIGN. Buddy L Corporation. SN 333,628. Pub. 3-3-70. Filed 7-28-69.

891,231. ELEWETER. Mattel, Inc. SN 334,932. Pub. 3-3-70. Filed 8-11-69.

891,232. MISS INFORMATION. Mattel, Inc. SN 334,933. Pub. 3-3-70. Filed 8-11-69.

891,233. DOWNY DILLY Mattel, Inc. SN 334,934. Pub. 3-3-70. Filed 8-11-69.

891,234. PIGGYTOTER. Mattel, Inc. SN 334,935. Pub. 3-3-70. Filed 8-11-69.

891,235. POCUS-HOCUS. Mattel, Inc. SN 338,314. Pub. 3-3-70. Filed 9-19-69.

891,236. FORETELL. Mattel, Inc. SN 338,315. Pub. 3-3-70. Filed 9-19-69.

891,237. BABYTOUCH. Mattel, Inc. SN 338,319. Pub. 3-3-70. Filed 9-19-69.

891,238. CHATTY CHUMS. Mattel, Inc. SN 338,718. Pub. 3-3-70. Filed 9-24-69.

891,239. FROSTY-FRED. Mattel, Inc. SN 338,719. Pub. 3-3-70. Filed 9-24-69.

891,240. SNUGGLESKINS. Mattel, Inc. SN 338,721. Pub. 3-3-70. Filed 9-24-69.

891,241. SKETCHY. Mattel, Inc. SN 338,722. Pub. 3-3-70. Filed 9-24-69.

891,242. STORY-MAKER. Mattel, Inc. SN 338,725. Pub. 3-3-70. Filed 9-24-69.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

891,131. (See Class 2 for this trademark.)

891,135. (See Class 2 for this trademark.)

891,175. (See Class 13 for this trademark.)

891,182. (See Class 14 for this trademark.)

891,212. (See Class 21 for this trademark.)

891,243. PRO-GRIP. Vaughan & Bushnell Mfg. Co. SN 238,680. Pub. 4-11-67. Filed 2-11-66.

891,244 TERRA VERDE. Arett Sales Corp. MULTIPLE CLASS (Classes 23 and 35). SN 292,666. Pub. 6-24-69. Filed 3-7-68.

891,245. ORIGINAL PEDDINGHAUS AND DESIGN. Paul Ferd. Peddinghaus. SN 296,037. Pub. 3-3-70. Filed 4-19-68.

891,246. B AND DESIGN. Birdsboro Corporation. SN 297,757. Pub. 3-3-70. Filed 5-9-68.

891,247. SHEAR-VAC. Gerald Di Trapani, d.b.a. Shear-Vac Company. SN 302,602. Pub. 3-3-70. Filed 7-12-68.

891,248. BEARCAT. The Fisher-Pierce Co., Inc. SN 306,128. Pub. 5-6-69. Filed 8-28-68.

891,249. KOREK. Applied Power Industries, Inc. SN 310,049. Pub. 3-3-70. Filed 10-21-68.

891,250. SQUIRTMASTER. William G. Hill, d.b.a. Photographic Instruments Company. SN 316,647. Pub. 3-3-70. Filed 1-15-69.

891,251. DYNAIR. Dynair Limited. SN 327,477. Pub. 3-3-70. Filed 5-16-69.

891,252. GIBRALTAR AND DESIGN. Head & Guild Equipment Co., Inc. SN 329,979. Pub. 3-3-70. Filed 6-13-69.

Class 24 — Laundry Appliances and Machines

891,209. (See Class 21 for this trademark.)

891,253. MR. WRINKLES-AWAY ETC. AND DESIGN. Fransus Industries, Inc. SN 320,577. Pub. 3-3-70. Filed 3-3-69.

891,254. FINISH GUARD. Whirlpool Corporation. SN 329,296. Pub. 2-17-70. Filed 6-5-69.

891,255. NIBEE AND DESIGN. National Industries for the Blind. SN 338,280. Pub. 3-3-70. Filed 9-18-69.

Class 25—Locks and Safes

891,256. SAF T KIT AND DESIGN. Shine Boy, Inc., assignee of Franchise Growth Corporation. SN 331,608. Pub. 3–3–70. Filed 7–2–69.

Class 26—Measuring and Scientific Appliances

891,257. ABC. McDowell-Wellman Engineering Company. SN 192,737. Pub. 5–25–65. Filed 5–5–64.

891,258. USAC. Kabushiki Kaisha Uchida Yoko, d.b.a. Uchida Yoko Co., Ltd. SN 283,667. Pub. 3–3–70. Filed 10–30–67.

891,259. KOREKTOR. Rozin Optical Export Corp. SN 289,420. Pub. 3–3–70. Filed 1–23–68.

891,260. MAGIC YARDSTICK. Cooper Industries, Inc., d.b.a. Lufkin Division of Cooper Industries, Inc. SN 297,171. Pub. 3–3–70. Filed 5–2–68.

891,261. ADAPT-O-FLEX. Dresser Industries, Inc. SN 312,661. Pub. 3–3–70. Filed 11–20–68.

891,262. PORT-O-THERM. Kimco Laboratories, Inc. SN 313,784. Pub. 3–3–70. Filed 12–6–68.

Class 27—Horological Instruments

891,263. TRIESTE. Burwood Products Company. MULTIPLE CLASS (Classes 27, 32, 34, and 50). SN 330,232. Pub. 3–3–70. Filed 6–17–69.

891,264. ASTROTIME. R. Gsell & Company, Inc. SN 333,561. Pub. 3–3–70. Filed 7–25–69.

Class 29—Brooms, Brushes, and Dusters

891,265. WAFERFILL. Robert B. Evans, d.b.a. M-B Company. SN 336,054. Pub. 3–3–70. Filed 8–25–69.

Class 30—Crockery, Earthenware, and Porcelain

891,178. (See Class 13 for this trademark.)

Class 31—Filters and Refrigerators

891,131. (See Class 2 for this trademark.)

891,212. (See Class 21 for this trademark.)

891,266. ELECTROPURE. Ionics, Incorporated. SN 309,679. Pub. 3–3–70. Filed 10–15–68.

891,267. SATIN ICE. Booth, Inc. MULTIPLE CLASS (Classes 31 and 45). SN 321,431. Pub. 3–3–70. Filed 3–12–69.

Class 32—Furniture and Upholstery

891,133. (See Class 2 for this trademark.)

891,263. (See Class 27 for this trademark.)

891,268. SPRINGWALL AND DESIGN. Eclipse Sleep Products Inc. SN 330,919. Pub. 3–3–70. Filed 6–25–69.

891,269. ULTRA FIVE. Robert John Company. SN 332,046. Pub. 3–3–70. Filed 7–8–69.

891,270. ULTRA TWO. Robert John Company. SN 332,048. Pub. 3–3–70. Filed 7–8–69.

Class 33—Glassware

891,178. (See Class 13 for this trademark.)

Class 34—Heating, Lighting, and Ventilating Apparatus

891,131. (See Class 2 for this trademark.)

891,212. (See Class 21 for this trademark.)

891,263. (See Class 27 for this trademark.)

891,271. AIR/LOK. Prefco Products Inc. SN 332,042. Pub. 3–3–70. Filed 7–8–69.

891,272. DUAL MODULINE. Carrier Corporation. SN 333,092. Pub. 3–3–70. Filed 7–22–69.

891,273. VERNCO AND DESIGN. Vernco Corporation. SN 333,216. Pub. 3–3–70. Filed 7–22–69.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

891,244. (See Class 23 for this trademark.)

891,274. TREDLOC. Deering Milliken Research Corporation. SN 339,503. Pub. 3–3–70. Filed 10–2–69.

Class 36—Musical Instruments and Supplies

891,206. (See Class 21 for this trademark.)

891,275. BSR MC DONALD AND DESIGN. BSR (USA) Ltd. SN 301,182. Pub. 3–3–70. Filed 6–24–68.

891,276. MICA-TONE. Musical Instrument Corporation of America. SN 319,931. Pub. 3–3–70. Filed 2–24–69.

891,277. MISCELLANEOUS DESIGN. Avant Garde Records, Inc. SN 322,662. Pub. 3–3–70. Filed 3–24–69.

891,278. SUAVE AND DESIGN. Armada & Rodrigues of Florida, Inc. SN 325,424. Pub. 3–3–70. Filed 3–7–69.

891,279. KEF RECORDS AND DESIGN. KEF Music, Inc. SN 332,780. Pub. 3–3–70. Filed 7–17–69.

891,280. BIZARRE. Bizarre Records, Inc. SN 334,200. Pub. 3–3–70. Filed 8–1–69.

891,281. INVICTUS. Invictus Records, Inc. SN 337,807. Pub. 3–3–70. Filed 9–12–69.

891,282. GENERATION G AND DESIGN. Arete Productions, Inc. SN 339,496. Pub. 3–3–70. Filed 10–2–69.

Class 37—Paper and Stationery

891,283. DESIGN OF A CAMERA. David M. Berger, d.b.a. Pic Letter Company. SN 308,863. Pub. 3–3–70. Filed 10–4–68.

891,284. STRATHMORE. Hammermill Paper Company SN 309,572. Pub. 3–3–70. Filed 10–14–68.

891,285. STRATHLUCENT. Hammermill Paper Company. SN 309,574. Pub. 3–3–70. Filed 10–14–68.

891,286. GRANDEE. Hammermill Paper Company. SN 309,575. Pub. 3–3–70. Filed 10–14–68.

891,287. STRATHMORE WRITING. Hammermill Paper Company. SN 309,578. Pub. 3–3–70. Filed 10–14–68.

891,288. SWEETHEART AND DESIGN. Eaton Allen Corp. SN 316,194. Pub. 3–3–70. Filed 1–9–69.

891,289. CHOICE. Hasbro Industries, Inc. SN 317,040. Pub. 3–3–70. Filed 1–21–69.

891,290. GOLD CROWN. Lew Mfg. Co. SN 325,882. Pub. 3–3–70. Filed 4–29–69.

891,291. KLEENEX CARNIVAL. Kimberly-Clark Corporation. SN 339,086. Pub. 3–3–70. Filed 9–29–69.

891,292. KLEENEX CIRCUS. Kimberly-Clark Corporation. SN 339,085. Pub. 3–3–70. Filed 9–29–69.

Class 38—Prints and Publications

891,293. FOR MEN ONLY. Magazine Management Co., Inc., assignee, by mesne assignment, of Magazine Management Company. SN 278,711. Pub. 3–3–70. Filed 8–21–67.

891,294. DAREDEVIL. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 278,716. Pub. 3–3–70. Filed 8–21–67.

891,295. EYE. Yale Arts Association. SN 280,504. Pub. 3–3–70. Filed 9–15–67.

891,296. BURDA. Verlag Aenne Burda, by change of name from Modenverlag Aenne Burda. SN 300,953. Pub. 3–3–70. Filed 6–20–68.

891,297. CARTOON LAUGHS. Magazine Management Co., Inc., assignee of Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group. SN 308,521. Pub. 3–3–70. Filed 9–30–68.

891,298. QUICK-PICK. Sola Basic Industries, Inc. SN 312,548. Pub. 3–3–70. Filed 11–19–68.

891,299. PHARMA CODE. The Druggist Supply Company. SN 318,533. Pub. 3–3–70. Filed 2–6–69.

891,300. B'NAI SHALOM SONS OF PEACE AND DESIGN. Peace Publishers and Company. SN 322,614. Pub. 3–3–70. Filed 3–24–69.

891,301. CHECKMATE. World Research Corporation. SN 322,657. Pub. 3–3–70. Filed 3–24–69.

891,302. VAN NOSTRAND. Litton Educational Publishing, Inc. SN 327,826. Pub. 3–3–70. Filed 5–21–69.

891,303. SNO-'FARI. Tri-River Press, Inc., assignee of Lee E. Horn. SN 328,549. Pub. 3–3–70. Filed 5–28–69.

891,304. ELECTRICAL CONSULTANT. W. R. C. Smith Publishing Company. SN 331,432. Pub. 3–3–70. Filed 6–30–69.

891,305. AD-LIBS. David W. Evans & Associates. SN 331,738. Pub. 3–3–70. Filed 7–3–69.

891,306. YANKEE. Yankee, Inc. SN 337,607. Pub. 3–3–70. Filed 9–10–69.

891,307. SMALL WORLD UNLIMITED AND GLOBE AND CHILDREN DESIGN. Alan Levenson, d.b.a. Small World Unlimited. SN 337,812. Pub. 3–3–70. Filed 9–12–69.

891,308. MAGIC SPELL. The Hearst Corporation. SN 337,854. Pub. 3–3–70. Filed 9–15–69.

891,309. DATEFINDER. Ad-A-Day Company, Inc. SN 337,874. Pub. 3–3–70. Filed 9–15–69.

891,310. BARD BOOKS. The Hearst Corporation. SN 338,010. Pub. 3–3–70. Filed 9–16–69.

891,311. STERLING EDUCATIONAL FILMS. The Walter Reade Organization, Inc. SN 338,324. Pub. 3–3–70. Filed 9–19–69.

891,312. GOLD KEY AND KEY DESIGN. Western Publishing Company, Inc. SN 339,263. Pub. 3–3–70. Filed 9–29–69.

Class 39—Clothing

891,222. (See Class 22 for this trademark.)

891,313. VIP AND DESIGN. V.I.P. Imports, Ltd. SN 290,354. Pub. 3–3–70. Filed 2–5–68.

891,314. KOMBI. Gold Glove Ltd. SN 302,835. Pub. 3–3–70. Filed 7–16–68.

891,315. DESIGN OF GIRDLE CONTAINER AND FEMALE. International Playtex Corporation. SN 315,627. Pub. 3–3–70. Filed 12–30–68.

891,316. FEEL FREE. Glamorise Foundations, Inc. SN 328,977. Pub. 11–18–69. Filed 6–3–69.

891,317. CAROLE JOANNE. G. C. Murphy Company. MULTIPLE CLASS (Classes 39 and 51). SN 331,096. Pub. 3–3–70. Filed 6–27–69.

Class 40—Fancy Goods, Furnishings, and Notions

891,318. STITCHENDIPITY. Stitchendipity. SN 334,442. Pub. 3–3–70. Filed 8–5–69.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

891,319. NIBEE AND DESIGN. National Industries for the Blind. SN 338,281. Pub. 3–3–70. Filed 9–18–69.

Class 44—Dental, Medical, and Surgical Appliances

891,320. AQUAMATIC K- THERMETTE. The Gorman-Rupp Company. SN 330,738. Pub. 3–3–70. Filed 6–23–69.

891,321. MISCELLANEOUS DESIGN. Chesebrough-Pond's Inc. SN 332,200. Pub. 3–3–70. Filed 7–10–69.

891,322. MUCOTITE. Henry P. Boos Dental Laboratories, Inc. SN 332,577. Pub. 3–3–70. Filed 7–15–69.

Class 45—Soft Drinks and Carbonated Waters

891,267. (See Class 31 for this trademark.)

Class 46—Foods and Ingredients of Foods

891,152. (See Class 6 for this trademark.)

891,323. FESTIVE FIXINGS. McCormick & Company, Incorporated. SN 263,596. Pub. 3–3–70. Filed 1–30–67.

891,324. SOUTHERN ROSE. Schluderberg-Kurdle Company, Inc. SN 311,306. Pub. 3–3–70. Filed 11–4–68.

891,325. DESIGN OF FEMALE HEAD. La Preferida, Inc. SN 318,310. Pub. 3–3–70. Filed 2–4–68.

891,326. VANDEVER. Faribault Canning Company. SN 321,115. Pub. 3–3–70. Filed 3–10–69.

891,327. MEDALLION AND VANDEVER (DESIGN). Faribault Canning Company. SN 321,116. Pub. 3–3–70. Filed 3–10–69.

891,328. THE SWISS COLONY AND DESIGN. The Swiss Colony, Inc. SN 322,006. Pub. 3–3–70. Filed 3–17–69.

891,329. HELPMEATS. Doughboy Industries, Inc. SN 322,417. Pub. 3–3–70. Filed 3–21–69.

891,330. MISCELLANEOUS DESIGN. Pet Care Products, Inc. SN 323,591. Pub. 3–3–70. Filed 4–3–69.

891,331. IOTEX. J. R. Short Milling Company. SN 329,388. Pub. 3–3–70. Filed 6–6–69.

891,332. CYC-LESS. Cumberland Packing Corp. SN 329,441. Pub. 3–3–70. Filed 6–9–69.

891,333. KAL KAT. Kal Kan Foods, Inc. SN 331,281. Pub. 3–3–70. Filed 6–30–69.

891,334. TOWN BELL. Churny Company, Inc. SN 337,752. Pub. 3-3-70. Filed 9-12-69.

891,335. PERKY PIZZA SCOOPS. The Quaker Oats Company. SN 338,855. Pub. 3-3-70. Filed 9-25-69.

891,336. TORRID TACO CLAWS. The Quaker Oats Company. SN 338,857. Pub. 3-3-70. Filed 9-25-69.

Class 47 — Wines

891,337. GRAND PAVOIS. Societe Commerciale des Bourgognes de Marque F. Chauvenet ou par Abreviation "S.C.B.M.," d.b.a. F. Chauvenet. SN 283,168. Pub. 3-3-70. Filed 10-23-67.

891,338. CONCELLOS AND DESIGN. J. T. Pinto Vasconcellos, Lda. SN 309,970. Pub. 3-3-70. Filed 10-18-68.

891,339. GALLO. E. & J. Gallo Winery, d.b.a. Gallo Champagne Cellars, and Gallo Vineyards. SN 338,083. Pub. 3-3-70. Filed 9-17-69.

Class 48 — Malt Beverages and Liquors

891,340. LAURENTIDE ETC. AND DESIGN. Molson Industries Limited. SN 323,721. Pub. 3-3-70. Filed 4-4-69.

Class 50 — Merchandise Not Otherwise Classified

891,212. (See Class 21 for this trademark.)

891,263. (See Class 27 for this trademark.)

Class 51 — Cosmetics and Toilet Preparations

891,317. (See Class 39 for this trademark.)

891,341. JILI. Candygram, Inc., d.b.a. Perfume-By-Wire. SN 265,156. Pub. 5-7-68. Filed 2-21-67.

891,342. MISTRAL. Beecham Inc., by merger from Beecham Products Inc. SN 294,159. Pub. 2-4-69. Filed 3-26-68.

891,343. ROSES IN THE RAIN. Helene Curtis Industries, Inc. SN 297,767. Pub. 3-3-70. Filed 5-9-68.

891,344. SUN HEAD DESIGN. Laboratoire Lachartre S.A. SN 304,607. Pub. 3-3-70. Filed 8-7-68.

891,345. SUGAR AND SPICE AND DESIGN. Cut & Curl International, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 309,440. Pub. 3-3-70. Filed 10-11-68.

891,346. SEGOR. Produits de Beaute Antoine Hameau de Graviguy. SN 316,277. Pub. 10-28-69. Filed 1-10-69.

891,347. MISCELLANEOUS DESIGN. Koscot Interplanetary, Inc. SN 317,243. Pub. 3-3-70. Filed 1-22-69.

891,348. DOMINO. Viviane Woodward Corporation (Delaware corporation), assignee of Vivian Woodward Corporation (California corporation), d.b.a. Woodward for Men. MULTIPLE CLASS (Classes 51 and 52). SN 318,689. Pub. 3-3-70. Filed 2-7-69.

891,349. ULTIMATE. Vincent O'Mara, d.b a. Ultimate Beauty Products. SN 319,722. Pub. 3-3-70. Filed 2-20-69.

891,350. DOG GONE EASY. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 331,264. Pub. 3-3-70. Filed 6-30-69.

891,351. DOG ON EASY. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 331,265. Pub. 3-3-70. Filed 6-30-69.

891,352. FORMULA Z. Zsa Zsa Limited. SN 331,466. Pub. 3-3-70. Filed 6-30-69.

891,353. DRY BAN. Bristol-Myers Company. SN 333,667. Pub. 3-3-70. Filed 7-28-69.

891,354. NATURALLY FEMININE. Johnson & Johnson. SN 334,720. Pub. 3-3-70. Filed 8-7-69.

891,355. YOUNG & LOVELY. Johnson & Johnson. SN 334,722. Pub. 3-3-70. Filed 8-7-69.

891,356. PEACHES AND CLEAN. Carter-Wallace, Inc. SN 337,480. Pub. 3-3-70. Filed 9-10-69.

Class 52 — Detergents and Soaps

891,144. (See Class 4 for this trademark.)

891,152. (See Class 6 for this trademark.)

891,345. (See Class 51 for this trademark.)

891,348. (See Class 51 for this trademark.)

891,350. (See Class 51 for this trademark.)

891,351. (See Class 51 for this trademark.)

891,357. ROD & ROAD. The Drackett Company. SN 312,572. Pub. 3-3-70. Filed 11-19-68.

891,358. TRACK. The Dracket Company. SN 312,575. Pub. 3-3-70. Filed 11-19-68.

891,359. OFF-WITH-IT. The Procter & Gamble Company. SN 329,203. Pub. 3-3-70. Filed 6-5-69.

891,360. LEMONEX. American Cyanamid Company. SN 329,207. Pub. 3-3-70. Filed 6-5-69.

891,361. BEAUTIFUL FEELING. John H. Breck, Inc. SN 331,019. Pub. 3-3-70. Filed 6-26-69.

891,362. FORMULA Z, Zsa Zsa Limited. SN 332,396. Pub. 3-3-70. Filed 7-11-69.

891,363. KOTIQUE. Kimberly-Clark Corporation. SN 336,295. Pub. 3-3-70. Filed 7-24-69.

891,364. MOON DUST. Huntington Laboratories, Inc. SN 338,011. Pub. 3-3-70. Filed 9-16-69.

891,365. DESERT FLOWER. Shulton, Inc. SN 338,860. Pub. 3-3-70. Filed 9-25-69.

891,366. BURLEY. Shulton, Inc. SN 338,969. Pub. 3-3-70. Filed 9-26-69.

891,367. TAJI. Shulton, Inc. SN 338,970. Pub. 3-3-70. Filed 9-26-69.

891,368. CLASS. Lever Brothers Company. SN 339,801. Pub. 3-3-70. Filed 10-6-69.

Service Marks

Class 100 — Miscellaneous

891,203. CONSOLIDATED CERTIFICATE. See Class 21.

891,369. M & H. Miller & Holmes, Inc. SN 283,914. Pub. 3-3-70. Filed 11-1-67.

891,370. FLORIDA CYPRESS GARDENS AMERICA'S TROPICAL WONDERLAND AND DESIGN. Florida Cypress Gardens, Inc. MULTIPLE CLASS (Classes 100 and 107). SN 298,720. Pub. 3-3-70. Filed 5-21-68.

891,371. MAUNA KEA AND DESIGN. Eastern Pacific, Inc. MULTIPLE CLASS (Classes 100 and 107). SN 303,665. Pub. 3-3-70. Filed 7-26-68.

891,372. JO-JO MARTINELLI AND CREST. Martinelli, Inc. SN 313,825. Pub. 3-3-70. Filed 12-6-68.

891,373. USPA AND DESIGN. United Services Planning Association, Inc. SN 314,636. Pub. 3-3-70. Filed 12-16-68.

891,374. BB AND DESIGN. Hilton Hotels Corporation. SN 316,310. Pub. 3-3-70. Filed 1-10-69.

891,375. BIA AND DESIGN. Boating Industry Association. SN 316,519. Pub. 3-3-70. Filed 1-14-69.

891,376. K IN CIRCLE DESIGN. Art Metal-Knoll Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 318,942. Pub. 3-3-70. Filed 2-12-69.

891,377. SWEET SUE. Sweet Sue Kitchens, Inc. SN 320,388. Pub. 3-3-70. Filed 2-28-69.

891,378. CARE-RING. Marion H. Parker, Inc. SN 324,361. Pub. 3-3-70. Filed 4-14-69.

891,379. TREE HOUSE. General Mills, Inc., assignee, by mesne assignment, of Tree House Restaurant Corp. SN 328,088. Pub. 3-3-70. Filed 5-22-69.

891,380. MW INFORMATION CENTER ON THE MATURE WOMAN AND DESIGN. Multidiscipline Research, Inc. SN 328,935. Pub. 3-3-70. Filed 6-3-69.

891,381. CHOPPY'S BARN. Consolidated Franchising Corporation. SN 329,440. Pub. 3-3-70. Filed 6-9-69.

891,382. SOUTH PACIFIC PORTS. Longchamps, Inc. SN 332,417. Pub. 3-3-70. Filed 7-14-69.

891,383. WHERE GOOD THINGS HAPPEN EVERYDAY. Marriott Corporation. SN 335,923. Pub. 3-3-70. Filed 8-22-69.

891,384. SOCIAL DYNAMICS. Social Dynamics, Incorporated. SN 335,928. Pub. 3-3-70. Filed 8-22-69.

891,385. WOODY'S SMORGASBURGER. Carwood Incorporated. SN 338,296. Pub. 3-3-70. Filed 9-19-69.

891,386. WOODY AND ALPINE MALE DESIGN. Carwood Incorporated. SN 338,297. Pub. 3-3-70. Filed 9-19-69.

Class 101 — Advertising and Business

891,387. DIAL-A-TAX. William R. Wines, d.b.a. Dial-A-Tax. SN 293,188. Pub. 3-3-70. Filed 3-13-68.

891,388. THE POT SHOP. The Pot Shop. SN 303,443. Pub. 3-3-70. Filed 7-23-68.

891,389. FED/PAY. Fedder Data Centers, Inc. SN 310,074. Pub. 3-3-70. Filed 10-21-68.

891,390. COMPU SEARCH. Management Recruiters International, Inc. SN 314,022. Pub. 3-3-70. Filed 12-10-68.

891,391. CHESTERFIELD CLUB. Chesterfield Club, Inc. SN 316,989. Pub. 3-3-70. Filed 1-21-69.

891,392. AUTO-DAT. Universal Underwriters Computer Services, Inc. SN 319,746. Pub. 3-3-70. Filed 2-20-69.

891,393. DISPLAYALL. Informatics, Inc. SN 321,497. Pub. 3-3-70. Filed 3-12-69.

891,394. UPDATE. Update Associates. SN 321,610. Pub. 3-3-70. Filed 3-13-69.

891,395. RED ROOSTER AND DESIGN. Rooster Enterprises, Inc., assignee of Aamco Automatic Transmissions, Inc., d.b.a. Rooster Enterprises, Inc. SN 323,907. Pub. 2-17-70. Filed 4-7-69.

891,396. FJCC. American Federation of Information Processing Societies. SN 324,117. Pub. 3-3-70. Filed 4-10-69.

891,397. SJCC. American Federation of Information Processing Societies. SN 324,120. Pub. 3-3-70. Filed 4-10-69.

891,398. TRAV-L-OPE. Southwest Printers, Inc. SN 326,140. Pub. 3-3-70. Filed 5-1-69.

891,399. STEVENS JR. Chas. A. Stevens & Co. SN 329,587. Pub. 3-3-70. Filed 6-10-69.

Class 102 — Insurance and Financial

891,400. READY-CREDIT. First National City Bank. SN 303,514. Pub. 3-3-70. Filed 7-24-68.

891,401. FANCIFUL REPRESENTATION OF A SHIP'S OFFICER. Shareholders Capital Corporation. SN 323,478. Pub. 3-3-70. Filed 4-2-69.

891,402. EXEMPLAR OUR TERRITORY AND GLOBE DESIGN. Exemplar Service, Inc. SN 325,357. Pub. 3-3-70. Filed 4-23-69.

891,403. FINANCIAL DYNAMICS. Financial Programs, Inc. SN 325,529. Pub. 3-3-70. Filed 4-24-69.

891,404. FCA/500. The Omaha National Bank. SN 328,321. Pub. 3-3-70. Filed 9-19-69.

Class 103 — Construction and Repair

891,203. CONSOLIDATED CERTIFICATE. See Class 21.

891,376. (See Class 100 for this trademark.)

891,405. AUTOSHEPHERD AND DESIGN. AutoShepherd, Inc. SN 309,222. Pub. 3-3-70. Filed 10-9-68.

891,406. SERVISCO. Servisco. SN 325,516. Pub. 3-3-70. Filed 4-21-69.

Class 105 — Transportation and Storage

891,407. SHORTLINE. Hudson Transit Lines, Inc. SN 260,746. Pub. 3-3-70. Filed 12-14-66.

891,408. CLUB INTERNATIONALE. Club Internationale Management Corp., by assignment and change of name from Travel Internationale, Ltd. SN 272,431. Pub. 3-3-70. Filed 5-25-67.

891,409. SUN RUN. Koninklijke Luchtvaart Maatschappij N.V. (KLM Royal Dutch Airlines). SN 316,318. Pub. 3-3-70. Filed 1-10-69.

891,410. CELEBRITY HOST HOLIDAYS. Celebrity Host Golf Holidays, Inc., d.b.a. Celebrity Host Holidays. SN 325,460. Pub. 3-3-70. Filed 4-24-69.

Class 106 — Material Treatment

891,411. GC AND DESIGN. Gemini Corporation. SN 318,572. Pub. 3-3-70. Filed 12-4-68.

Class 107 — Education and Entertainment

891,370. (See Class 100 for this trademark.)

891,371. (See Class 100 for this trademark.)

891,412. S & H AND DESIGN. S & H Collegiate Enterprises, Inc. SN 314,642. Pub. 3-3-70. Filed 12-13-68.

891,413. SAGA OF WESTERN MAN. American Broadcasting Companies, Inc. SN 324,629. Pub. 3-3-70. Filed 4-16-69.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 10 — Fertilizers

891,416. Van Diest Supply Co., Webster City, Iowa. SN 325,416. Filed P.R. 4-23-69; Am. S.R. 2-16-70.

YIELD BOOSTER

For Fertilisers and Plant Foods (Int. Cl. 1).
First use on or about Jan. 2, 1969.

Class 26 — Measuring and Scientific Appliances

891,414. Wyandotte Chemicals Corporation, Wyandotte, Mich. SN 299,895. Filed 6-6-68.

KLEENER METER

For Cleaning Solution Concentration Indicating Instrument (Int. Cl. 9).
First use Jan. 18, 1959.

Class 38—Prints and Publications

891,415. Electronics Corporation, Fort Lauderdale, Fla. SN 315,545. Filed P.R. 1-2-69; Am. S.R. 12-19-69.



For Produced Motion Picture Films (Int. Cl. 9).
First use June 7, 1967.

TRADEMARK REGISTRATIONS RENEWED

34,161. SMOOTH-ON. Cl. 12 (Int. Cl. 19). 2-6-1900.
76,088. THE CHALLENGE AND REPRESENTATION OF ROOSTER. Cl. 46 (Int. Cl. 30). 12-14-09.
76,888. ENAMELINE AND DESIGN. Cl. 37 (Int. Cl. 16). 2-22-10.
77,556. MELODY. Cl. 46 (Int. Cl. 30). 4-19-10.
77,932. EAST SIDE. Cl. 48 (Int. Cl. 32). 5-17-10.
78,828. ROYAL BAKING POWER ETC. AND DESIGN. Cl. 46 (Int. Cl. 30). 7-12-10.
256,111. AG BRAND AND DESIGN. Cl. 46 (Int. Cls. 29 and 30). 5-7-29.
264,092. VIGOROL. Cl. 18 (Int. Cl. 5). 11-19-29.
265,803. SPARTAN. Cl. 15 (Int. Cl. 4). 1-7-30.
266,156. FILENE'S. Cl. 33 (Int. Cl. 21). 1-14-30.
266,157. FILENE'S. Cl. 30 (Int. Cl. 21). 1-14-30.
266,598. FILENE'S. Cl. 37 (Int. Cl. 16). 1-28-30.
267,098. GAS-LUBE. Cl. 15 (Int. Cl. 4). 2-11-30.
267,770. SOLVAY. Cl. 52 (Int. Cl. 3). 2-25-30.
268,046. AIR-WAY. Cl. 6 (Int. Cl. 5). 3-4-30.
268,057. EUCERITE. Cl. 6 (Int. Cl. 1). 3-4-30.
268,501. LUZIANNE 100% GOOD AND DESIGN. Cl. 46 (Int. Cl. 30). 3-18-30.
269,143. WILLIAMS. Cl. 51 (Int. Cl. 3). 3-25-30.
269,445. FIRESTONE. Cl. 15 (Int. Cl. 4). 4-8-30.
269,555. NASCO. Cl. 14 (Int. Cl. 6). 4-8-30.
270,703. BITE-X- AND DESIGN. Cl. 51 (Int. Cl. 5). 5-13-30.
270,983. CAVANAGH ETC. AND REPRESENTATION OF COAT. Cl. 3 (Int. Cl. 16). 5-20-30.
271,427. L'ENVOI. Cl. 37 (Int. Cl. 16). 6-3-30.
271,750. F-33. Cl. 6 (Int. Cl. 1). 6-17-30.
272,777. LACTOL. Cl. 15 (Int. Cl. 4). 7-15-30.
272,778. KEMSOLENE. Cl. 15 (Int. Cl. 4). 7-15-30.
273,277. AIRMAN AND DESIGN. Cl. 39 (Int. Cl. 25). 7-29-30.
273,464. THE KITCHEN CABINET. Cl. 38 (Int. Cl. 16). 8-5-30.
273,584. CARBOXIDE. Cl. 18 (Int. Cl. 5). 8-5-30.
274,147. KEEN KUTTER. Cl. 23 (Int. Cl. 8). 8-19-30.
443,814. GARDEN ISLAND SODA AND DESIGN. Cl. 45 (Int. Cl. 32). 3-7-50.
514,392. CALIFORNIA DEBS. Cl. 39 (Int. Cl. 25). 8-30-49.
515,634. OXCO AND DESIGN. Cl. 29 (Int. Cl. 21). 9-27-49.
518,294. TWO LEAF AND DESIGN. Cl. 37 (Int. Cl. 16). 12-6-49.
518,367. OLD INNKEEPER (DESIGN). Cl. 37 (Int. Cl. 16). 12-6-49.
518,437. BEACON ELECTROMATIC AND DESIGN. Cl. 21 (Int. Cl. 10). 12-6-49.
518,499. SYMBOL OF A STAR. Cl. 21 (Int. Cl. 17). 12-6-49.
518,500. STAR. Cl. 21 (Int. Cl. 17). 12-6-49.
518,644. CHEMPUR AND DESIGN. Cl. 14 (Int. Cl. 6). 12-13-49.
519,243. BEACON AND DESIGN. Cl. 42 (Int. Cl. 24). 12-27-49.
519,602. LEMLAR. Cl. 12 (Int. Cl. 6). 1-10-50.
519,674. C & D COOL AND DELICIOUS AND DESIGN. Cl. 45 (Int. Cl. 32). 1-10-50.
520,150. SOUTH BEND. Cl. 22 (Int. Cl. 28). 1-24-50.
520,607. LINDE. Cl. 34 (Int. Cl. 7). 2-7-50.
520,854. HUMIDOLAIN. Cl. 30 (Int. Cl. 21). 2-7-50.
520,934. RAINCAP. Cl. 23 (Int. Cl. 7). 2-7-50.
521,193. FLUOR-AMM-INE. Cl. 51 (Int. Cl. 3). 2-21-50.
521,351. RUG-LOCK. Cl. 50 (Int. Cl. 27). 2-21-50.
521,414. SAFETY-BLOCKS. Cl. 22 (Int. Cl. 28). 2-28-50.
521,516. NIP-I-DIDDEE. Cl. 22 (Int. Cl. 28). 2-28-50.
521,517. GEOMETRIC AND DESIGN. Cl. 23 (Int. Cls. 7 and 8). 2-28-50.
521,552. RUB-MY-TISM. Cl. 6 (Int. Cl. 5). 2-28-50.
521,717. WEBER'S. Cl. 46 (Int. Cl. 30). 3-7-50.
521,722. TUSSAIDINE. Cl. 6 (Int. Cl. 3). 3-7-50.
521,726. TY-ROCKET. Cl. 23 (Int. Cl. 7). 3-7-50.
521,734. REVERE. Cl. 26 (Int. Cl. 9). 3-7-50.
521,804. UMATILLA. Cl. 39 (Int. Cl. 25). 3-7-50.
521,829. CARHART'S CHOICE AND DESIGN. Cl. 17 (Int. Cl. 34). 3-7-50.
521,843. ALADDIN. Cl. 21 (Int. Cl. 9). 3-7-50.
521,874. CONCLO. Cl. 39 (Int. Cl. 25). 3-7-50.
521,882. SAYMAN. Cl. 51 (Int. Cl. 5). 3-7-50.
522,029. SOUTHERN WEED. Cl. 18 (Int. Cl. 5). 3-7-50.
522,171. BURMA. Cl. 39 (Int. Cl. 25). 3-14-50.
522,201. JERSEYCRAFT. Cl. 42 (Int. Cl. 24). 3-14-50.
522,320. TY-LOY. Cl. 23 (Int. Cl. 7). 3-14-50.
522,356. FAB. Cl. 52 (Int. Cl. 3). 3-14-50.
522,368. VERBENA. Cl. 46 (Int. Cl. 31). 3-14-50.
522,556. PARLON. Cl. 1 (Int. Cl. 17). 3-21-50.
522,623. SAYMAN. Cl. 4 (Int. Cl. 3). 3-21-50.
522,749. TEXON. Cl. 50 (Int. Cl. 17). 3-21-50.
522,850. 22 AAMBLER ETC. AND DESIGN. Cl. 22 (Int. Cl. 16). 3-21-50.
522,852. 86 BICYCLE BRIDGE AND DESIGN. Cl. 22 (Int. Cl. 16). 3-21-50.
522,866. POISONOK. Cl. 18 (Int. Cl. 5). 3-21-50.
522,880. CONQUEST. Cl. 51 (Int. Cl. 3). 3-28-50.
522,903. KINNEY. Cl. 23 (Int. Cl. 7). 3-28-50.
523,089. HERBRAND. Cl. 23 (Int. Cl. 8). 3-28-50.
523,251. 1001 ALADDIN ETC. AND DESIGN. Cl. 22 (Int. Cl. 16). 3-28-50.
523,256. 33 APOLLO ETC. AND DESIGN. Cl. 22 (Int. Cl. 16). 3-28-50.
523,258. NO. 9 TALLY-HO ETC. AND DESIGN. Cl. 22 (Int. Cl. 16). 3-28-50.
523,320. DESERT PALM AND DESIGN. Cl. 46 (Int. Cl. 31). 4-4-50.
523,460. LANCASTER. Cl. 46 (Int. Cl. 31). 4-4-50.
523,539. CENTURY. Cl. 23 (Int. Cl. 8). 4-4-50.
523,664. PRESTO. Cl. 23 (Int. Cl. 9). 4-11-50.
523,759. A.Q. BRAND. Cl. 46 (Int. Cl. 29). 4-11-50.
523,921. POP-OFF. Cl. 23 (Int. Cl. 6). 4-11-50.
523,940. SUN WORSHIPPER. Cl. 42 (Int. Cl. 24). 4-11-50.
523,962. SNO-TIME. Cl. 46 (Int. Cl. 29). 4-11-50.
523,963. SNO-TIP. Cl. 46 (Int. Cl. 29). 4-11-50.

891,416. (See Class 10 for this trademark.)

Class 39—Clothing

891,417. L. E. Massey Shoes, Incorporated, Washington, D.C. SN 329,104. Filed P.R. 6-4-69; Am. S.R. 2-20-70.

MINI-ARCH

For Shoes (Int. Cl. 25).
First use April 1967.

524,062. GABANARO. Cl. 39 (Int. Cl. 25). 4-18-50.
524,223. PROUDSTEP. Cl. 39 (Int. Cl. 25). 4-18-50.
524,340. JUST SUITS. Cl. 46 (Int. Cl. 29). 4-25-50.
524,527. RELAXO. Cl. 26 (Int. Cl. 9). 4-25-50.
524,668. CLEAR SPRING. Cl. 37 (Int. Cl. 16). 5-2-50.
525,050. NAXONATE. Cl. 6 (Int. Cl. 1). 5-9-50.
525,195. TEMPRITE. Cl. 31 (Int. Cl. 11). 5-16-50.
525,267. SUN GOD. Cl. 39 (Int. Cl. 25). 5-16-50.
525,309. CUIR DU CANADA. Cl. 52 (Int. Cl. 3). 5-16-50.
525,460. BRIKRAM. Cl. 12 (Int. Cl. 19). 5-23-50.
525,746. JOHN DEERE ETC. AND DESIGN. Cl. 23 (Int. Cls. 7 and 12). 5-30-50.
525,796. PENNY. Cl. 38 (Int. Cl. 16). 5-30-50.
526,049. KODAGRAPH. Cl. 26 (Int. Cls. 1 and 9). 6-6-50.
526,186. FLAVORETTE. Cl. 45 (Int. Cl. 32). 6-13-50.
526,222. TAB NEWS. Cl. 38 (Int. Cl. 16). 6-13-50.
526,240. INTER-PLASTEK. Cl. 16 (Int. Cl. 8). 6-13-50.
526,599. BROADWAY. Cl. 4 (Int. Cl. 3). 6-20-50.
526,645. CARESSKIN. Cl. 39 (Int. Cl. 25). 6-20-50.
526,688. LUBRISEAL. Cl. 15 (Int. Cl. 4). 6-20-50.
527,083. MICROCLONE. Cl. 23 (Int. Cl. 11). 7-4-50.
527,117. OLD MEDLEY. Cl. 49 (Int. Cl. 33). 7-4-50.
527,129. WINCIDE. Cl. 6 (Int. Cl. 5). 7-4-50.
527,138. CARDWELL AND DESIGN. Cl. 23 (Int. Cl. 7). 7-4-50.
527,147. MID B DLE. Cl. 45 (Int. Cl. 52). 7-4-50.
527,193. DIAMOND-MISER. Cl. 23 (Int. Cls. 7 and 8). 7-4-50.
527,209. THAIBOK. Cl. 42 (Int. Cl. 24). 7-4-50.
527,490. RED CROWN AND DESIGN. Cl. 46 (Int. Cl. 31). 7-11-50.
527,499. MARASCA. Cl. 46 (Int. Cl. 29). 7-11-50.
527,530. JACOBS. Cl. 23 (Int. Cl. 7). 7-11-50.
527,637. GOLD LABEL. Cl. 13 (Int. Cl. 11). 7-18-50.
527,739. DESIGN OF WOMAN AND CHILD. Cl. 51 (Int. Cl. 3). 7-18-50.
527,744. TOLSEROL. Cl. 18 (Int. Cl. 5). 7-18-50.
527,752. CAR-MON. Cl. 34 (Int. Cl. 11). 7-18-50.
527,796. THE LYNN. Cl. 4 (Int. Cl. 3). 7-18-50.
527,854. ATLAS. Cl. 23 (Int. Cl. 12). 7-18-50.
528,062. M-R-C. Cl. 23 (Int. Cl. 7). 7-25-50.
528,063. LUBRI-SEAL. Cl. 23 (Int. Cl. 7). 7-25-50.
528,064. MRC. Cl. 23 (Int. Cl. 7). 7-25-50.
528,132. KOROK. Cl. 32 (Int. Cl. 20). 7-25-50.
528,237. T & B IN A CIRCLE. Cl. 21 (Int. Cls. 9 and 11). 8-1-50.
528,328. BRUCELLERGEN. Cl. 18 (Int. Cl. 5). 8-1-50.
528,589. SWAYDEX. Cl. 16 (Int. Cl. 2). 8-8-50.
528,590. BRITELUME. Cl. 16 (Int. Cl. 2). 8-8-50.
528,975. TRICOPHEROUS ETC. Cl. 51 (Int. Cl. 3). 8-15-50.
529,107. PYDRAULIC. Cl. 6 (Int. Cl. 1). 8-15-50.
529,109. SKYLUBE. Cl. 6 (Int. Cl. 1). 8-15-50.
529,433. MIRROR. Cl. 23 (Int. Cl. 7). 8-22-50.
529,445. PEERAGE. Cl. 17 (Int. Cl. 14). 8-22-50.
529,515. AMNESTROGEN. Cl. 18 (Int. Cl. 5). 8-22-50.
529,686. KAYDEE KAY. Cl. 39 (Int. Cl. 25). 8-29-50.
529,851. FLOROPRYL. Cl. 18 (Int. Cl. 5). 8-29-50.
529,969. MODERN BRIDE. Cl. 38 (Int. Cl. 16). 8-29-50.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

639,169. INDIAN RIVER CROSS. Cl. 1. 1-1-57.
864,259. UNI-DRY. Cl. 34. 1-28-69.
884,475. SENTROL THE ANTI-GAS ANTACID. Cl. 19. 1-20-70.

Section 8

The following registrations issued Mar. 31, 1964

767,314. GLOIRE DE ROSENAU. Cl. 1.
767,315. CENTURA. Cl. 1.
767,321. BOHEMIAN. Cl. 1.
767,331. BUILT IN SEALASSURED QUALITY AND DESIGN. Cl. 2.
767,334. INNERGLOW. Cl. 2.
767,335. OVERGLOW. Cl. 2.
767,337. BAL O FOAM AND DESIGN. Cl. 2.
767,339. FROSTY FOAM. Cl. 2.
767,341. TRU-EZE. Cl. 2.
767,342. VIA. Cl. 3.
767,348. SURETTA. Cl. 3.
767,350. MY DARLIN'. Cl. 3.
767,352. CHEMEX. Cl. 4.
767,353. UNALUM. Cl. 4.
767,354. UNASIL. Cl. 4.
767,361. THERMAX. Cl. 5.
767,368. CEDAR+PLUS. Cl. 6.
767,376. WEST NYSODA. Cl. 6.
767,382. ZEBRA. Cl. 11.
767,389. PINWHEELS. Cl. 12.
767,395. FENSEASE. Cl. 12.
767,396. DYNA-COLOR. Cl. 12.
767,398. EMULSIBOR. Cl. 12.
767,405. TORQ-LOCK. Cl. 13.
767,407. V LINE AND DESIGN. Cl. 13.
767,411. DUO-FLO. Cl. 13.
767,413. DRILOK. Cl. 13.
767,421. TRI-NINE. Cl. 14.
767,422. ARISTOVAC-LO NOH. Cl. 14.
767,423. STABLOHM. Cl. 14.
767,429. SWAGEMAGIC AND DESIGN. Cl. 15.
767,432. ZINLAC. Cl. 16.
767,434. SPRAY SCRIPT. Cl. 16.
767,436. HOMOGENALL. Cl. 16.
767,444. MYCRORID. Cl. 18.
767,452. HYPERFLO. Cl. 19.
767,453. PLEXCEL. Cl. 19.
767,459. AGAPCO. Cl. 19.
767,466. INDY 500 AND DESIGN. Cl. 21.
767,468. MARCOSWITCH. Cl. 21.
767,480. SECSYN. Cl. 21.
767,481. TIDDLY-LINKS AND DESIGN. Cl. 22.
767,482. ORBIT-A WAY. Cl. 22.
767,486. MENNIFISH. Cl. 22.
767,491. FLUID-PISTON. Cl. 23.
767,498. DIANA. Cl. 23.
767,499. DELTA. Cl. 23.
767,520. SNO VAC. Cl. 23.
767,521. TYNE. Cl. 23.
767,522. HYDRO-JET AND DESIGN. Cl. 23.
767,525. TRAVELOG. Cl. 23.
767,530. LILI. Cl. 26.
767,536. HIRAM. Cl. 27.
767,537. LORD HIRAM. Cl. 27.
767,538. LADY HIRAM. Cl. 27.
767,546. SEA SPRAY. Cl. 29.
767,561. NU-DESK. Cl. 32.
767,562. IMPERIAL CROWN COLLECTION. Cl. 32.
767,563. VOTE GARD AND DESIGN. Cl. 32.
767,565. KIDDIE KASTLE. Cl. 32.
767,566. ESTATE AND DESIGN. Cl. 32.
767,570. COMET GLAS. Cl. 34.
767,577. RUSTEX. Cl. 35.
767,580. RED CIRCLE OF SECURITY. Cl. 35.
767,584. COMMENTATOR. Cl. 36.
767,585. SHADE-O-MATIC. Cl. 37.
767,591. RAVE. Cl. 37.
767,593. THE POSTGRADUATE. Cl. 38.
767,594. THROUGH THE BAMBOO CURTAIN. Cl. 38.
767,597. BLAST BLAIR. Cl. 38.
767,598. IN THE GROOVE ETC. AND DESIGN. Cl. 38.
767,599. TELESPORTS. Cl. 38.
767,600. OH, LADY! Cl. 38.
767,601. GOLD-STRIKE BOWLING. Cl. 38.
767,614. SPEDE-IN-SOLES. Cl. 39.

767,615. MR. POODLE. Cl. 39.
767,617. CUDDLOTTA. Cl. 39.
767,619. ACME BOOTS AND DESIGN. Cl. 39.
767,638. FOOT CARE INTERNATIONAL AND DESIGN. Cl. 44.
767,642. GREEN MIST. Cl. 45.
767,643. SKIP AND DESIGN. Cl. 45.
767,645. IMPERIAL AND DESIGN. Cl. 46.
767,646. THE BRAZIER AND DESIGN. Cl. 46.
767,648. FLAVORESE. Cl. 46.
767,653. NUV (FANCIFUL). Cl. 46.
767,654. DUTCH INN. Cl. 46.
767,664. ORANGE RIVER. Cl. 46.
767,665. CAN-STER. Cl. 46.
767,666. QUIK-DO. Cl. 46.
767,682. VEGONNAISE. Cl. 46.
767,687. ENERGY-75. Cl. 46.
767,693. BONNE NUIT. Cl. 49.
767,694. JOSHUA BENNETT. Cl. 49.
767,697. MISCELLANEOUS DESIGN. Cl. 50.
767,698. BELLE-ART. Cl. 50.
767,707. NUTRIBEAUTY. Cl. 51.
767,708. TEENAIRE. Cl. 51.
767,710. KNOX. Cl. 51.
767,711. DOBBS. Cl. 51.
767,722. FP AND DESIGN. Cl. 101.
767,723. PREFERRED CHECK SYSTEM. Cl. 102.
767,724. PIONEER SINCE 1890 AND DESIGN. Cl. 102.
767,727. GOLDIE. Cl. A.
767,728. CALIOPE. Cl. A.
767,729. GOLDY. Cl. A.
767,730. CALIOPE. Cl. A.
767,731. CAL-GEM. Cl. A.
767,732. BTU/HR COOLING AMPERES AND WATTS ETC. AND DESIGN. Cl. A.
767,743. INDOOR CLIMATE BUSINESS. Cl. 38.
767,744. OXFORD QUEEN ETC. AND DESIGN. Cl. 39.
767,745. OXFORD HALL ETC. AND DESIGN. Cl. 39.
767,746. BOBBY PIN UP. Cl. 40.
767,747. YOU CAN'T WASH OUT THE WASH AND WEAR. Cl. 42.
767,751. MACRAE AND DAVIE. Cl. 49.
767,753. LIFE CYCLE. Cl. 50.
767,754. ROSE BLANKETS "FOR SLEEPING PLANTS" AND DESIGN. Cl. 50.
767,758. FORMA-NAIL. Cl. 51.
767,759. BLAZE OF FIRE. Cl. 51.
767,762. BOTTLE AND CAP (DESIGN). Cl. 51.
767,767. KLEERDRAIN. Cl. 52.
767,770. BAR-B-Q KITCHEN AND DESIGN. Cl. 101.

Section 18

781,135. MIMI. Cl. 51. 12-1-64.
787,788. COMMANDO. Cl. 27. 4-6-65.
829,935. RED SHIELD AND DESIGN. Cl. 102. 6-6-67.
837,117. WASH & WEAR. Cl. 32. 10-17-67.
838,103. RECTOL. Cl. 18. 10-31-67.
850,666. TYME FOR PLEASURE AND DESIGN. Cl. 45. 6-11-68.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

34,067. CREAM OF WHEAT AND DESIGN. Cl. 46. 1-23-1900. Cream of Wheat Company. National Biscuit Company, New York, N.Y. Amended: In the statement, column 1, line 12 through column 2, line 44 is deleted, and the drawing is amended to appear:



CREAM OF WHEAT

273,401. CARBOLOY. Cl. 38. 8-5-30. Carboloy Company, Inc. General Electric Company, Schenectady, N.Y. Amended: In the statement, column 1, line 9, "monthly" is deleted and *periodically* is inserted.

516,867. FORMOST. Cl. 37. 10-25-49. Thomson Paper Mills, Inc. Peoples Drug Stores Incorporated, Washington, D.C. Amended to appear:

Foremost

521,461. RAYTHEON AND DESIGN. Cl. 21. 2-28-50. Raytheon Manufacturing Company. Raytheon Company, Lexington, Mass. Amended to appear:

RAYTHEON

528,855. CHAR-MING. Cl. 42. 8-8-50. National Mallinson Fabrics Corporation. Klopman Mills, Inc., Rockleigh, N.J. Amended to appear:

CHAR-MING

528,859. MIAMI. Cl. 42. 8-8-50. National Mallinson Fabrics Corporation. Klopman Mills, Inc., Rockleigh, N.J. Amended to appear:

MIAMI

540,448. DAIRY BOX. Cl. 46. 4-3-51. Rowntree and Company Limited. Rowntree Mackintosh Limited, York, England. Amended: In the certificate lines 4 and 16, in the heading, and signature, , *now by change of name Rowntree Mackintosh Limited* is inserted and in the statement, column 1, line 4, after "land" , *now by change of name Rowntree Mackintosh Limited of York, Y01 1XY, England* is inserted.

541,866. DAIRY BOX. Cl. 46. 5-1-51. Rowntree and Company Limited. Rowntree Mackintosh Limited, York, England. Amended: In the certificate lines 3 and 14, in the heading and signature, , *now by change of name Rowntree Mackintosh Limited* is inserted and in the statement, column 2, line 5, after "England" , *now by change of name Rowntree Mackintosh Limited of York, Y01 1XY, England* is inserted.

767,749. THE BEST THE HEN AND I CAN DO. Cl. 46. 3-31-64. Sidney S. Miller, Irwinton, Ga. Amended to appear:

THE BEST A HEN AND I CAN DO

785,318. AFTER EIGHT AND DESIGN. Cl. 46. 2-16-65. Rowntree and Company Limited. Rowntree Mackintosh Limited, York, England. Amended: In the statement, column 1, after line 3, , *now by change of name Rowntree Mackintosh Limited of York, Y01 1XY, England* is inserted.

794,538. AERO. Cl. 46. 8-17-65. Rowntree and Company Limited. Rowntree Mackintosh Limited, York, England. Amended: In the statement, column 1, after line 3, , *now by change of name Rowntree Mackintosh Limited of York, Y01 1XY, England* is inserted.

872,901. SNO-PONY. Cl. 19. 7-15-69. Couparral Company, Inc., St. Paul, Minn. Corrected: In the statement, column 1, line 1, "Incorporated" should be deleted and *Company, Inc.* should be inserted.

874,808. 2 PISTOLS (DESIGN). Cl. 46. 8-12-69. Rowntree and Company Limited. Rowntree Mackintosh Limited, York, England. Amended: In the statement, column 1, after line 3, , *now by change of name Rowntree Mackintosh Limited of York, Y01 1XY, England* is inserted.

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MAY 19, 1970

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

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Imperial Furniture Co., Grand Rapids, Mich. 767,562, canc. Cl. 32.
Imperial Products, Antwerp, Belgium. 767,645, canc. Cl. 46.
Indian River Poultry Farm, Inc., Lancaster, Pa. 639,169, canc. Cl. 1.
Industrial Soap Co., St. Louis, Mo. 527,129, ren. 5–19–70. Cl. 6.
Indy 500 Spark Plug Co., Houston, Tex. 767,466, canc. Cl. 21.
Informatics, Inc., Sherman Oaks, Calif. 891,393, pub. 3–3–70. Cl. 101.
Inland Container Corp., Indianapolis, Ind. 767,841, canc. Cl. 2.
Insilco Corp., Meriden, Conn., from Enterprise Paint Mfg. Co., Chicago, Ill. 891,186, pub. 3–18–69. Multiple Class (Classes 16 and 52).
Integral Packaging Corp., Chicago Heights, Ill., 767,334–5, canc. Cl. 2.
International Paint Co., Inc., New York, N.Y. 526,240, ren. 5–19–70. Cl. 16.
International Playtex Corp., Dover, Del. 891,315, pub. 3–3–70. Cl. 39.
Interstate Bakeries Corp., d.b.a. Weber Baking Co., to Interstate Brands Corp., Kansas City, Mo. 521,717, ren. 5–19–70. Cl. 46.
Interstate Brands Corp.: *See*—
Interstate Bakeries Corp.
Invictus Records, Inc., Detroit, Mich. 891,281, pub. 3–3–70. Cl. 36.
Ionics, Inc., Watertown, Mass. 891,266, pub. 3–3–70. Cl. 31.
Jacobs, E. H., Mfg. Co.: *See*—
Bullard Clark Co., The.
Jerseycraft Ltd., Huddersfield, Yorkshire, England. 522,201, ren. 5–19–70. Cl. 42.
Johnson & Johnson, New Brunswick, N.J. 891,354–5, pub. 3–3–70. Cl. 51.
Jordahl, Mervin L., d.b.a. Flour-Amm-Ine Co., Minneapolis, Minn. 521,193, ren. 5–19–70. Cl. 51.
Jubilee Mfg. Co., Omaha, Nebr. 891,216, pub. 3–3–70. Cl. 21.
June Dairy Products Co. Inc., d.b.a. Florida Juice, Miami, Fla. 767,664, canc. Cl. 46.
Jwet Mfg. Co., Franklin Park, Ill. 767,407, canc. Cl. 13.
KEF Music, Inc., New York, N.Y. 891,279, pub. 3–3–70. Cl. 36.
Kabushiki Kaisha Uchida Yoko, d.b.a. Uuchida Yoko Co., Ltd., Tokyo-To, Japan. 891,258, pub. 3–3–70. Cl. 26.
Kal Kan Foods, Inc., Los Angeles, Calif. 891,333, pub. 3–3–70. Cl. 46.
Katz, Marvin & Donald C. Green, Northville, Mich. 891,179, pub. 3–3–70. Cl. 13.
Kauai Soda Co., Ltd., Lihue, Kauai, Hawaii. 443,814, ren. 5–19–70. Cl. 45.
Kaydette Mfg. Corp., New York, N.Y. 529,686, ren. 5–19–70. Cl. 39.
Kelly, George J., Inc., Lynn, Mass. 526,599, ren. 5–19–70. Cl. 4.
Kelly, George J., Inc., Lynn, Mass. 527,796, ren. 5–19–70. Cl. 4.
Kenai Salmon Packing Co.: *See*—
Parks, Harold M.
Kennedy, Raymond A., d.b.a. B & B Mfg. Co., Sioux City, Iowa. 767,520, canc. Cl. 23.
Kimberly-Clark Corp., Neenah, Wis. 891,159–60, pub. 3–3–70. Cl. 6.
Kimberly-Clark Corp., Neenah, Wis. 891,291–2, pub. 3–3–70. Cl. 37.
Kimco Laboratories, Inc., Brooklyn, N.Y. 891,262, pub. 3–3–70. Cl. 26.
Kinney Mfg. Co., Boston, Mass., to General Signal Corp., New York, N.Y. 522,903, ren. 5–19–70. Cl. 23.
Kirkland, Lloyd E., d.b.a. Kirby Mfg. Co., West Columbia, S.C. 891,180, pub. 3–3–70. Cl. 18.
Klasco Products Co., Inc., Downey, Calif. 767,368, canc. Cl. 6.
Kodiak Corp., Ironwood, Mich. 891,225, pub. 3–3–70. Cl. 22.
Kohner Bros., Inc., Paterson, N.J. 891,224, pub. 3–3–70. Cl. 22.
Koninklijke Luchtvaart Maatschappij N.V., New York, N.Y. 891,409, pub. 3–3–70. Cl. 105.
Koscot Interplanetary, Inc., Orlando, Fla. 891,347, pub. 3–3–70. Cl. 51.
Kristinus Kommanditgesellschaft: *See*—
Murray, Sons & Co. Ltd.
Laboratoire Lachartre S.A., Paris, France. 891,344, pub. 3–3–70. Cl. 51.
Lamb Enterprises, Inc.: *See*—
Air-Way Electric Appliance Corp.
Lambright, J. H., d.b.a. Lambright Seed Farm, Station, Tex. 891,127, pub. 3–3–70. Cl. 1.
Lane Magazine & Book Co.: *See*—
Lane Publishing Co.
Lane Publishing Co., San Francisco, to Lane Magazine Co., & Book Co., Menlo Park, Calif. 273,464, ren. 5–19–70. Cl. 38.
Lanham & Kemp-Barclay & Co., Inc., Palisades Park, N.J. 528,975, ren. 5–19–70. Cl. 51.
Lanvin-Charles of The Rits, Inc.: *See*—
Lanvin-Parfums, Inc.
Lanvin-Parfums, Inc., to Lanvin-Charles of the Rits, Inc., New York, N.Y. 527,739, ren. 5–3–70. Cl. 51.
Lark Luggage Corp., New York, N.Y. 891,140–1, pub. 3–3–70. Cl. 3.
La Preferida, Inc., Chicago, Ill. 891,325, pub. 3–3–70. Cl. 46.
Lavino, E. J. & Co., Philadelphia, Pa. 767,421, canc. Cl. 14.
Lear Siegler, Inc., Cleveland, Ohio. 767,480, canc. Cl. 21.
Les Importations, C.M. Ltee, Montreal, Quebec, Canada. 767,536–8, canc. Cl. 27.
Les Parfums De Dana, Inc., New York, N.Y. 525,809, ren. 5–19–70. Cl. 52.
Levenson, Alan d.b.a. Small World Unlimited, Santa Monica, Calif. 891,307, pub. 3–3–70. Cl. 38.
Lever Brothers Co., New York, N.Y. 891,368, pub. 3–3–70. Cl. 52.
Lew Mfg. Co., Coventry, R.I. 891,290, pub. 3–3–70. Cl. 37.
Life-Like Products, Inc., Baltimore, Md. 767,337, canc. Cl. 2.
Linde Air Products Co., The, to Union Carbide Corp., New York, N.Y. 520,607, ren. 5–19–70. Cl. 34.
Litton Educational Publishing, Inc., New York, N.Y. 891,302, pub. 3–3–70. Cl. 38.
Loew Chemical Corp., from The Promaco Corp., Miami, Fla. 891,148, pub. 3–3–70. Cl. 6.
Longchamps, Inc., New York, N.Y. 891,382, pub. 3–3–70. Cl. 100.
Los Angeles Brewing Co., Los Angeles, Calif., to Pabst Brewing Co., Milwaukee, Wis. 77,932, ren. 5–19–70. Cl. 48.
MSL Industries, Inc., Chicago, Ill. 891,202, pub. 9–19–67. Cl. 21.
Maas & Waldstein Co., to Maas & Waldstein Co., Newark, N.J. 528,589–90, ren. 5–19–70. Cl. 16.
Magazine Management Co., Inc., from Magazine Management Co., New York, N.Y. 891,293–4, pub. 3–3–70. Cl. 38.
Magazine Management Co., Inc., from Perfect Film & Chemical Corp., d.b.a. Marvel Comics Group, New York, N.Y. 891,297, pub. 3–3–70. Cl. 38.
Mallinckrodt Chemical Works: *See*—
Van Pelt & Brown, Inc.
Management Recruiters International, Inc., Cleveland, Ohio. 891,390, pub. 3–3–70. Cl. 101.
Marco Industris Co., Anaheim, Calif. 767,468, canc. Cl. 21.
Marlin-Rockwell Corp., Jamestown, N.Y., to TRW Inc., Cleveland, Ohio. 528,062–4, ren. 5–19–70. Cl. 23.
Marriott Corp., Washington, D.C. 891,383, pub. 3–3–70. Cl. 100.
Mars, Inc., Chicago, Ill. 767,687, canc. Cl. 46.
Martinelli, Inc., Cincinnati, Ohio. 891,372, pub. 3–3–70. Cl. 100.
Massey, L. E., Shoes, Inc., Washington, D.C. 891,417. Cl. 39.
Mattel Inc., Hawthorne, Calif. 891,281–42, pub. 3–3–70. Cl. 22.
McCormick & Co., Inc., Baltimore, Md. 891,328, pub. 3–3–70. Cl. 46.
McCrory Corp., d.b.a. McCrory-McLellan-Green Stores, New York, N.Y. 767,654, canc. Cl. 46.
McDowell-Wellman Engineering Co., Cleveland, Ohio. 891,257, pub. 5–25–65. Cl. 26.
Mead Corp., The: *See*—
Mead Pulp & Paper Co., The.
Mead Pulp & Paper Co., The, to The Mead Corp., Dayton, Ohio. 76,888, ren. 5–19–70. Cl. 37.
Merck & Co., Inc.: *See*—
Sharp & Dohme, Inc.
Merck & Co., Inc., Rahway, N.J. 529,851, ren. 5–19–70. Cl. 18.
Merlite Industries, Inc., New York, N.Y. 523,664, ren. 5–19–70. Cl. 23.
Metal Racquets, Inc., Paterson, N.J. 891,226, pub. 3–3–70. Cl. 22.
Michaels of Oregon Co., Portland, Oreg. 891,164, pub. 3–3–70. Cl. 9.
Middleby, Joseph, Jr. Inc., Boston, Mass. 527,147, ren. 5–19–70. Cl. 45.

Mil-Air Electronics Corp., Elk Grove Village, Ill. 891,211, pub. 3–3–70. Cl. 21.
Miller & Holmes, Inc., St. Paul, Minn. 891,369, pub. 3–3–70. Cl. 100.
Miller, Lee, d.b.a. Lemiar Mfg. Co., to Brown Mfg. Co., Gardena, Calif. 519,602, ren. 5–19–70. Cl. 12.
Miller, Rodney S., Irwinton, Ga. 767,749, Am. 7(d). Cl. 46.
Millman Underwear and Sportswear Co., The, Baltimore, Md. 767,744–5, canc. Cl. 39.
Miniature International Racing Association, Inc., Englewood, N.J. 767,598, canc. Cl. 38.
Minnesota Mining & Mfg. Co.: *See*—
Revere Camera Co.
Miss Petite Co., New York, N.Y. 767,617, Canc. Cl. 39.
Mobile Metal Products Inc., Gardena, Calif. 891,134, pub. 3–3–70. Cl. 2.
Modenvereag Aenne Burda: *See*—
Verlag Aenne Burda.
Molson Industries Ltd., Montreal, Quebec, Canada. 891,340, pub. 3–3–70. Cl. 48.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 529,107 ren. 5–19–70. Cl. 6.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 529,109 ren. 5–19–70. Cl. 6.
Monsanto Co.: *See*—
Monsanto Chemical Co.
Montag, Inc., Atlanta, Ga. 767,585, canc. Cl. 37.
Montgomery Ward & Co., Inc., Chicago, Ill. 891,190, pub. 3–3–70. Cl. 16.
Monticello Drug Co., Jacksonville, Fla. 521,552, ren. 5–19–70. Cl. 6.
Moore, Michael C., Evergreen, Colo. 891,138, pub. 3–3–70. Cl. 3.
Morton International, Inc., Chicago, Ill. 891,130, pub. 3–3–70. Cl. 1.
Multidiscipline Research, Inc., New York, N.Y. 891,380, pub. 3–3–70. Cl. 100.
Murphy, A. C., Co., McKeesport, Pa. 891,317, pub. 3–3–70. Multiple Class (Classes 39 and 51).
Murray, Sons & Co. Ltd., Belfast, Ireland, to Kristinus Kommanditgesellschaft, Muenchen, Germany. 529,445, ren. 5–19–70. Cl. 17.
Musical Instrument Corp. of America, Syosset, N.Y. 891,276, pub. 3–3–70. Cl. 36.
N.V. Philips' Gloeilampenfabrieken, Eindhoven, Netherlands. 891,207, pub. 3–3–70. Cl. 21.
NVF Co.: *See*—
Parsons Paper Co.
National Biscuit Co., New York, N.Y. 77,556, ren. 5–19–70. Cl. 46.
National Dairy Products Corp., Chicago, Ill. 767,682, canc. Cl. 46.
National Electrical Manufacturers Association, New York, N.Y. 767,732, canc. Cl. A.
National Forge Co., Irvine, Pa. 891,182, pub. 3–3–70. Multiple Class (Classes 14 and 23).
National Industries for the Blind, New York, N.Y. 891,255, pub. 3–3–70. Cl. 24.
National Industries for the Blind, New York, N.Y. 891,319, pub. 3–3–70. Cl. 42.
National Mallinson Fabrics Corp., Klopman Mills, Inc., Rockleigh, N.J. 528,855. Am. 7(d). Cl. 42.
National Mallinson Fabrics Corp., Klopman Mills, Inc., Rockleigh, N.J. 528,859. Am. 7(d). Cl. 42.
National Steel Co., Chicago, Ill., to National Steel Corp., Pittsburgh, Pa. 269,555, ren. 5–19–70. Cl. 14.
National Union Electric Corp., Bloomington, Ill. 891,132, pub. 3–3–70. Multiple Class (Classes 2 and 21).
Neal, Laura, d.b.a. Southern Weed Co., to Southern Weed Co., Salisbury, N.C. 522,029, ren. 5–19–70. Cl. 18.
Nease Chemical Co., Inc.: *See*—
Wyandotte Chemicals Corp.
Nehi Bottling Co. of Harlingen, Harlingen, Tex. 850,666, canc. Cl. 45.
Nethercutt Laboratories, Los Angeles, Calif. 767,762, canc. Cl. 51.
New Jersey Machine Corp., Hoboken, N.J. 767,498–9, canc. Cl. 23.
New York Herald Tribune Inc., New York, N.Y., to Field Enterprises, Inc., Chicago, Ill. 525,796, ren. 5–19–70. Cl. 38.
Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 767,759, canc. Cl. 51.
North American Rockwell Corp.: *See*—
Draper Corp.
North Central Life Insurance Co., St. Paul, Minn. 829,935, canc. Cl. 102.
Nu-Vita Laboratories, Inc., Racine, Wis. 767,707, canc. Cl. 51.
Odenwald, Alfred d.b.a. Kontaktwerk Enzberg Ing., Enzberg, Germany. 767,530, canc. Cl. 26.
Oklahoma Leather Co., Inc., Frederick, Okla. 767,350, canc. Cl. 3.
Olin Mathieson Chemical Corp., New York, N.Y. 767,444, canc. Cl. 18.
Omaha National Bank, The, Omaha, Nebr. 891,404, pub. 3–3–70. Cl. 102.
O'Mara, Vincent, d.b.a. Ultimate Beauty Products, Los Angeles, Calif. 891,349, pub. 3–3–70. Cl. 51.
Orange Smile Sirup Co., to The Smile Co., 526,186, ren. 5–19–70. Cl. 45.
Osrow Products Co., Inc., Glen Cove, N.Y. 767,546, canc. Cl. 29.
Ox Fibre Brush Co., Inc., Frederick, Md., to Vistron Corp., Cleveland, Ohio. 515,634, ren. 5–19–70. Cl. 29.
Oxford Apparel, Inc.: *See*—
Shirtcraft Co., Inc., The.
Pabst Brewing Co.: *See*—
Los Angeles Brewing Co.
Paper Novelty Mfg. Co., Stamford, Conn. 767,434, canc. Cl. 16.
Parke, Davis & Co., Detroit, Mich. 891,196, pub. 3–3–70. Cl. 18.
Parker, Marion H., Inc., New York, N.Y. 891,378, pub. 3–3–70. Cl. 100.
Parks, Harold M., to Kenai Salmon Packing Co., Seattle, Wash. 523,962–3, ren. 5–19–70. Cl. 46.
Parsons Paper Co., Holyoke, Mass., to NVF Co., Wilmington, Del. 271,427, ren. 5–19–70. Cl. 37.
Peace Publishers & Co., Phoenix, Ariz. 891,300, pub. 3–3–70. Cl. 38.
Peddinghaus, Paul Ferd., Gevelsberg, Germany. 891,245, pub. 3–3–70. Cl. 23.
Pendleton Woolen Mills, Portland, Oreg. 521,804, ren. 5–19–70. Cl. 39.
Perfect Film & Chemical Corp.: *See*—
Magazine Management Co., Inc.
Perkins, Dorothy Co., St. Louis, Mo., to Dorothy Perkins Cosmetics, Inc., New York, N.Y. 522,880, ren. 5–19–70. Cl. 51.
Perkins, Dorothy, Co., St. Louis, Mo., to Dorothy Perkins Cos-Perkins, Dorothy, Co.
Pet Care Products, Inc., Chicago, Ill. 891,330, pub. 3–3–70. Cl. 46.
Phillips, Ralph D., d.b.a. Black Creek Pharmaceutical Co., Fort Morgan, Colo. 891,193, pub. 3–3–70. Cl. 18.
Pinto, J. T. Vasconcellos, Lisbon, Portugal. 891,338, pub. 3–3–70. Cl. 47.
Pioneer Savings & Loan Association, Honolulu, Hawaii. 767,724, canc. Cl. 102.
Plastic Packaging Co., Chicago, Ill. 767,331, canc. Cl. 2.
Playskool, Inc.: *See*—
Halsam Products Co.
Plyorient Corp., New York, N.Y. 767,396, canc. Cl. 12.
Pocket Books, Inc., to Scholastic Magazines, Inc., New York, N.Y. 526,222, ren. 5–19–70. Cl. 38.
Poor, Edward E., Jr., d.b.a. Amherst Blanket Co., Northhampton, to J. H. Smith Co. Inc., Greenfield, Mass. 521,351, ren. 5–19–70. Cl. 50.
Pot Shop, The, Sudbury, Mass. 891,388, pub. 3–3–70. Cl. 101.
Precision Colors, Inc., Dayton, Ohio. 891,169, pub. 5–19–70. Cl. 11.
Prefco Products Inc., Buckingham, Pa. 891,271, pub. 3–3–70. Cl. 34.
Preferred Check System, Inc., Eugene, Oreg. 767,723, canc. Cl. 102.
Procter & Gamble Co., The, Cincinnati, Ohio. 891,359, pub. 3–3–70. Cl. 52.
Proctor-Silex Inc., Philadelphia, Pa. 891,208–9, pub. 3–3–70. Cl. 21.
Produits de Beaute Antoine, Long Jumeau (Essonne), France. 891,346, pub. 10–28–69. Cl. 51.
Promaco Corp., The: *See*—
Loew Chemical Corp.
Proudfoot Hosiery Corp.: *See*—
Stephens, Arthur I.
Purdue Frederick Co., The, Yonkers, N.Y. 838,108, canc. Cl. 18.
Purex Corp., Ltd., Lakewood, Calif. 891,212, pub. 3–3–70. Multiple Class (Classes 21, 23, 31, 34, and 50).
Quaker Oats Co., The, Chicago, Ill. 891,335–6, pub. 3–3–70. Cl. 46.
Ralston Purina Co., St. Louis, Mo. 891,197, pub. 3–3–70. Cl. 18.
Rap-Poo Laboratories, Inc., New York, N..Y 264,092, ren. 5–19–70. Cl. 18.
Raytheon Mfg. Co. Raytheon Co., Lexington, Mass. 521,461. Am. 7(d). Cl. 21.
Reade, Walter, Organization, Inc., Oakhurst, N.J. 891,311, pub. 3–3–70. Cl. 38.
Red Sport Paint & Varnish Co., Inc., Evansville, Ind. 767,436, canc. Cl. 16.
Reilly, Wm. B., & Co., Inc., New Orleans, La. 268,501, ren. 5–19–70. Cl. 46.
Reliable Luggage, Inc., West Pittsburg, Pa. 891,142–3, pub. 3–3–70. Cl. 3.
Renwal Products, Inc., Mineola, N.Y. 767,698, canc. Cl. 50.
Republic Drill & Tool Co., also d.b.a. Century Twist Drill Works, to Avildsen Tools & Machines, Inc., Chicago, Ill. 523,539, ren. 5–19–70. Cl. 23.
Revere Camera Co., Chicago, Ill., to Minnesota Mining & Mfg. Co., St. Paul, Minn. 521,734, ren. 5–19–70. Cl. 26.
Rexall Drug & Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 767,746, canc. Cl. 40.
Rhodes, James H., & Co., Chicago, Ill. 891,145, pub. 3–3–70. Cl. 4.
Richardson Co., The, Melrose Park, Ill. 891,126, pub. 3–3–70. Cl. 1.
Ricoh Industries, U.S.A., Inc., New York, N.Y. 767,584, canc. Cl. 36.
Robert, John, Co., King of Prussia, Pa. 891,269–70, pub. 3–3–70. Cl. 32.
Rooster Enterprises, Inc., from Aamco Automatic Transmissions, Inc., d.b.a. Rooster Enterprises, Inc., King of Prussia, Pa. 891,395, pub. 2–17–70. Cl. 101.
Rosen Enterprises, Inc., New York, N.Y. 891,163, pub. 3–3–70. Cl. 8.
Rossoff, Irving S., d.b.a. I. Llenroc, Taylorville, Ill. 767,593, canc. Cl. 38.
Rowntree & Co. Ltd. Rowntree Mackintosh Ltd., York, England. 540,448, ren. 5–19–70. Cl. 46.
Rowntree & Co. Ltd. Rowntree Mackintosh Ltd., York, England. 541,866. Am. 7(d). Cl. 46.
Rowntree & Co. Ltd. Rowntree Mackintosh Ltd., York, England. 785,818. Am. 7(d). Cl. 46.

Rowntree & Co. Ltd. Rowntree Mackintosh Ltd., York, England. 794,538. Am. 7(d). Cl. 46.
Rowntree & Co. Ltd. Rowntree Mackintosh Ltd., York, England. 874,808. Am. 7(d). Cl. 46.
Royal Baking Powder Co., Jersey City, N.J., to Standard Brands Inc., New York, N.Y. 75,828, ren. 5–19–70. Cl. 46.
Rosin Optical Export Corp., New York, N.Y. 891,259, pub. 3–3–70. Cl. 26.
Russell Mfg. Co., The, Middletown, Conn. 767,577, canc. Cl. 35.
S & H Collegiate Enterprises, Inc., Hays, Kans. 891,412, pub. 3–3–70. Cl. 107.
Sanger Fruit Growers Association, Sanger, Calif. 527,490, ren. 5–19–70. Cl. 46.
Sayman Products Co., St. Louis, Mo., to Carson Chemical Co., Savannah, Ga. 521,882, ren. 5–19–70. Cl. 51.
Sayman Products Co., St. Louis, Mo., to Carson Chemical Co., Savannah, Ga. 522,623, ren. 5–19–70. Cl. 4.
Schenley Distillers, Inc., New York, N.Y. 767,693, canc. Cl. 49.
Schenley Distillers, Inc., d.b.a. Park & Tilford Distillers Co., New York, N.Y. 767,751, canc. Cl. 49.
Schering Corp., Bloomfield, N.J. 891,194, pub. 3–3–70. Cl. 18.
Schluderberg-Kurdle Co., Inc., Baltimore, Md. 891,324, pub. 3–3–70. Cl. 46.
Scholastic Magazines, Inc.: *See*—
Pocket Books, Inc.
Sekisui Products Inc., Linden, N.J. 891,173, pub. 3–3–70. Cl. 12.
Servisco, Elizabeth, N.J. 891,406, pub. 3–3–70. Cl. 103.
Seven-Up Co., The, St. Louis, Mo. 767,643, canc. Cl. 45.
Shampaine Industries, Inc., St. Louis, Mo. 767,566, canc. Cl. 32.
Shapleigh Corp., The: *See*—
Simmons Hardware Co.
Shareholders Capital Corp., Los Angeles, Calif. 891,401, pub. 3–3–70. Cl. 102.
Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 528,328, ren. 5–19–70. Cl. 18.
Sharps Arms Co., Salt Lake City, Utah. 891,167, pub. 3–3–70. Cl. 9.
Sherman, H. B., Mfg. Co., Battle Creek, to Wolverine Industries, Inc., Grand Rapids, Mich. 527,637, ren. 5–19–70. Cl. 18.
Shield Chemical Corp., Verona, N.J. 767,666, canc. Cl. 46.
Shine Boy, Inc., from Franchise Growth Corp., Rock Island, Ill. 891,256, pub. 3–3–70. Cl. 25.
Shirtcraft Co., Inc., The, New York, N.Y., to Oxford Apparel, Inc., Atlanta, Ga. 273,277, ren. 5–19–70. Cl. 39.
Short, J. R., Milling Co., Chicago, Ill. 891,331, pub. 3–3–70. Cl. 46.
Shulton, Inc., Clifton, N.J. 891,365–7, pub. 3–3–70. Cl. 52.
Shuron Optical Co., Inc., Geneva, to Textron Inc., Rochester, N.Y. 524,527, ren. 5–19–70. Cl. 26.
Simmons Hardware Co., to The Shapleigh Corp., St. Louis, Mo. 274,147, ren. 5–19–70. Cl. 23.
Simonsen Metal Products Corp., Chicago, Ill. 891,133, pub. 3–3–70. Multiple Class (Classes 2, 13, 22, and 32).
Simpson Timber Co., Seattle, Wash. 891,174, pub. 3–3–70. Cl. 12.
Smile Co., The: *See*—
Orange Smile Sirup Co.
Smith, J. H., Co. Inc.: *See*—
Poor, Edward E., Jr.
Smith, W. R. C., Publishing Co., Atlanta, Ga. 891,304, pub. 3–3–70. Cl. 38.
Smooth-On-Inc.: *See*—
Smooth-On-Mfg. Co.
Smooth-On Mfg. Co., Jersey City, to Smooth-On-Inc., Gillette, N.J. 34,161, ren. 5–19–70. Cl. 12.
Social Dynamics, Inc., Boston, Mass. 891,384, pub. 3–3–70. Cl. 100.
Societe Commerciale des Bourgognes de Marque F. Chauvenet ou par Abreviation "S.C.B.M.," d.b.a. F. Chauvenet, Cote d'Or, France. 891,337, pub. 3–3–70. Cl. 47.
Societe des Acieries de Lorraine "Sacilor," Paris, France. 891,183, pub. 3–3–70. Cl. 14.
Societes des Clapets TJ, Chalon-sur-Saone, France. 891,176, pub. 3–3–70. Cl. 13.
Sock-It Co., Inc., High Point, N.C. 767,482, canc. Cl. 22.
Sola Basic Industries, Inc., Milwaukee, Wis. 891,298, pub. 3–3–70. Cl. 38.
Solnit, Ben d.b.a. Solnit Shoe Co., Los Angeles, Calif., to Volume Shoe Corp., Topeka, Kans. 514,892, ren. 5–19–70. Cl. 39.
Solvay Process Co., The, to Allied Chemical Corp., New York, N.Y. 267,770, ren. 5–19–70. Cl. 52.
Sonneborn, L. Sons, Inc., to Witco Chemical Corp., New York, N.Y. 267,098, ren. 5–19–70. Cl. 15.
Sorensen-Christian Industries, Inc., Angier, N.C. 891,204, pub. 3–3–70. Multiple Class (Classes 21 and 22).
South Bend Bait Co., South Bend, Ind., to South Bend Tackle Co., Inc., South Otselic, N.Y. 520,150, ren. 5–19–70. Cl. 22.
South Bend Bait Co., South Bend, Ind., to South Bend Tackle Co., Inc., South Otselic, N.Y. 521,516, ren. 5–19–70. Cl. 22.
South Bend Tackle Co., Inc.: *See*—
South Bend Bait Co.
Southern Weed Co.: *See*—
Neal, Laura.
Southwest Printers, Inc., Yuma, Ariz. 891,398, pub. 3–3–70. Cl. 101.
Squibb, E. R. & Sons, to E. R. Squibb & Sons, Inc., New York, N.Y. 527,744, ren. 5–19–70. Cl. 18.
Squibb, E. R. & Sons, to E. R. Squibb & Sons, Inc., New York, N.Y. 529,515, ren. 5–19–70. Cl. 18.
Standard Brands Inc.: *See*—
Royal Baking Powder Co.
Standard Oil Co.: *See*—
Standard Oil Co. of Pennsylvania.
Standard Oil Co. of Pennsylvania, Philadelphia, Pa., to Standard Oil Co., New York, N.Y. 265,803, ren. 5–19–70. Cl. 15.
Star Porcelain Co., The, Trenton, N.J. 518,499–500, ren. 5–19–70. Cl. 21.
Star Porcelain Co., The, Trenton, N.J. 520,854, ren. 5–19–70. Cl. 30.
Starr Fruit Products Co., Portland, Oreg., to Gray & Co., Milwaukee, Oreg. 527,499, ren. 5–19–70. Cl. 46.
Stelchrome Mfg., Inc., Odessa, Tex. 891,184, pub. 3–3–70. Cl. 14.
Stephens, Arthur I., to Proudfoot Hosiery Corp., Chicago, Ill. 524,223, ren. 5–19–70. Cl. 39.
Sterneo Industries, Inc., Harrison, N.J. 891,139, pub. 3–3–70. Cl. 3.
Stetson Corp., Lincoln, Ill. 767,697, canc. Cl. 50.
Stevens, Chas. A., & Co., Chicago, Ill. 891,399, pub. 3–3–70. Cl. 101.
Stitchendipity, Austin, Tex. 891,318, pub. 3–3–70. Cl. 40.
Straubel Paper Co., Green Bay, Wis. 518,294, ren. 5–19–70. Cl. 37.
Sullivan's Pet Supply Co., Inc., d.b.a. Pet Dealers Supply Co., Commerce, Calif. 891,129, pub. 3–3–70. Cl. 1.
Superb Glove Co., The, to Crescendoe Gloves, Inc., Johnstown, N.Y. 526,645, ren. 5–19–70. Cl. 39.
Superior Pet Products, Inc., Curwensville, Pa. 891,137, pub. 3–3–70. Cl. 3.
Sweet Sue Kitchens, Inc., Athens, Ala. 891,377, pub. 3–3–70. Cl. 100.
Swingle, Leonhardt, d.b.a. L. Swingle, Indio, Calif. 523,320, ren. 5–19–70. Cl. 46.
Swiss Colony, Inc., The, Monroe, Wis. 891,328, pub. 3–3–70. Cl. 46.
TRW Inc.: *See*—
Geometric Tool Co., The.
Marlin-Rockwell Corp.
Temprite Products Corp., Detroit, Mich., to Eaton Yale & Towne Inc., Cleveland, Ohio. 525,195, ren. 5–19–70. Cl. 31.
Texon, Inc., South Hadley, Mass. 522,749, ren. 5–19–70. Cl. 50.
Textile Marking Machine Co., Inc., Syracuse, N.Y. 767,361, canc. Cl. 5.
Textron Inc.: *See*—
Shuron Optical Co., Inc.
Thalbok Fabrics Ltd.: *See*—
Burwell, Allen & Co., Inc.
Thermatomic Carbon Co., Pittsburgh, Pa. to Commercial Solvents Corp., New York, N.Y. 271,750, ren. 5–19–70. Cl. 6.
Thomas, Arthur H., Co., Philadelphia, Pa. 526,688, ren. 5–19–70. Cl. 15.
Thomas & Betts Co., The, to Thomas & Betts Corp., Elisabeth, N.J. 528,237, ren. 5–19–70. Cl. 21.
Thomson Paper Mills, Inc., Peoples Drug Stores Inc., Washington, D.C. 516,867. Am. 7(d). Cl. 37.
Tissmetal Lionel-Dupont Lyon (Rhone), France. 891,198, pub. 3–3–70. Multiple Class (Classes 19 and 21).
Tomahawk Paper Co., Inc., Tomahawk, Wis. 767,591, canc. Cl. 37.
Tone Products-The Orange Fresh Co., Inc., Chicago, Ill. 767,642, canc. Cl. 45.
Trail-A-Sled, Inc., Crosby, Minn. 891,200–01, pub. 3–3–70. Cl. 19.
Transene Co., Inc., Rowley, Mass. 891,149, pub. 3–3–70. Cl. 6.
Trapani, Gerald DI, d.b.a. Shear-Vac Co., Grand Rapids, Mich. 891,247, pub. 3–3–70. Cl. 23.
Travel Internationale, Ltd.: *See*—
Club Internationale Management Corp.
Travelog Inc., West Acton, Mass. 767,525, canc. Cl. 23.
Tree House Restaurant Corp.: *See*—
General Mills, Inc.
Tri-River Press, Inc., from Lee E. Horn, Delta, Colo. 891,303, pub. 3–3–70. Cl. 38.
Turtle Wax, Inc., d.b.a. Teenaire, Chicago, Ill. 767,708, canc. Cl. 51.
Tyler, W. S., Co., The Cleveland, to W. S. Tyler Inc., Mentor, Ohio. 521,726, ren. 5–17–70. Cl. 23.
Tyler, W. S., Co., The Cleveland, to W. S. Tyler Inc., Mentor, Ohio. 522,320, ren. 5–19–70. Cl. 23.
Tyne Impex Establishment, Mauren, Liechtenstein, 767,521, canc. Cl. 23.
Union Carbide Corp.: *See*—
Carbide & Carbon Chemicals Corp.
Linde Air Products Co., The.
Union Oil Co. of Calif.: *See*—
American Mineral Spirits Co.
Union Tank Car Co., from Union Tank Car Co., Chicago, Ill. 891,188, pub. 3–3–70. Cl. 16.
United Dryer Corp. of America, Iberia, Ohio. 764,259, canc. Cl. 34.
United Feature Syndicate, Inc., New York, N.Y. 767,597, canc. Cl. 38.
United Services Planning Association, Inc., Fort Worth, Tex. 891,378, pub. 3–3–70. Cl. 100.
United States Borax & Chemical Corp., Los Angeles, Calif. 767,398, canc. Cl. 12.
United States Playing Card Co., The, to The United States Playing Card Co., Cincinnati, Ohio. 522,850, ren. 5–19–70. Cl. 22.
United States Playing Card Co., The, to The United States Playing Card Co., Cincinnati, Ohio. 522,852, ren. 5–19–70. Cl. 22.
United States Playing Card Co., The, to The United States Playing Card Co., Cincinnati, Ohio. 523,251, ren. 5–19–70. Cl. 22.

United States Playing Card Co., The, to The United States Playing Card Co., Cincinnati, Ohio. 523,256, ren. 5–19–70. Cl. 22.
United States Playing Card Co., The, to The United States Playing Card Co., Cincinnati, Ohio. 523,258, ren. 5–19–70. Cl. 22.
United States Rubber Co., New York, N.Y. 767,580, canc. Cl. 35.
United States Tobacco Co., New York, N.Y. 521,829, ren. 5–19–70. Cl. 17.
Universal Shellac & Supply Co., Brooklyn, N.Y. 767,353–4, canc. Cl. 4.
Universal Underwriters Computer Services, Inc., Kansas City, Mo. 891,392, pub. 3–3–70. Cl. 101.
Update Associates, West Hartford, Conn. 891,394, pub. 3–3–70. Cl. 101.
Utica Tool Co., Inc.: *See*—
Bingham-Herbrand Corp., The.
Utilities Research Corp., Conshohocken, Pa. 891,146, pub. 3–3–70. Cl. 5.
V.I.P. Imports, Ltd., New York, N.Y. 891,313, pub. 3–3–70. Cl. 39.
Van Diest Supply Co., Webster City, Iowa. 891,416. Cl. 10.
Van Pelt & Brown, Inc., Richmond, Va., to Mallinckrodt Chemical Works, St. Louis, Mo. 521,722, ren. 5–19–70. Cl. 6.
Vaughan & Bushnell Mfg. Co., Chicago, Ill. 891,243, pub. 4–11–67. Cl. 23.
Verlag Aenne Burda, from Modenverlag Aenne Burda, Offenburg-Badem, Germany. 891,290, pub. 3–3–70. Cl. 38.
Verneo Corp., Columbus, Ind. 891,273, pub. 3–3–70. Cl. 34.
Vistron Corp.: *See*—
Ox Fibre Brush Co., Inc.
Volume Shoe Corp.: *See*—
Solnit, Ben.
Vorta Systems, Inc., Wauconda, Ill. 891,215, pub. 3–3–70. Cl. 21.
Walker, Edward C., Poole, Dorset, England. 891,205, pub. 3–3–70. Cl. 21.
Wallace, W. Orr, Inc., Philadelphia, Pa. 767,599, canc. Cl. 38.
Wardley Products Co., Inc., Long Island City, N.Y. 767,753, canc. Cl. 50.
Waterloo Foundry Co., to Waterloo Foundry Co., Inc., Waterloo, Iowa. 520,934, ren. 5–19–70. Cl. 23.
Webb's City, Inc., St. Petersburg, Fla. 891,191, pub. 3–3–70. Cl. 17.
Wells Mfg. Co., Inc., New Vienna, Ohio. 891,219, pub. 3–3–70. Cl. 22.
West Chemical Products, Inc., Long Island City, N.Y. 767,376, canc. Cl. 6.
West Virginia Pulp & Paper Co., to Westvaco Corp., New York, N.Y. 524,668, ren. 5–19–70. Cl. 37.
Western Publishing Co., Inc., Racine, Wis. 891,312, pub. 3–3–70. Cl. 38.
Westvaco Corp.: *See*—
West Virginia Pulp & Paper Co.
Wheel Trueing Tool Co., Detroit, Mich. 527,193, ren. 5–19–70. Cl. 23.
Whirlpool Corp., Benton Harbor, Mich. 891,254, pub. 2–17–70. Cl. 24.
Wholesale Grocers Exchange, Inc., Richmond, Va. 524,340, ren. 5–19–70. Cl. 46.
Williams, J. B., Co., The, Glastonbury, Conn., to The J. B. Williams Co., Inc., New York, N.Y. 269,148, ren. 5–19–70. Cl. 51.
Willy, John, Inc., Evanston, Ill. 518,367, ren. 5–19–70. Cl. 37.
Wines, William B., d.b.a. Dial-A-Tax, Dallas, Tex. 891,387, pub. 3–3–70. Cl. 101.
Witco Chemical Corp.: *See*—
Sonnenborn, L., Sons, Inc.
Wolverine Industries, Inc.: *See*—
Sherman, H. B., Mfg. Co.
Woodard, Viviane, Corp., White Plains, N.Y., from Viviane Woodard Corp., d.b.a. Woodard for Men, Panorama City, Calif. 891,348, pub. 3–3–70. Multiple Class (Classes 51 and 52).
World Research Corp., Chicago, Ill. 891,301, pub. 3–3–70. Cl. 38.
Wyandotte Chemicals Corp., Wyandotte, Mich., to Nease Chemical Co., Inc., State College, Pa. 525,050, ren. 5–19–70. Cl. 6.
Wyandotte Chemicals Corp., Wyandotte, Mich. 891,414. Cl. 26.
Yale Arts Association, New Haven, Conn. 891,295, pub. 3–3–70. Cl. 38.
Yankee, Inc., Dublin, N.H. 891,306, pub. 3–3–70. Cl. 38.
Zenith Radio Corp., Chicago, Ill. 891,217, pub. 2–24–70. Cl. 21.
Ziff-Davis Publishing Co., Chicago, Ill., to Ziff-Davis Publishing Co., New York, N.Y. 529,969, ren. 5–19–70. Cl. 38.
Zinsser, William, & Co. Inc., New York, N.Y. 767,432, canc. Cl. 16.
Zsa Zsa Ltd., New York, N.Y. 891,352, pub. 3–3–70. Cl. 51.
Zsa Zsa Ltd., New York, N.Y. 891,362, pub. 3–3–70. Cl. 52.

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U.S. DEPARTMENT OF COMMERCE

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PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of April 1970

Examiner affirmed	146
Examiner affirmed in part	16
Examiner reversed	39
Total	201

Certificates of Correction for the Week of May 26, 1970

3,288,166	3,455,827	3,470,197	3,474,864
3,312,186	3,456,050	3,470,241	3,475,127
3,345,805	3,457,170	3,470,256	3,475,433
3,369,003	3,458,633	3,470,258	3,475,516
3,403,635	3,458,654	3,470,272	3,475,538
3,409,497	3,459,250	3,470,455	3,475,586
3,416,035	3,459,694	3,470,769	3,476,045
3,417,325	3,459,708	3,471,008	3,476,394
3,418,348	3,460,440	3,471,320	3,476,722
3,419,390	3,460,674	3,471,430	3,476,747
3,426,045	3,460,956	3,471,435	3,476,814
3,426,067	3,460,960	3,471,474	3,476,830
3,429,887	3,461,847	3,471,525	3,477,196
3,431,112	3,461,921	3,471,527	3,477,851
3,432,568	3,462,288	3,471,571	3,477,913
3,433,895	3,462,409	3,472,122	3,477,914
3,437,718	3,462,447	3,472,803	3,477,988
3,438,446	3,463,758	3,472,870	3,478,004
3,440,070	3,463,787	3,473,009	3,478,218
3,442,141	3,463,795	3,473,010	3,478,655
3,443,643	3,464,175	3,473,039	3,478,771
3,444,712	3,464,828	3,473,163	3,478,960
3,447,234	3,464,974	3,473,460	3,479,116
3,447,849	3,465,436	3,473,695	3,479,517
3,448,731	3,465,743	3,473,696	3,479,547
3,449,111	3,466,569	3,473,883	3,480,616
3,449,362	3,466,775	3,473,951	3,481,897
3,449,903	3,467,900	3,474,031	3,481,958
3,450,923	3,468,294	3,474,071	3,482,030
3,451,916	3,468,418	3,474,103	3,483,072
3,452,129	3,468,677	3,474,148	3,483,747
3,453,469	3,468,830	3,474,438	3,485,120
3,453,953	3,468,840	3,474,567	3,486,030
3,455,299	3,468,965	3,474,661	3,486,402
3,455,401	3,469,189	3,474,693	3,489,577
3,455,451	3,469,982	3,474,736	3,498,806
3,455,727	3,470,152	3,474,748	

Disclaimers

2,961,021.—*Charles E. Tibbals,* Oneida, Tenn. METHOD OF AND APPARATUS FOR MAKING PARQUET FLOORING BLOCKS. Patent dated Nov. 22, 1960. Disclaimer filed Feb. 2, 1970, by the assignee, *Wood Products Development Company.*

Hereby enters this disclaimer to claims 9 and 10 of said patent.

2,983,295.—*Charles E. Tibbals,* Oneida, Tenn. WOODEN PARQUET FLOORING BLOCK AND METHOD AND APPARATUS FOR PRODUCING THE SAME. Patent dated May 9, 1961. Disclaimer filed Feb. 2, 1970, by the assignee, *Wood Products Development Company.*

Hereby enters this disclaimer to claims 1, 4, 6 and 12 of said patent.

3,118,804.—*Charles E. Tibbals,* Oneida, Tenn. APPARATUS FOR MAKING PARQUET FLOORING BLOCKS. Patent dated Jan. 21, 1964. Disclaimer filed Feb. 2, 1970, by the assignee, *Wood Products Development Company.*

Hereby enters this disclaimer to claims 2 and 3 of said patent.

3,128,511.—*Charles Ernest Tibbals,* Oneida, Tenn. PARQUET FLOORING BLOCK. Patent dated Apr. 14, 1964. Disclaimer filed Feb. 2, 1970, by the assignee, *Wood Products Development Company.*

Hereby enters this disclaimer to claims 1, 2, 3 and 4 of said patent.

3,290,586.—*Robert E. Anderson,* Sunnyvale, Calif. APPARATUS FOR MEASURING THE DISTANCE TO AN OPEN CIRCUIT IN A CABLE PAIR INCLUDING MEANS FOR STORING A CHARGE COMMENSURATE WITH SUCH DISTANCE. Patent dated Dec. 6, 1966. Disclaimer filed Feb. 19, 1970, by the assignee, *Tel-Design, Inc.*

Hereby enters this disclaimer to claims 8 through 11 and 15 of said patent.

3,330,105.—*Charles H. Weber,* Mayville, Wis. PROTECTIVE DEVICE FOR FLEXIBLE CONDUCTORS. Patent dated July 11, 1967. Disclaimer filed Apr. 6, 1970, by the assignee, *Maysteel Products Corp.*

Hereby enters this disclaimer to claims 1 to 8, inclusive, of said patent.

New Applications Received During March 1970

Patents	9082
Designs	477
Plant Patents	2
Reissues	69
Total	9630

Issue—May 26, 1970

Patents	1303	No. 3,513,481 to No. 3,514,783, incl.
Designs	50	No. 217,654 to No. 217,703, incl.
Reissues	12	No. 26,891 to No. 26,902, incl.
Def. Pub.	6	No. T874,011 to No. T874,016, incl.
Total	1371	

United States Delegation to the Diplomatic Conference on Patent Cooperation Treaty

The Departments of State and Commerce announced on May 8 the membership of the United States Delegation to the Diplomatic Conference to be held in Washington May 25–June 19 on the proposed Patent Cooperation Treaty.

Co-Chairmen of the Delegation are Eugene M. Braderman, Deputy Assistant Secretary of State for Commercial Affairs and Business Activities, and William E. Schuyler, Jr., Commissioner of Patents, Patent Office, U.S. Department of Commerce.

Alternate Co-Chairmen are George R. Clark, General Patent Counsel, Sunbeam Corporation, Chicago, Illinois, and Harvey J. Winter, Acting Chief, Business Practices Division, Department of State.

Senior Advisors are James W. Brennan, International Patent Specialist, Patent Office, U.S. Department of Commerce, and Edward F. McKie, Jr., Patent Attorney, Birch, Swindler, McKie and Beckett, Washington, D.C.

Advisors are Donald W. Banner, General Patent Counsel, Borg-Warner Corporation, Chicago, Illinois; Robert B. Benson, General Patent Attorney, Allis-Chalmers Corporation, Milwaukee, Wisconsin; Pasquale J. Federico, Examiner-in-Chief (retired), U.S. Patent Office; H. Dieter Hoinkes, International Patent Specialist, Patent Office; W. Brown Morton, Jr., Patent Attorney, McLean, Morton and Boustead, Washington, D.C.; Sylvia E. Nilsen, Deputy Assistant Legal Adviser, Department of State; and William A. Smith, III, International Patent Specialist, Patent Office.

File History of Applications Affected by Postal Emergency

As a result of the postal emergency, the time for taking any action or paying any fee in the U.S. Patent Office expiring between the dates of March 16, 1970 and April 15, 1970, both dates inclusive, was automatically extended for one month, provided it did not exceed a maximum period for response provided in the Statutes. (See O.G. of March 24, 1970 or March 31, 1970, 872 O.G. 1383 and April 7, 1970, 873 O.G. TM 2.)

Since this extension of time was automatic there will be nothing in the individual files to indicate that a paper filed during that period was, in fact, timely though it was received later than its apparent due date.

In order to provide a complete history in the affected files and to dispel any question as to abandonment in the record of a patented file, applicants or their attorneys are requested to file a paper explaining these circumstances. A separate paper should be filed in each case so affected (identified by Serial No., filing date, title and applicant's name) and may be merely a copy of the notice which authorized the one-month extension or should specifically refer to and identify that notice.

RICHARD A. WAHL,
Apr. 27, 1970. *Assistant Commissioner of Patents.*

U.S. Department of Commerce Field Offices To Serve as Receiving Stations Only in Declared Emergencies

During the recent postal emergency, Field Offices of the U.S. Department of Commerce were designated as receiving stations for the U.S. Patent Office (according to the Notices of March 19, 1970, 872 O.G. 1383 and March 26, 1970, 873 O.G. TM 2). In view of the subsequent resumption of normal postal operations, that emergency arrangement was discontinued in accordance with the notice of March 27, 1970, 873 O.G. 319. After April 15, 1970, the normal practice with respect to the filing of all letters and other papers relating to patent and trademark matters in the U.S. Patent Office was resumed.

The Patent Office has received suggestions proposing that the Field Offices continue to serve as receiving stations for the U.S. Patent Office. These suggestions have received careful and sympathetic consideration. However, it has been concluded that any activities of the Field Offices in this connection must be restricted, in the future, to any emergency officially announced by the Patent Office as requiring such action.

RICHARD A. WAHL,
Apr. 27, 1970. *Acting Commissioner of Patents.*

Erratum

All references to Patent No. 3,510,048 to Charles Robert Helms, Enclosed Basket Style Carrier Carton, appearing in the OFFICIAL GAZETTE of May 5, 1970, should be deleted as the application was withdrawn from issue and the patent was not issued.

Disclaimers and Dedications

3,319,534.—*Julius C. Boonshaft,* Huntingdon Valley, Pa. PISTON. Patent dated May 16, 1967. Disclaimer and dedication filed Feb. 4, 1970, by the assignee, *Weston Instruments, Inc.*

Hereby enters this disclaimer to the entire remaining term of said patent and dedicates the patent to the Public.

3,357,444.—*Kenneth W. Zeuner,* Levittown, Pa. FLUID FLOW CONTROL. Patent dated Dec. 12, 1967. Disclaimer and dedication filed Feb. 4, 1970, by the assignee, *Weston Instruments, Inc.*

Hereby enters this disclaimer to the entire remaining term of said patent and dedicates the patent to the Public.

3,357,676.—*Julius C. Boonshaft,* Huntingdon Valley, Pa. ACTUATING MECHANISM. Patent dated Dec. 12, 1967. Disclaimer and dedication filed Feb. 4, 1970, by the assignee, *Weston Instruments, Inc.*

Hereby enters this disclaimer to the entire remaining term of said patent and dedicates the patent to the Public.

3,381,931.—*Julius C. Boonshaft,* Huntingdon Valley, and *Kenneth W. Zeuner,* Newton, Pa. FAST RELEASE VALVE. Patent dated May 7, 1968. Disclaimer and dedication filed Feb. 4, 1970, by the assignee, *Weston Instruments, Inc.*

Hereby enters this disclaimer to the entire remaining term of said patent and dedicates the patent to the Public.

3,466,003.—*Julius C. Boonshaft,* Huntingdon Valley, and *Kenneth W. Zeuner,* Newton, Pa. HIGH FREQUENCY VALVE. Patent dated Sept. 9, 1969. Disclaimer and dedication filed Feb. 4, 1970, by the assignee, *Weston Instruments, Inc.*

Hereby enters this disclaimer to the entire remaining term of said patent and dedicates the patent to the Public.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MAY 5, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	5-20-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—L. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1-12-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-16-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	4-17-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director.. Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	3-01-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	2-06-69
SECURITY, GROUP 220—S. BOYD, Director. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6-03-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director. Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	5-09-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	8-21-68
PHYSICS, GROUP 280—R. L. EVANS, Director. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-07-68
DESIGNS, GROUP 290—S. BOYD, Director. Industrial Arts; Household, Personal and Fine Arts.	8-01-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director. Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-26-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	8-06-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	9-27-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	4-02-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director. Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	1-14-69

Total number of pending applications (excluding Designs)	181,943
Total number of Design applications pending	3,566

Expiration of patents: The patents within the range of numbers indicated below expire during May 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 70th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 82nd Congress, approved August 23, 1954 (68 Stat. 704), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,637,029 to 2,640,194, inclusive
Plant Patents	Numbers 1,182 to 1,190, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE CESARE RENI

No. 8254. Decided January 15, 1970

[57 CCPA —; 419 F.2d 922; 164 USPQ 245]

1. PATENTABILITY—CRITICALITY—PROCESS—BURDEN ON APPLICANT.

"Based on the factual determinations made by the Examiner in considering the state of the prior art, a prima facie case was made out that the claimed invention was obvious. It became, therefore, incumbent upon the appellant to come forward with some sort of evidence indicating that the distinguishing limitations which he places on the claimed process are, indeed, 'critical,' i.e., that they lead to a new result which would not be expected by those of ordinary skill in the art. Appellant failed in carrying out this burden. Although he *alleged* that there were longstanding difficulties with the use of concentrated aqueous solutions of hydrochloric acid as a catalyst for the subject decomposition process, the assertion that one of ordinary skill in the art would not expect concentrated hydrochloric acid to work well, or would be led away from its use, which we feel was essential to appellant's case, was never satisfactorily proved to be true."

2. SAME—PARTICULAR SUBJECT MATTER—"METHOD OF PREPARING PHENOL AND ACETONE FROM CUMENE HYDROPEROXIDE."

The refusal of a certain claim in an application entitled "Method of Preparing Phenol and Acetone From Cumene Hydroperoxide," as unpatentable over the prior art, is affirmed.

APPEAL from Patent Office. Serial No. 217,266.

AFFIRMED.

Sughrue, Rothwell, Mion, Zinn and Macpeak (*Thomas J. Macpeak*, of counsel) for appellant.

Joseph Schimmel (*Jack E. Armore*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, MATTHEWS, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

BALDWIN, *J.*, delivered the opinion of the court.

This appeal is from the Patent Office Board of Appeals decision affirming the Examiner's rejection of claims 1–4 of appellant's application [1] as unpatentable over Joris [2] in view of Shepard [3] under 35 U.S.C. 103. In his brief, appellant has withdrawn the appeal as to claims 1–3, leaving claim 4 the only remaining claim on appeal.

THE INVENTION

The invention can be no more succinctly stated than as in claim 4:

4. Method of producing phenol and acetone by acid decomposition of cumene hydroperoxide, comprising gradually and simultaneously adding (*a*) an aqueous hydrochloric acid at a concentration between 35% and 36% by weight, and (*b*) a solution of cumene hydroperoxide in cumene at a concentration of at least 70% by weight, to a homogeneous liquid reaction medium consisting essentially of the acid decomposition products of said solution, while adjusting the rate of addition of the aqueous hydrochloric acid to maintain the concentration of the acid in the reaction medium between 0.1% and 1.1% by weight during the whole decomposition process, and while maintaining the reaction medium at a temperature between 30° and 100° C.

[1] Serial No. 217,266, filed Aug. 16, 1962, for "Method of Preparing Phenol and Acetone From Cumene Hydroperoxide."
[2] U.S. Patent 2,626,281, issued Jan. 20, 1953.
[3] U.S. Patent 2,993,074, issued July 18, 1961.

Appellant asserts that while it is known to produce phenol and acetone by processes involving the acid decomposition of cumene hydroperoxide, many different acids being suggested for various reasons, he has found that by utilizing aqueous concentrated hydrochloric acid and the process limitations specified, disadvantages of the prior art may be overcome and high yields of phenol and acetone may be obtained.

THE REFERENCES

Joris is directed to a cumene hydroperoxide decomposition process wherein *sulfur dioxide*, a relatively weak acid, as a gas, or in aqueous solution, and a solution of cumene hydroperoxide in cumene are added, gradually and simultaneously, to a liquid reaction medium consisting of decomposition products from previous operations. The rate of addition is adjusted to maintain the temperature within the range 30°–80° C. and the concentration of the acid between 5 and 1,000 parts per million. At the beginning of the specification, however, Joris has an incidental disclosure wherein he states that it is known that cumene hydroperoxide decomposes to phenol and acetone under the influence of strong acids, such as hydrochloric acid, the stronger the acid the more efficient the decomposition (i.e., the higher the yields of phenol and acetone). The obvious implication is that Joris' process is an improvement over what was known before.

Shepard teaches the method of decomposing cumene hydroperoxide by gradually adding a solution of the hydroperoxide in cumene to a homogeneous, substantially *anhydrous* reaction medium consisting of phenol and a small amount of strong acid. Hydrogen chloride is listed as one of the strong acids which may be used. Temperatures between 55° and 65° C. are disclosed, and Shepard maintains the acid concentration in the reaction medium between 0.001 and 1.0 percent.

THE REJECTION

The Examiner rejected the claims over Joris in view of Shepard, maintaining that in view of Joris' disclosure that it was known to decompose cumene hydroperoxide with strong hydrochloric acid, "it would be obvious to one of ordinary skill in the art to employ the hydrogen chloride or concentrated acid of Shepard rather than sulfur dioxide in the Joris process." The Examiner pointed out that low concentrations, which overlap those claimed, were disclosed in Shepard.

The Board agreed with the Examiner, taking the view, however, that Shepard was the more relevant of the two references. As the Board expressed it:

Though the claims on appeal specify merely adding the acid and the peroxide simultaneously to the reaction medium which is composed of the reaction products while maintaining an acid concentration in the range of 0.1% to 1.1%, the working examples in this application actually start out by supplying a bath containing acid to which the peroxide and more acid is added. The similarity of that procedure to the Shepard process is apparent, the difference being that appellant adds more acid.

* * * Any slight amount of added acid would satisfy the terms of the claims.

In any event it strikes us that if the peroxide is added in such an amount as to diminish the acid concentration excessively, one of ordinary skill aware of the Joris procedure would have no difficulty in recommending the addition of more acid to the Shepard reaction mixture in a gradual manner.

In evaluating the differences between the subject matter sought to be patented and the prior art, the Patent Office made certain factual

determinations. First, the use of concentrated hydrochloric acid was considered to be suggested by Shepard, who "clearly discloses the use of hydrogen chloride, per se . . . and also the use of concentrated acid . . . ." This was in direct response to appellant's argument that "the prior art shies away from the use of concentrated hydrochloric acid . . . ." With regard to the maintenance of low acid concentrations, the assertion was made by the Examiner that this was accomplished by incremental addition of reactants to the reaction zone in essentially the same manner as done in the prior art. He further maintained that the art was fully cognizant of the reason for doing this, i.e. the danger of explosion caused by overheating, and took the position that the determination of optimum concentrations of acid would be "fully within the expected skill of the art."

OPINION

On appeal, appellant emphasizes the unstable nature of the chemical reaction involved here, alleging that there is a strong danger of explosion. He argues that the Board erred in failing to appreciate the criticality of the limitations in the claims calling for a homogeneous reaction medium and the maintenance of a specific concentration of acid, which limitations dispose of the problem of explosivity by preventing heat build-up within the reaction vessel. In addition, appellant points out that his process also eliminates corrosion problems and, by calling for the utilization of "off-the-shelf"[4] concentrated acid, produces substantial savings.

Appellant argues that the teachings of the references may not be properly combined to make the claimed invention obvious. While implicitly conceding that the Joris reference suggests that the use of hydrochloric acid[5] to catalyze the hydroperoxide decomposition is old, appellant takes the position that Joris can not teach more, since the patentee "indicates that the characteristics of sulfur dioxide in the decomposition reaction are substantially different."

With regard to the Shepard reference, appellant argues that the patentee teaches away from the use of concentrated hydrochloric acid in specifically requiring the exclusion of water from the reaction. In fact, appellant asserts that "[t]he entire history of the prior art has been that concentrated aqueous acids were undesirable for use in decomposing hydroperoxides."

The Solicitor, in defending the Examiner's position takes a slightly different approach. Citing *In re Aller*, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955), he points out that:

> It is well settled that where patentability is predicated upon a change in a condition of a prior art process, as a change in concentration or the like, that change must at least be "critical"—i.e., it must lead to a new and unexpected result—"and the applicant has the burden of proving such criticality."

Arguing that the specification is equivocal on this point and that no comparative or other evidence has been proffered to show criticality, the Solicitor maintains that "the appellant cannot rely for patentability on the maintenance of hydrochloric acid concentration within the claimed range."

We have considered appellant's arguments carefully. However, we consider the approach taken by the Patent Office to have been a rational one and, looking at the record as a whole, find no reversible error. [1] Based on the factual determinations made by the Examiner in considering the state of the prior art, a prima facie case was made out that the claimed invention was obvious. It became, therefore, incumbent upon the appellant to come forward with some sort of evidence indicating that the distinguishing limitations which he places on the claimed process are, indeed, "critical," i.e., that they lead to a new result which would not be expected by those of ordinary skill in the art. Appellant failed in carrying out this burden. Although he *alleged* that there were longstanding difficulties with the use of concentrated aqueous solutions of hydrochloric acid as a catalyst for the subject decomposition process, the assertion that one of ordinary skill in the art would not expect concentrated hydrochloric acid to work well, or would be led away from its use, which we feel was essential to appellant's case, was never satisfactorily proved to be true.

[2] The decision of the Board of Appeals is affirmed.

AFFIRMED.

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[4] The parties acknowledge that the concentrated hydrochloric acid called for by the claim is the commercially available form of the acid.

[5] It is acknowledged that, in his brief on appeal, appellant states:

> The most that can be gained from the Joris disclosure is that sulfur dioxide is preferred by Joris over *concentrated* hydrochloric acid as a cumene hydroperoxide decomposition agent. [Emphasis added.]

Joris, of course, does not specifically mention *concentrated* hydrochloric acid. The Solicitor considers this a concession by appellant, but we have not felt it necessary to treat it as such.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,441,960, P. Eisler, MANUFACTURE OF ELECTRIC CIRCUIT COMPONENTS; 2,587,568, same; Re. 24,165, same; 2,706,697, same, filed Dec. 27, 1962, D.C., S.D. Calif. (Los Angeles), Doc. 62-1656-Y, *Technograph Printed Electronics, Ltd. and Technograph Printed Electronics Inc.* v. *Hoffman Electrons Corp.* Order dismissing cause without prejudice for want of prosecution, Feb. 19, 1970.

2,587,568. (See 2,441,960.)

2,602,751, D. M. Robinson, METHOD FOR STERILIZING SUBSTANCES OR MATERIALS SUCH AS FOOD AND DRUGS; 2,680,815, E. A. Burril, METHOD OF AND APPARATUS FOR TREATING SUBSTANCES WITH HIGH ENERGY ELECTRONS; 2,729,748, D. M. Robinson, APPARATUS FOR STERILIZING FOODS, DRUGS AND OTHER SUBSTANCES BY SCANNING ACTION OF HIGH-ENERGY ELECTRONS; 2,887,584, J. C. Nygard, ELECTRON IRRADIATION APPARATUS, filed Sept. 12, 1968, D.C. Idaho (Boise), Doc. C-1-68-79, *High Voltage Engineering Corporation* v. *Boise-Cascade Corporation*. Plaintiff's complaint dismissed, Feb. 18, 1970.

2,645,107, T. R. Smith, COMBINED WASHING MACHINE AND CENTRIFUGAL EXTRACTOR; 2,645,106, same, COMBINED WASHING MACHINE AND CENTRIFUGAL FLUID EXTRACTOR; Re. 25,125, same, FLUID CONTROL SYSTEM FOR WASHING MACHINE; Re. 25,157, C. W. Burkland, TUB ASSEMBLY; 2,948,372, J. D. Goodlaxson, DRIVE ASSEMBLY; 3,013,645, same, filed Feb. 18, 1970, D.C., S.D. Iowa (Iowa), Doc. 9-2473-C-1, *White Consolidated Industries, Inc. and Franklin Manufacturing Company* v. *The Maytag Company*.

2,645,106. (See 2,645,107.)

2,680,815. (See 2,602,751.)

2,706,697. (See 2,441,960.)

2,715,231, O. F. Marston, FLEXIBLE BUOYANT ARTICLE, filed Dec. 6, 1968, D.C., E.D. Va. (Richmond), Doc. CA-6076-R, *Oliver F. Marston* v. *Kurz GmbH et al.* Consent judgment, order of dismissal with prejudice as to all parties, Feb. 16, 1970.

2,729,748. (See 2,602,751.)

2,736,323, E. G. McDonough, PERMANENT WAVING SOLUTIONS AND METHODS, filed Apr. 8, 1969, Ct. of Cl., 4th Cir., Richmond, Doc. 13,391, *Tidewater Patent Development Company, Inc.* v. *K. M. Kitchen and Virginia M. Kitchen, doing business as K. M. Kitchen Beauty Supply Company*. Opinion affirming the judgment of the District Court, Feb. 5, 1970.

2,887,584. (See 2,602,751.)

2,910,377, R. Owen, HEAT-SENSITIVE COPYING-PAPER; 3,060,254, E. A. Grant, Jr., same, filed Dec. 9, 1969, D.C., S.D.N.Y., Doc. 69-5435, *Minnesota Mining and Manufacturing Co.* v. *Labelon Corporation*. Final judgment, permanent injunction, Feb. 13, 1970.

2,948,372. (See 2,645,107.)

2,991,398, C. W. Strong, METER BOX; 3,123,744, J. T. Fisher, METER BOX WITH A MOISTURE BARRIER ASSEMBLY, filed Sept. 14, 1967, D.C., W.D. Mo. (Kansas City), Doc. 16604-3 (previously filed in the N.D. of Alabama, Southern Division, Case No. CA 67-404-S), *Helen Wills Strong and B & C Metal Stamping Company* v. *Milbank Manufacturing Company*. Declaratory judgment, patents invalid and unenforceable, Mar. 3, 1970.

3,013,645. (See 2,645,107.)

3,064,949, H. W. Dewenter, MIXER; 3,216,473, same, COMMINUTION APPARATUS; 3,240,246, same, BLENDER, filed Dec. 13, 1968, D.C., S.D.N.Y., Doc. 68-C-4983, *Proctor-Silex Incorporated* v. *Hamilton Cosco, Inc.* Stipulation of dismissal without prejudice, Feb. 26, 1970.

3,060,254. (See 2,910,377.)

3,123,744. (See 2,991,398.)

3,192,131. (See Re. 25,232.)

3,213,060. (See Re. 25,232.)

3,216,473. (See 3,064,949.)

3,240,246. (See 3,064,949.)

Re. 24,165. (See 2,441,960.)

Re. 24,132, R. W. Goeldner, PLURAL STAGE FLASH EVAPORATION METHOD; 3,213,000, R. Ewing, MULTIPLE STAGE FLASH EVAPORATOR; 3,192,131, Loebel and Leitner, MULTI-STAGE FLASH EVAPORATOR WITH REMOVABLE STAGES, filed Mar. 11, 1970, D.C., E.D. Pa. (Philadelphia), Doc. C.A. 70–711, *Baldwin-Lima-Hamilton Corporation* v. *Aqua-Chem, Inc.*

Re. 25,125. (See 2,645,107.)

Re. 25,127. (See 2,645,107.)

Re. 25,697, Kravitz and Lettvin, MEANS FOR VACCINATING, filed Sept. 3, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1481, *American Cyanamid Co.* v. *Lincoln Laboratories, Inc.* Final judgment, complaint dismissed in part and sustained in part, count 1 of counterclaim is sustained in part, counts 2 and 3 of defendant's counterclaims dismissed with prejudice and without costs of attorney's fees, and no attorney's fees or costs awarded with respect to plaintiff's complaint, count 1, of defendant's counterclaim, Aug. 14, 1969.

D. 184,542, M. Tulin, WATCH, filed June 8, 1967, D.C., S.D.N.Y., Doc. 67–C–2221, *Swank, Inc.* v. *Sheffield Watch Corp. et ano.* Order dismissing action for lack of prosecution, Dec. 16, 1969.

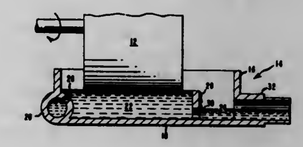
DEFENSIVE PUBLICATIONS

PUBLISHED MAY 26, 1970

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

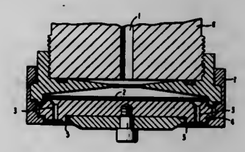
Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T874,011
APPARATUS FOR MAINTAINING A LIQUID LEVEL AND PREVENTING STRATIFICATION
Rabun Frank Rutherford, Richmond, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 5, 1969, Ser. No. 830,765
Int. Cl. B05c *3/02*
U.S. Cl. 137—576
1 Sheet Drawing. 4 Pages Specification



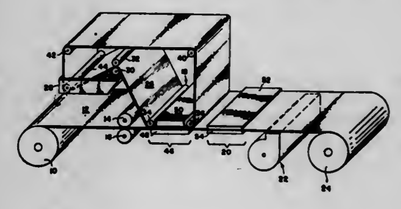
A finish pan for a yarn finish applicator that includes an overflow weir for dividing the pan into separate reservoir and overflow cavities and maintaining a predetermined liquid level in the reservoir. Means are provided for supplying liquid finish to said reservoir cavity and draining said overflow cavity. A passage interconnecting the reservoir and overflow cavity is provided in the weir near the base of the pan to allow not only flow over the top of the weir but also flow through the base of the weir to break up stratification which tends to form in the liquid contained in the reservoir cavity.

T874,012
PROCESS FOR HARDENING AN ALUMINUM ALLOY MEMBER
Robert E. Clark, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 2, 1969, Ser. No. 863,215
Int. Cl. C21d *1/46*
U.S. Cl. 148—20
1 Sheet Drawing. 5 Pages Specification



A solution-distribution plate of a highly heat conductive [e.g., at least about 500, preferably 900–1300 B.t.u./(hr.) (sq. ft.) (° F./ft.)] aluminum alloy (preferably 2024 aluminum alloy) is hardened to a Brinnel hardness of at least about 100, by: (1) heating a solution-distribution plate constructed of the aforesaid heat conductive aluminum alloy in a molten salt bath at about 800° F. ±25° F. for about 3 minutes, and quenching the heated distribution plate by rapidly immersing it in cold (e.g., below about 60° F.±10° F.) water. The preferred salt bath has approximately the following composition: 40% KNO_3, 50% $NaNO_2$, and 10% NaOH. The distribution plate, identified by the numeral 4 in the drawing, so prepared, when used in conjunction with a conventional dry spinning spinneret assembly, desirably reduces the solution temperature gradient across the spinneret, as well as providing suitable resistance to deformation in handling and creep under load during use.

T874,013
PROCESS FOR PRODUCING STRETCH FABRICS
Robert L. Ammons, 2237 Charsley Road, Kingsport, Tenn. 37660
Filed Oct. 30, 1969, Ser. No. 872,652
Int. Cl. D06c *1/06*
U.S. Cl. 28—76
3 Sheets Drawing. 26 Pages Specification



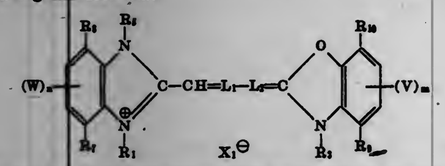
Process for imparting stretch characteristics to a woven fabric containing synthetic fibers, especially cellulosic fibers. The process comprises applying steam to the fabric, preferably by placing a damp cloth over the fabric and applying light pressure to the cloth to press it against the fabric being treated. The damp cloth is heated to a temperature sufficient to convert the water in the cloth to steam. The fabric is then baked for a period of time in the absence of moisture, usually in a temperature of about 220°–240° F. Subsequently the fabric is cooled to room temperature. The desired amount of stretchability, is attained by repeating the above-described cycle of steps a number of times, the particular number of cycles depending upon the nature of the fabric and upon the nature of the stretch characteristics desired in the fabric. Usually the cycle of steps would be repeated from about 10 to 40 times. The process can be operated as a batch process, a semi-continuous process or a continuous process. Also the basic process can be applied to fibers before processing into a fabric.

T874,014
SUPERSENSITIZED SILVER HALIDE PHOTOGRAPHIC EMULSIONS

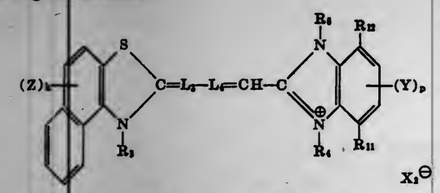
Cynthia G. Ulbing, Fairport, and Mary Jane W. Brizee, Pittsford, N.Y. (both of Kodak Park, Rochester, N.Y. 14650)

Filed Dec. 12, 1969, Ser. No. 884,702
Int. Cl. G03c 1/28
U.S. Cl. 96—104
No Drawing. 18 Pages Specification

Photographic silver halide emulsions are spectrally sensitized with a dye combination comprising (1) a benzimidazolooxacarbocyanine dye and (2) a benzimidazolonaphthothiacarbocyanine dye. A preferred dye combination comprises (1) a benzimidazolooxacarbocyanine dye having the formula:



and (2) a 4',5'-benzobenzimidazolothiacarbocyanine dye having the formula:



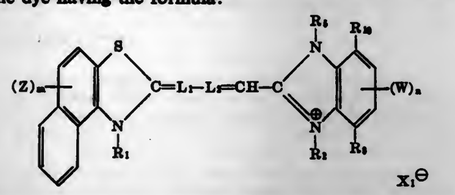
wherein *n*, *m* and *p* each represents a positive integer of from 1 to 2; L_1, L_2, L_3 and L_4 each represents a methine linkage; *k* represents a positive integer of from 1 to 4; R_1, R_2, R_3 and R_4 each represents an alkyl group; R_5 and R_6 each represents an unsubstituted lower alkyl group; R_7, R_8, R_9, R_{10}, R_{11} and R_{12} each represents a member selected from the group consisting of a hydrogen atom and a halogen atom; X_1 and X_2 each represents an acid anion; V represents a member selected from the group consisting of a hydrogen atom, a halogen atom, an alkyl group, an alkoxy group and an aryl group; W and Y each represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a cyano group, an alkyl group, an alkoxy group, an acyl group of a monobasic fatty acid, an alkylaminocarbonyl group, a trifluoroalkyl group and a trifluoroalkylsulfonyl group; and Z represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a sulfo group, an alkyl group, an alkoxy group and an aryl group. A typical example comprises a silver bromoiodide emulsion containing the dye combination of (1) anhydro-5,6-dichloro-1,3'-diethyl-3-(3 - sulfopropyl)-benzimidazolooxacarbocyanine hydroxide and (2) anhydro-5,6-dichloro-1,3'-diethyl-3-(3 - sulfopropyl)-4',5'-benzobenzimidazolothiacarbocyanine hydroxide.

T874,015
SUPERSENSITIZED SILVER HALIDE PHOTOGRAPHIC EMULSIONS

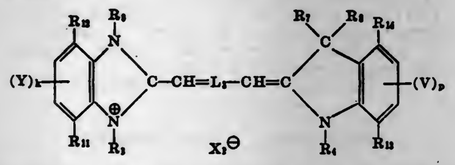
Cynthia G. Ulbing, Fairport, and Mary Jane W. Brizee, Pittsford, N.Y. (both of Kodak Park, Rochester, N.Y. 14650)

Filed Dec. 12, 1969, Ser. No. 884,705
Int. Cl. G03c 1/28
U.S. Cl. 96—104
No Drawing. 19 Pages Specification

Photographic silver halide emulsions are spectrally sensitized with a dye combination comprising (1) a benzimidazolonaphthothiacarbocyanine dye and (2) a benzimidazoloindocarbocyanine dye. A preferred combination comprises (1) a 4',5'-benzobenzimidazolothiacarbocyanine dye having the formula:



and (2) a benzimidazoloindocarbocyanine dye having the formula:



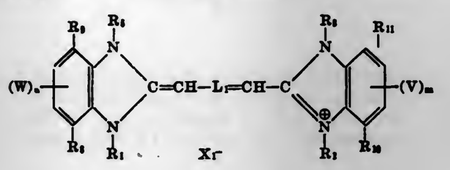
wherein *n*, *k* and *p* each represents a positive integer of from 1 to 2; *m* represents a positive integer of from 1 to 4; L_1, L_2 and L_3 each represents a methine linkage; R_1, R_2, R_3 and R_4 each represents an alkyl group; R_5, R_6, R_7 and R_8 each represents an unsubstituted lower alkyl group; R_9, R_{10}, R_{11}, R_{12}, R_{13} and R_{14} each represents a member selected from the group consisting of a hydrogen atom and a halogen atom; X_1 and X_2 each represents an acid anion; V represents a member selected from the group consisting of a hydrogen atom, a halogen atom, an alkyl group, an alkoxy group and an aryl group; W and Y each represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a cyano group, an alkyl group, an alkoxy group, an acyl group of a monobasic fatty acid, an alkylaminocarbonyl group, a trifluoroalkyl group and a trifluoroalkylsulfonyl group; and Z represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a sulfo group, an alkyl group, an alkoxy group and an aryl group. A typical example comprises a gelatin silver bromoiodide emulsion containing the dye combination of (1) anhydro-5,6-dichloro-1-ethyl-3-(3 - sulfobutyl)-3'-(3-sulfopropyl)-4',5'-benzobenzimidazolothiacarbocyanine hydroxide and (2) anhydro-5,6-dichloro-1-ethyl-1',3',3'-trimethyl-3 - (4-sulfobutyl)benzimidazoloindocarbocyanine hydroxide.

T874,016
SUPERSENSITIZED SILVER HALIDE PHOTOGRAPHIC EMULSIONS

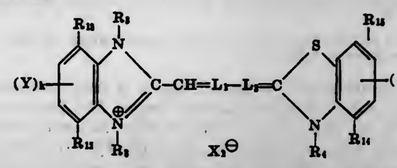
Cynthia G. Ulbing, Fairport, and Mary Jane W. Brizee, Pittsford, N.Y. (both of Kodak Park, Rochester, N.Y. 14650)

Filed Dec. 12, 1969, Ser. No. 884,747
Int. Cl. G03c 1/28
U.S. Cl. 96—104
No Drawing. 20 Pages Specification

Photographic silver halide emulsions are spectrally sensitized with a dye combination comprising (1) a benzimidazolocarbocyanine dye and (2) a benzimidazolothiacarbocyanine dye. A preferred dye combination comprises (1) a benzimidazolocarbocyanine dye having the formula:



and (2) a benzimidazolothiacarbocyanine dye having the formula:



wherein *n*, *m*, *k* and *p* each represents a positive integer of from 1 to 2; L_1, L_2 and L_3 each represents a methine linkage; R_1, R_2, R_3 and R_4 each represents an alkyl group; R_5, R_6 and R_7 each represents an unsubstituted lower alkyl group; R_8, R_9, R_{10}, R_{11}, R_{12}, R_{13}, R_{14} and R_{15} each represents a member selected from the group consisting of a hydrogen atom and a halogen atom; X_1 and X_2 each represents an acid anion; Z represents a member selected from the group consisting of a hydrogen atom, a halogen atom, an alkyl group, an alkoxy group and an aryl group; and W, V and Y each represents a member selected from the group consisting of a hydrogen atom, a halogen atom, a cyano group, an alkyl group, an alkoxy group, an acyl group of a monobasic fatty acid, an alkylaminocabonyl group, a trifluoroalkyl group and a trifluoroalkylsulfonyl group. A typical example comprises a gelatin silver bromoiodide emulsion containing the dye combination of (1) anhydro-5,5'-6,6'-tetrachloro-1,1'-diethyl-3,3'-di(3 - sulfobutyl)benzimidazolocarbocyanine hydroxide and (2) anhydro-5-chloro-1,3'-diethyl-3-(3 - sulfobutyl)benzimidazolothiacarbocyanine hydroxide.

REISSUES

MAY 26, 1970

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

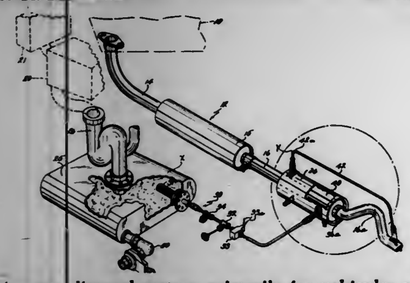
26,891
WASTE DISPOSAL SYSTEM

James S. Reid, Hudson, Ohio, assignor to The Standard Products Company, Cleveland, Ohio, a corporation of Ohio

Original No. 3,342,337, dated Sept. 19, 1967, Ser. No. 454,416, May 10, 1965. Application for reissue Apr. 3, 1969, Ser. No. 817,609

Int. Cl. B01d *21/24*

U.S. Cl. 210—152 **13 Claims**



A waste disposal system, primarily for vehicular units, which employs waste heat to vaporize the effluent from a septic tank. The heated exhaust gases from the vehicle's engine is the preferred source of waste heat with the liquid waste being injected into a dissipatus drum which surrounds the exhaust pipe and in which the liquid is vaporized.

26,892
TREATMENT OF ALUMINUM FOIL AND PRODUCT PRODUCED THEREBY

William K. Hooper, Brookfield, Conn., assignor to Republic Foil, Inc., Danbury, Conn., a corporation of Delaware

No Drawing. Original No. 3,351,442, dated Nov. 7, 1967, Ser. No. 592,962, Oct. 21, 1966, which is a continuation-in-part of applications Ser. No. 423,308, Jan. 4, 1965, and Ser. No. 463,055, June 10, 1965. Application for reissue Oct. 11, 1968, Ser. No. 769,456

Int. Cl. H01g *9/04*

U.S. Cl. 29—183.5 **11 Claims**

[Aluminum foil electrodes having increased capacity for use in electrolytic capacitors are provided by cold working aluminum foil to reduce its original thickness by between 50% to 99% followed by etching and then by annealing and anodic formation.]

Foil of aluminum or aluminum-base alloys which foil has been cold worked, is processed, to increase its capacitance for use in electrodes in electrolytic capacitors, by being etched and then subjected to anodic formation without being annealed prior to the etching.

26,893
SHORT WAVE SEISMIC PULSE RADIATOR

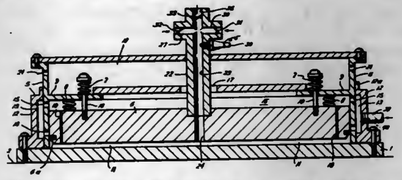
Burton McCollum, deceased, late of Houston, Tex., by P. R. Bowe and Bank of The Southwest National Association, independent executors, Houston, Tex., assignors, by mesne assignments, to McCollum Laboratories, Inc., Houston, Tex., a corporation of Texas

Original No. 3,260,327, dated July 12, 1967, Ser. No. 256,560, Feb. 6, 1963. Application for reissue Feb. 26, 1968, Ser. No. 715,452

Int. Cl. G01v *1/00*

U.S. Cl. 181—.5 **16 Claims**

The disclosure is directed to a seismic wave radiating device comprising a casing providing a firing chamber in which a detonation is caused to occur. The detonation produces movement of an inertia member disposed within the casing. The inertia member is mounted for reciprocating movement relative to the casing and a reaction device therein, which device is so disposed with respect to the



inertia member and the casing as to cause the bottom of the casing to couple seismic energy to a wave energy transmitting medium upon the occurrence of a detonation. Thereafter the reaction device reacts to effect a second opposite sense pulse and provide a damping effect upon the casing.

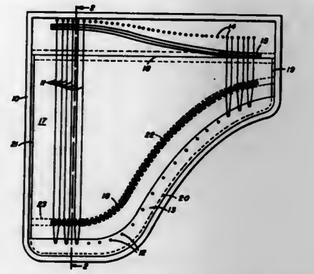
26,894
PIANO SOUND BOARD

Howard K. Graves, 6633 Somerset Drive, Brecksville, Ohio 44141

Original No. 3,312,136, dated Apr. 4, 1967, Ser. No. 501,661, Oct. 22, 1965. Application for reissue Apr. 3, 1969, Ser. No. 817,240

Int. Cl. G10c *3/06, 3/04*

U.S. Cl. 84—192 **10 Claims**



Piano having strings tensioned on a frame and a bridge coupling these strings to a sound board. Stiffening means is coupled between the bridge and the frame to stiffen the system at the bridge. A sound board has one edge portion tightly coupled to the frame so that it cannot move with respect to the frame in a direction laterally to the edge portion. The sound board has an opposing edge portion which is loosely coupled to the frame.

26,895
RECLOSABLE FOLDING CARTON

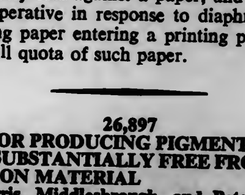
John V. Mahon, Lansdale, Pa., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Original No. 3,438,566, dated Apr. 15, 1969, Ser. No. 678,436, Oct. 26, 1967. Application for reissue May 21, 1969, Ser. No. 830,905

Int. Cl. B65d *5/59, 5/70*

U.S. Cl. 229—51 **9 Claims**

A paperboard folding carton having a plurality of walls joined to form a box-like structure having an opening on one side and a pair of inner and outer panels hinged to opposite walls and folded into overlapped relation to



close the opening, one of the panels having a partially detachable tab which is insertable between a pair of tabs on the other panel to effect a reclosure of the carton.

26,896
SHEET FEEDING MECHANISM

Raymond J. Schmidlin, Lyndhurst, and Philip O. Shemkunas, Mentor, Ohio, by Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware, assignee

Original No. 3,391,924, dated July 9, 1968, Ser. No. 568,839, July 29, 1966. Application for reissue Apr. 14, 1969, Ser. No. 830,164

Int. Cl. B65h *3/44, 5/26, 7/00*

U.S. Cl. 271—9 **4 Claims**

A vacuum foot feed device for feeding two side-by-side stacks of paper, wherein the vacuum line contains a vacuum chamber with a flexible diaphragm for sensing the increase of pressure due to failure of a vacuum foot to properly seal against a paper, and a sheet diverting means operative in response to diaphragm detection for preventing paper entering a printing press in the absence of a full quota of such paper.

26,897
PROCESS FOR PRODUCING PIGMENTARY METAL OXIDES SUBSTANTIALLY FREE FROM FALLING ACCRETION MATERIAL

Bernard Harris, Middlesbrough, and Peter Alan Jones, Stockton-on-Tees, England, assignors to British Titan Products Company Limited, Billingham, England, a corporation of the United Kingdom

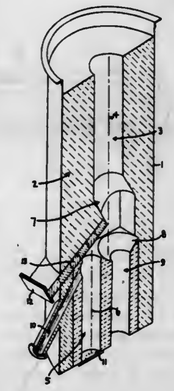
Original No. 3,356,455, dated Dec. 5, 1967, Ser. No. 440,956, Mar. 1, 1965. Application for reissue Sept. 30, 1969, Ser. No. 869,973

Claims priority, application Great Britain, Mar. 2, 1964, 8,743/64

Int. Cl. C01g *23/04;* **C09c** *1/36*

U.S. Cl. 23—202 **6 Claims**

In the oxidation of vaporous metal halides by reaction of the vaporous metal halides with an oxidizing gas, it is common to effect the process in two stages or steps with the second step or stage of the process conducted vertically above the first zone in which the first step or stage is conducted such that rising gases including suspended metal oxide particles can be carried into the upper zone. It has been found that undesirable accretion products forming in the upper zone tend to loosen from the walls of the reactor and fall into the lower zone with a cooling and/or other interference with the reaction proceeding in the



lower zone. This problem can be obviated by laterally offsetting the lower zone relative to the upper zone and providing a second lower zone which serves as a receiver for accretion products falling from the upper zone. The lower reaction zone, however, communicates with the upper reaction zone without danger of accretion products falling therein. Both process and apparatus are described for overcoming the problem discussed above.

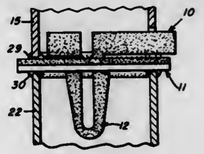
26,898
METHOD AND APPARATUS FOR ATTACHING A CLASP TO A BRACELET

Simon Geldwerth, 945 39th St., Brooklyn, N.Y. 11219

Original No. 3,350,764, dated Nov. 7, 1967, Ser. No. 465,091, June 18, 1965. Application for reissue July 3, 1969, Ser. No. 848,369

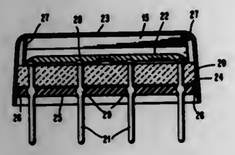
Int. Cl. A44b *19/00;* **A44c** *5/00;* **B21f** *43/00*

U.S. Cl. 29—160.6 **25 Claims**



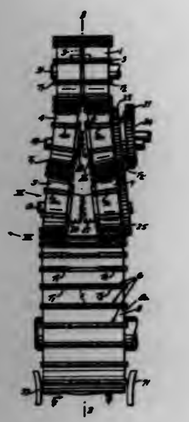
A two piece clasp for a bangle bracelet *comprises two transverse abutting strips and a C-shaped spring strip which is precisely formed to be attached to one of the transverse strips for accurate locking engagement with the other transverse strip and* is pre-assembled with a coating of material inert to solder on the abutting surfaces of the clasp and then soldered to the abutting ends of the bracelet so that the two pieces of the clasp will not be joined together by the solder.

26,899
ENCAPSULATION OF ELECTRONIC MODULES
Reginald R. Dion, Poughkeepsie, Joseph A. Benenati, Hopewell Junction, Charles P. Coughlin, Chelsea, and Robert E. Morris, Lagrangeville, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Original No. 3,340,438, dated Sept. 5, 1967, Ser. No. 445,339, Apr. 5, 1965. Application for reissue Apr. 15, 1969, Ser. No. 822,083
Int. Cl. H05k *5/06*
U.S. Cl. 317—101 5 Claims



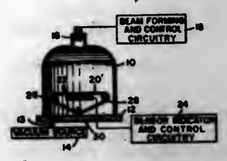
An encapsulated electronic module which includes a substrate of inert material, conductive pins in the substrate, a metallic interconnection network including conductive lands on the substrate, at least one semiconductor device connected to the lands, a conformal coating of non-stress, chemically inert silicone gel disposed over the interconnection pattern, a metallic cover over the substrate, and a backseal layer of rubber-type material sealing the substrate and cover.

26,900
METHOD AND APPARATUS FOR MAKING AND MANIPULATING CIGARETTES AND SIMILAR ROD-SHAPED ARTICLES
Horst Bolin and Karl-Heinz Schlüter, Hamburg, Germany, assignors to Hauni-Werke Korber & Co. K.G., Hamburg-Bergedorf, Germany
Original No. 3,372,702, dated Mar. 12, 1968, Ser. No. 354,900, Mar. 26, 1964. Application for reissue Feb. 20, 1969, Ser. No. 806,750
Claims priority, application Germany, June 28, 1958, H 33,677; Aug. 25, 1958, H 34,162
Int. Cl. A24c *5/28, 5/52*
U.S. Cl. 131—94 15 Claims



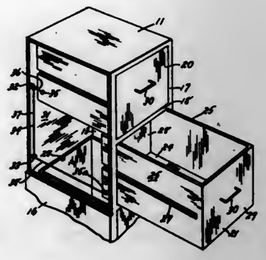
An apparatus and method for making cigarettes wherein a continuous cigarette rod is severed into double lengths, moved sideways and severed into unit lengths, separated without touching the severed ends and has double filter mouthpieces inserted and attached between the ends, after which the newly joined double cigarette is severed into unit cigarette lengths at the mouthpiece.

26,901
DATA STORAGE AND RETRIEVAL SYSTEM
John F. Dove, 6332 Overhill Drive, Rome, N.Y. 13440
Original No. 3,226,696, dated Dec. 28, 1965, Ser. No. 181,968, Mar. 23, 1962. Application for reissue July 10, 1967, Ser. No. 661,140
Int. Cl. G11c *11/42*
U.S. Cl. 340—173 18 Claims



A high density high speed data storage and retrieval systetm having a high energy beam for modifying the physical characteristics of a recording medium according to a predetermined code, and having a low energy readout beam coupled with appropriate sensors for scanning the recording medium and detecting the changes in physical characteristics of the recording medium previously effected by the high energy beam.

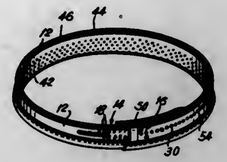
26,902
TILT-PROOF CABINET CONSTRUCTION
Nat Levenberg, 2 Windsor Place, Lynbrook, N.Y. 11563
Original No. 3,361,509, dated Jan. 2, 1968, Ser. No. 569,998, Aug. 3, 1966, which is a continuation of application Ser. No. 445,583, Apr. 5, 1965. Application for reissue Sept. 2, 1969, Ser. No. 865,221
Int. Cl. A47b *88/00*
U.S. Cl. 312—273 11 Claims



A tilt-proof cabinet construction including a housing, and at least one pair of drawers, cord means interconnecting said drawers, and of predetermined length for preventing more than one of said pair of drawers from being withdrawn from said housing to maximum extension at any one instant.

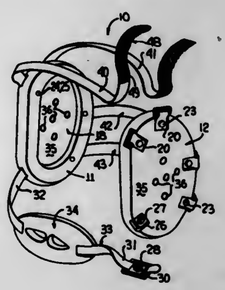
PATENTS
GRANTED MAY 26, 1970
GENERAL AND MECHANICAL

3,513,481
ADJUSTABLE HEADBAND
Ronald J. Nickerson, Dover, Del., assignor to ILC Industries, Inc., Dover, Del., a corporation of Delaware
Filed June 25, 1968, Ser. No. 739,885
Int. Cl. A42b *1/00*
U.S. Cl. 2—3 10 Claims



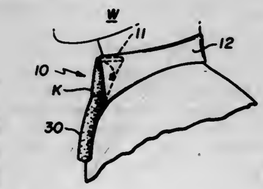
Adjustable headband for use in helmet suspension systems and the like which may be readily and easily adjusted to and maintained at a selected one of standard head or hatband sizes.

3,513,482
WRESTLING HEAD GUARD
David J. Holden, Littleton, Mass., assignor to George Frost Company, Shirley, Mass., a corporation of Massachusetts
Filed June 26, 1968, Ser. No. 740,201
Int. Cl. A63b *71/10*
U.S. Cl. 2—3 5 Claims



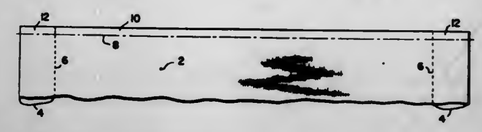
This disclosure relates to ear-protecting headgear of the type worn by wrestlers, and in one case includes a relatively rigid disk-like core covered internally and externally by soft plastic foam material, a plurality of circumferentially spaced recesses are formed in the exterior covering and the depth thereof corresponds generally to the thickness of head strap and chin strap end portions whereby the end portions when fastened to the core are housed substantially entirely within the recesses.
In accordance with a further embodiment of the disclosure an ear piece is formed solely from an outer disk-like element of high density plastic foam material having secured to an inner peripheral portion thereof an annular element of low density plastic foam material, and means in the form of openings are provided for securing head straps and chin straps to the ear guard. The earpiece may additionally include an annular piece of leather or similar tough material to prevent the foam material from breaking if the straps are pulled.

3,513,483
NECKTIE KNOT FORMING AND SUPPORT SYSTEM
Harry Kanter, New York, N.Y., and Robert Kallman, Wilmington, N.C., assignors to City of Hope, Los Angeles, Calif., a corporation of California
Filed Jan. 9, 1969, Ser. No. 790,096
Int. Cl. A41d *25/08*
U.S. Cl. 2—153 4 Claims



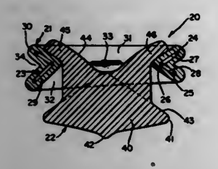
The knot forming and support device of a pretied necktie is formed with a front chamber in which the necktie fabric can be deposited to form a dimple under the knot at the option of the wearer. The fabric itself is also provided with four mounting holes as contrasted with the usual two holes, the additional two holes enabling the necktie to be impaled over a clamp arm abutment post on the device so as to fix and to stabilize the formed knot against becoming loosened thereafter.

3,513,484
ARTIFICIAL TENDON
John L. Hausner, Norristown, Pa., assignor to Extracorporeal Medical Specialties, Inc., Bridgeport, Pa., a corporation of Pennsylvania
Filed Oct. 27, 1967, Ser. No. 678,556
Int. Cl. A61f *1/24*
U.S. Cl. 3—1 4 Claims



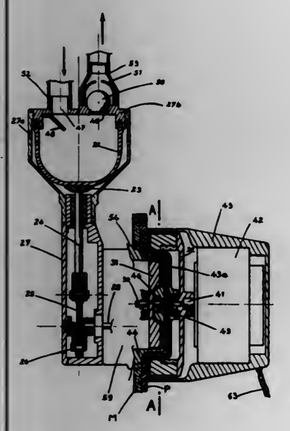
The artificial tendon consists of a strip of Dacron woven with loop ends engaged with stainless steel perforated members securable to a bone and a muscle, the former provided with prongs to penetrate the bone. The Dacron strip and portions of the ends are encased in silicone rubber.

3,513,485
PROSTHETIC HEART VALVE ASSEMBLY
Julio C. Davila, Malvern, Pa., assignor to Temple University School of Medicine, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 14, 1967, Ser. No. 631,040
Int. Cl. A61f 1/22
U.S. Cl. 3—1 14 Claims



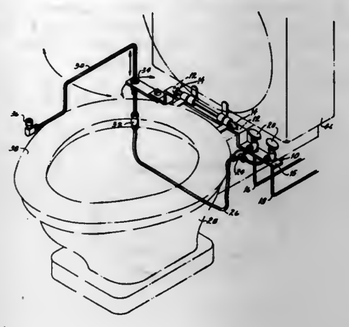
The prosthetic mitral valve assembly can be implanted in the human heart as a substitute for the natural valve, enabling the heart to function thereafter substantially normally. The prosthetic assembly consists primarily of a fixation ring or valve seat element, preferably of felted fiber of synthetic plastic, and an occluder or moving valve element which is preferably a substantially solid molded part of synthetic plastic. Several forms are disclosed.

3,513,486
HEART ASSISTANCE PUMP
Michel Cottou de Bennetot and Maryvonne Estévenon épouse Cottin, Brest, Christian Cabrol, Paris, and Edouard Coraboeuf, Massy, France, assignors to Le Materiel Magnetique, Puteaux, Hauts-de-Seine, France
Filed May 24, 1967, Ser. No. 641,005
Claims priority, application France, May 24, 1966, 62,667
Int. Cl. A61f 1/24
U.S. Cl. 3—1 4 Claims



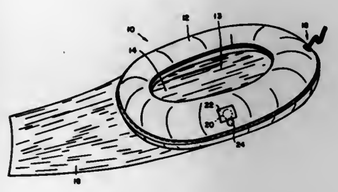
An intracorporal blood-circulation pump having one or more pouches with a rotary shaft, contained entirely inside the body and driven by a rotating magnetic field transmission system outside the body, acting through a motion conversion device to alternate a member that drives another device which acts on the outer wall of each pouch to compress and release same, the transmission system comprising driving and driven rotors respectively enclosed in two casings which are adapted to interlock while leaving a cylindrical clearance therebetween.

3,513,487
DOUCHING ATTACHMENT
Santo Palermo, 2716 Poplar Ave., Tampa, Fla. 33602, and Rogelio Moreno, Miami, Fla.; said Moreno assignor to said Palermo
Filed Jan. 8, 1968, Ser. No. 696,236
Int. Cl. E03d 9/08
U.S. Cl. 4—7 4 Claims



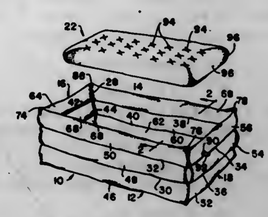
A douching attachment for a normal toilet which may be vertically displaced and horizontally rotated so as to remove it from the toilet bowl when not in use.

3,513,488
DISPOSABLE BEDPAN
Mark Oring and Hillard J. Trubitt, both of 1119 Longwood Drive, Bloomington, Ind. 47401
Filed Oct. 3, 1967, Ser. No. 672,592
Int. Cl. A61g 9/00
U.S. Cl. 4—112 6 Claims



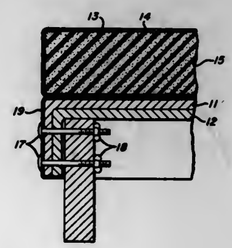
A disposable bedpan comprising a ring-shaped, flexible and inflatable cushion constructed from a fluid-impervious material, a fluid-impervious, flexible panel sealably connected about the perimeter of the cushion to provide, when the cushion is inflated, a reservoir for collecting waste and fluid-impervious flap connected to the cushion and arranged to be folded back thereover entirely to cover the reservoir. Preferably, the bedpan is provided as a kit in a sealed, sterile package, and such a kit may include a cartridge containing pressurized gas for inflating the bedpan and means for puncturing the cartridge to release the gas. The preferred method for using the bedpan comprises the steps of removing the bedpan from the package, inflating the bedpan, inserting the bedpan under the patient and, when the patient has completed evacuation, removing the bedpan from under the patient, emptying the bedpan in the nearest commode, deflating the bedpan and depositing the empty bedpan into a disposable container.

3,513,489
BASSINETTE
William R. Miller and Steve M. Gasper, Paris, Ky., and Robert Martin, Franklin, Mich., assignors, by direct and mesne assignments, to Royal-T Company, Mount Pleasant, Mich., a corporation of Delaware
Filed May 20, 1968, Ser. No. 730,573
Int. Cl. A47c 27/08; A47d 9/00
U.S. Cl. 5—98 9 Claims



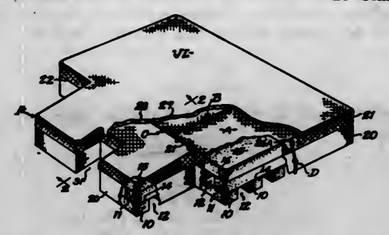
A bassinette is provided having a flexible bottom wall and air-inflatable side and end walls. The side and end walls are heat sealed to the bottom wall and are formed of flexible plastic material. The side and end walls are double-layer structure which are heat sealed at various spaced apart locations to form separate air-retaining compartments. This results in a rib structure, making the walls self-supporting when inflated. All of the walls and the junctures thereof are fluid impervious so that the bassinette may be used to retain water for bathing a child. A vertical seal is provided at each corner of the bassinette. The side and end walls are made of a single sheet of plastic material. Therefore, one corner juncture comprises free marginal edges of the sheet and the seal at this juncture extends all the way from the top to the bottom to make the juncture fluid impervious. However, vertical seals at the other three corners terminate short of the top and bottom to thereby provide air communication between the adjoining walls. The heat seals in the side and end walls terminate short of the corners to provide air communication between the ribs. A single valve element is provided in one of the walls to inflate or deflate the entire bassinette.

3,513,490
MATTRESS AND SUPPORT
William T. Wagner, Dayton, Ohio, assignor to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Dec. 11, 1967, Ser. No. 689,652
Int. Cl. A47k 11/02, 19/00
U.S. Cl. 5—131 4 Claims



A mattress and its support in which the support also functions as a container for shipping the mattress.

3,513,491
ATHLETE'S LANDING PIT WITH FOAM-BLOCK CUSHION UNITS
Donald W. Gordon, Baldwin Park, Calif. (P.O. Box C, Temple City, Calif. 91780)
Continuation-in-part of application Ser. No. 566,108, July 18, 1966. This application Mar. 13, 1968, Ser. No. 712,714
Int. Cl. A47c 23/00, 27/00
U.S. Cl. 5—345 13 Claims



Disclosed herein is an athlete's landing surface cushion unit wherein a bun of soft foamed cushioning material at the top of the unit is supported upon intermediate and bottom layers of firm cushioning material comprising spaced, parallel foam blocks, the blocks of these two layers extending crosswise of one another and adhesively bonded together at the crossings. The unit is enclosed in a casing having a waterproof base and a top of breather fabric of loose weave of pre-coated strands. A plurality of the units are hooked together to form a pole vaulter's or high jumper's landing pit or for any other purpose that requires the catching of a falling body. The composite pit is covered by a top pad which bridges over the joints between the connected cushion units, protects them from damage from spiked shoes, from atmospheric ultra-violet rays, and from other atmospheric deterioration, and which is replaceable from time to time as it becomes worn or damaged.

3,513,492
SEAT CUSHION
Billy Joe Phillips, Cornelia, Ga., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Jan. 9, 1968, Ser. No. 696,594
Int. Cl. A47c 23/00
U.S. Cl. 5—347 7 Claims



A seat cushion defined by a union of a cushion fabric of a honeycomb weave and a face fabric.

3,513,493
PROCESS FOR THE COLORING OF MATERIALS BASED ON CELLULOSE ACETATE EMPLOYING, AS CARRIER, CYANOALKYLATION PRODUCTS
Jean Perronin, Chantilly, and Iskender Galal Zogu, Creil, France, assignors to Ugine Kuhlmann, Paris, France
No Drawing. Continuation-in-part of application Ser. No. 563,948, July 11, 1966. This application Sept. 27, 1967, Ser. No. 671,091
Claims priority, application France, Aug. 11, 1965, 27,949
Int. Cl. D06p 5/06
U.S. Cl. 8—166 9 Claims

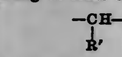
A process for printing, dyeing, discharging or optical bleaching of material based on cellulose acetate which

comprises the use, as a carrier, of an acyclic compound containing at least one group having the formula



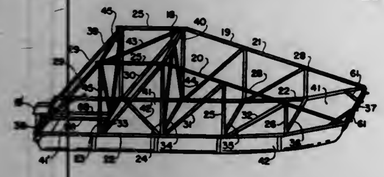
wherein R and R′ represent hydrogen atoms or methyl groups.

A composition for subjecting a material based on cellulose acetate to dyeing, printing, discharging or optical bleaching containing a carrier comprising an acyclic compound containing at least one group having the formula



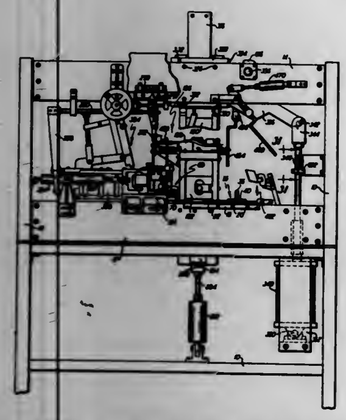
wherein R and R′ represent hydrogen atoms or methyl groups.

3,513,494
FLOAT BOAT
Peter L. Taller, 323 E. 17th St., New York, N.Y. 10003
Filed Oct. 7, 1968, Ser. No. 774,566
Int. Cl. B63b *7/00*
U.S. Cl. 9—2 18 Claims



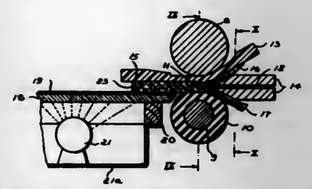
A watercraft has a frame with sides formed as beams to resist longitudinal bending, deck elements joining the lower portions of the beams, a box structure extending between the sides locking the sides against relative motion, and flotation fixed below the deck members.

3,513,495
APPARATUS FOR TEMPORARILY ATTACHING AN INSOLE TO A LAST
Michael M. Becka, Watertown, and Allen C. Harriman, Brockton, Mass., assignors to Jacob S. Kamborian, West Newton, Mass.
Filed Oct. 19, 1967, Ser. No. 676,581
Int. Cl. A43d
U.S. Cl. 12—1 18 Claims



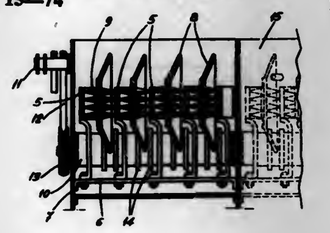
The disclosure is concerned with apparatus for locating a molded insole on a last bottom and then temporarily and adhesively attaching the insole to the last bottom. The apparatus includes a molding device that is adapted to overmold the insole to an exaggerated contour so as to disrupt its fiber continuity thus rendering it less elastic. Locating devices serve to locate the insole in registry on the last bottom and a pressing device then presses the insole into flush adhesion against the last bottom, an adhesive applying device having been operative earlier to cause adhesive to be applied to the facing surfaces of the last and insole. A portion of the adhesive applying device serves a dual purpose in that it also presses the insole to the bottom of the last.

3,513,496
APPARATUS FOR SHAPING SHOE PARTS
Kurt Hacker, Stuttgart-Zuffenhausen, Günther Fickert, Stuttgart, and Erwin Köhl, Stuttgart-Wellimdorf, Germany, assignors to Fortuna-Werke Maschinenfabrik Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany
Filed Aug. 7, 1968, Ser. No. 750,925
Claims priority, application Germany, Aug. 18, 1967, 1,685,399
Int. Cl. A43d *25/00*
U.S. Cl. 12—17 11 Claims



Shaped articles are obtained from leather blanks by placing a blank onto the top surface of a light-transmitting table, by thereupon placing a light-transmitting flexible pattern, one side of which has a cavity with a configuration corresponding to that of a shaped article, over the blank so that the cavity overlies the blank, by moving the blank and the pattern edgewise through the gap between a rigid roller and an elastic roller so that the pattern and the blank are deformed whereby a portion whose configuration corresponds to that of the cavity in the pattern protrudes at one side of the blank, and by severing the protruding portion from the remainder of the blank. A light source is placed below the table to facilitate proper positioning of the pattern with reference to the blank.

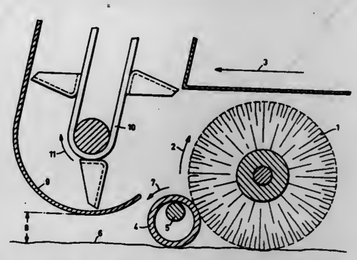
3,513,497
PLATE WASHING MACHINE
Antonio Cos Vallverdu, Maetro Roig 3, Tarragona, Espluga de Francoli, Spain
Filed Apr. 26, 1967, Ser. No. 633,991
Claims priority, application Spain, May 4, 1966, 326,733
Int. Cl. A47l *15/40*
U.S. Cl. 15—74 3 Claims



A plate washing machine having a tank for containing a detergent solution. Two parallel rotating rollers support

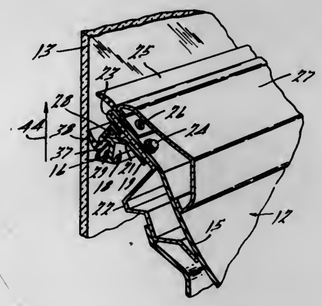
the plates. In the interior of said tank are a row of flat brushes with bristles on both sides fixedly mounted in the walls of the tank and aligned to allow the introduction of a plate between each two confronting brushes through the upper part of the tank. The brushes are somewhat larger than the diameter of the plates. A second tank adjacent to the washing tank with similar elements has, in addition, spraying tubes for a liquid for rinsing the plates.

3,513,498
SWEEPING MACHINE
Carl Olof Hjalmar Gustavsson Bennich, Ranas, Sweden, assignor to Industri Belos Aktiebolag, Rimbo, Sweden, a corporation of Sweden
Filed Apr. 22, 1968, Ser. No. 722,851
Claims priority, application Sweden, Apr. 24, 1967, 5,751/67
Int. Cl. E01h *1/04*
U.S. Cl. 15—84 3 Claims



This invention concerns a sweeping machine of the kind comprising a horizontal rotatable brush cylinder which throws the rubbish into a receiver placed at a distance above the ground, in which a tube is placed parallel with the brush cylinder between the latter and the receiver. The tube is supported by the ground in contact with the periphery of the brush and has a transverse bar passed therethrough with free radial play.

3,513,499
WINDOW CLEANING SYSTEM
Richard H. Miller, Wayne, and Keith B. Termaat, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 27, 1968, Ser. No. 763,144
Int. Cl. B60s *1/48, 1/58*
U.S. Cl. 15—250.01 7 Claims



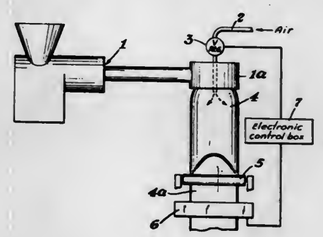
A window cleaning unit comprising an elastomeric member extending substantially across the width of a reciprocable window. The elastomeric member has a conduit portion having a plurality of spray apertures, a channel portion carrying a wiper blade means and a flange portion for fastening the member to a window well structure. Positioning means selectively swings the conduit and blade carrying portions in response to reciprocable window movement about a hinge bend line on the flange portion to direct the spray apertures at the window surface or to position the wiper blade means in squeegee relationship to the window.

3,513,500
COMPACT HAND VACUUM CLEANER
Takeo Hori, Fukuoka-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
Filed Jan. 25, 1968, Ser. No. 700,582
Claims priority, application Japan, Mar. 1, 1967, 42/13,544; Mar. 2, 1967, 42/18,200 thru 42/18,211
Int. Cl. A47l *5/24*
U.S. Cl. 15—344 6 Claims



A compact hand vacuum cleaner of the type comprising a rotary fan and an electric motor for driving said fan, housed in a casing, in which said casing has a transverse hollow extending through the upper portion thereof to shape an integral grip above and to define an air passageway below said transverse hollow, and said fan and said fan driving motor are arranged forwardly of said air passageway and secured to said casing through vibration dampening means and enclosed by a filter bag which has its open end secured at the middle portion of said casing and its closed end portion extending forwardly or in a direction opposite to the air sucking direction, the closed end of said filter bag forming a substantially flat surface the area of which is larger than the area of an air suction opening for said fan so as to prevent the clogging of the filter bag and increase the suction of the cleaner.

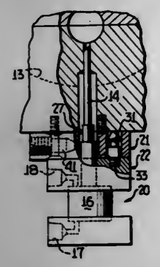
3,513,501
FILM WIDTH CONTROLLER
Harold L. Hearns, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 7, 1967, Ser. No. 666,106
Int. Cl. B29d *7/02*
U.S. Cl. 18—2 8 Claims



New and useful apparatus is described which enables one to control and measure the width of a plastic film during manufacture. Through connective use of air pressure acting on motors through switching arrangements,

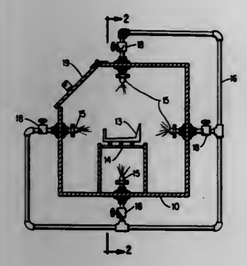
racks and gears, the width of a film or web is measured without using a fixed reference and without edge guide control. This device can also be used to position webs and to perform other related functions.

3,513,502
QUICK CHANGE HOLDER FOR A BLOW NEEDLE
William Alexander Chambers, Harvey, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 4, 1967, Ser. No. 687,769
Int. Cl. B29c *17/07*; B29d *23/03*
U.S. Cl. 18—5 16 Claims



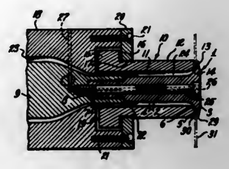
This disclosure is directed to a quick change holder for a blow needle cylinder of a blow molding machine, and includes a first member secured to a mold body of a split mold and a second member carrying a blow needle and holder. A quick-detachable coupling releasably secures the members to each other. The coupling includes a relieved male element carried by one member received in a recess of the other member and retained therein by a detent engaging the relieved male element. The detent is maintained in its engaged position by a locking member which includes cam means for moving the detent to its engaged position.

3,513,503
COOLING APPARATUS
Robert A. Paradis, Painesville, and Anthony M. Mierzwa, North Madison, Ohio, assignors to Diamond Shamrock Corporation, a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,874
Int. Cl. B29f *3/08*
U.S. Cl. 18—12 2 Claims



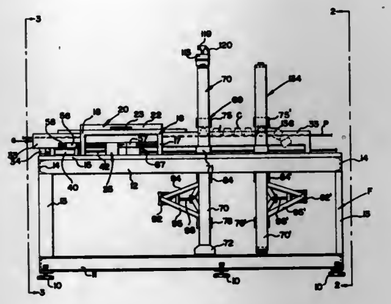
A method is described whereby shaped articles as fabricated from thermoplastic resins by extrusion are differentially cooled in order to selectively eliminate bowing or distortion therefrom. During the initial stages of the cooling method when the shaped article is in a very soft, heat-plasticized condition, only predetermined sections thereof are contacted with a fine atomized spray of fluid cooling medium so that these sections, if desired, may be cooled at a rate equal to the other sections of the shaped article. During the latter stages of the cooling method, selective spraying is not usually necessary for eliminating undesirable bowing, and all surfaces of the shaped article optionally may be sprayed, as desired. Apparatus adapted for carrying out the differential cooling method is also described.

3,513,504
EXTRUSION DIE
Clifford P. Ronden, Edmonton, Alberta, Canada, assignor to Cupples Container Company, Austin, Tex., a corporation of Missouri
Continuation-in-part of application Ser. No. 582,946, Sept. 29, 1966. This application Mar. 28, 1968, Ser. No. 718,311
Int. Cl. B29d *23/04*; B29f *3/04*
U.S. Cl. 18—14 2 Claims



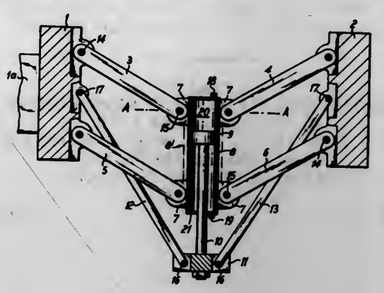
Die structure, for extrusion of thermoplastic polymeric sheet, characterized by having an annular orifice which opens peripherally, rather than axially, with adjustment of the die gap being accomplished by rotation of a screw-thread-supported annular die body member which presents one of the die lip surfaces.

3,513,505
COMPACT DIFFERENTIAL PRESSURE FORMING MACHINE
Gaylord W. Brown and Bradley A. Schnepp, Beaverton, Mich., assignors to Brown Machine Company of Michigan, Inc., Beaverton, Mich., a corporation of Michigan
Filed Oct. 5, 1966, Ser. No. 584,436
Int. Cl. B29d *7/22*; B29c *11/00*
U.S. Cl. 18—19 9 Claims



A differential pressure forming machine for forming shapes in a sheet of deformable thermoplastic material including: molds on opposite sides of the sheet; at least one of the molds having a mold cavity and one mold being movable relative to the other to substantially engage and separate the molds; wherein an advancing chain grips the sheet for moving it in increments and a reciprocating drive for the chain has a clamp member clamping to the advancing chain during a forwarding stroke.

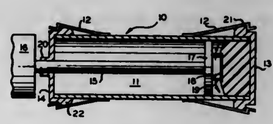
3,513,506
CLAMPING MECHANISM
Erwin Meingast, Treuchtlingen, Germany, assignor to Eckert & Ziegler G.m.b.H., Weissenburg, Bayer, Germany
Filed Apr. 19, 1967, Ser. No. 632,026
Claims priority, application Germany, Apr. 22, 1966, E 31,499
Int. Cl. B29f *1/06*
U.S. Cl. 18—30 11 Claims



The clamping mechanism of an injection molding machine comprises two pairs of mutually inclined toggle links whose outer ends are respectively pivoted to a stationary member and a reciprocable platen. The inner ends of all links are pivoted to a hydraulic double acting cylinder which is disposed between such inner ends so that it need not extend beyond the area in which the inner ends of links move when the platen is caused to move toward or away from the stationary member.

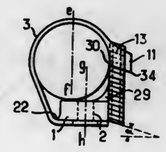
The piston rod of the cylinder is connected with the platen and stationary member by two rods which are inclined with reference to the toggle links.

3,513,507
MOLDING OF CELLULAR STRUCTURES
Harold D. Boultinghouse, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 25, 1967, Ser. No. 678,091
Int. Cl. B29f *1/00*; B29d *23/02*
U.S. Cl. 18—30 6 Claims



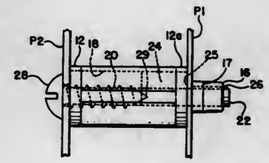
Cellular structures are molded by extruding an expandable thermoplastic material from a point near the axis of a mold cavity and in a radial direction from that axis toward the periphery of the cavity. The extruding point is initially near one end of the cavity, but is moved along the axis of the cavity as the cavity is filled with a predetermined deposit of the thermoplastic material. The extrusion occurs, for example, from a radial nozzle tip into a movable mold which is slidably mounted over an elongated extrusion nozzle carrying the radial nozzle tip.

3,513,508
FASTENER FOR TUBES OR LIKE OBJECTS
Robert Modémé, Paris, France, assignor to Compagnie d'Etudes de Recherches Electroniques du Connexes CEREC, Deuil-la-Barre, France, a corporation of France
Filed June 12, 1968, Ser. No. 736,372
Claims priority, application France, June 12, 1967, 109,919; Mar. 27, 1968, 145,536
Int. Cl. B65d *63/00*
U.S. Cl. 24—16 4 Claims



A fastener for attaching tubes and like objects formed preferably of resilient plastics material and comprising a strap having at one end a protrusion or tongue and at the other end a receiving means such as a slot for the tongue, the tongue and receiving means each having opposed faces formed with co-operating saw-teeth or barbs which are arranged to interengage and lock when the strap is laid around a said object and the protrusion pressed into the receiving means.

3,513,509
FLAG DRIVE PIN SCREW GROMMET
George E. Gross, Holly, Mich., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Oct. 17, 1968, Ser. No. 768,275
Int. Cl. A44b *21/00*; F16b *13/10*
U.S. Cl. 24—73 9 Claims

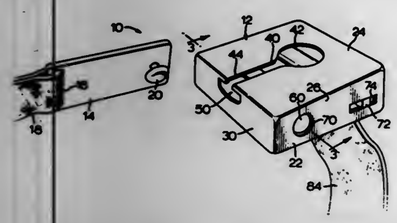


A grommet with a drive pin for locking the same in an apertured workpiece and with the drive pin having a lateral projection to follow a mating slot in the grommet body to abut the workpiece in the driven position thereof and prevent egress of the drive pin in that direction; the aperture remaining in the grommet rearwardly of the drive pin being such that it may receive a screw or the like for support purposes or for mounting another workpiece to the opposite end of the grommet with the screw contacting the adjacent end of the drive pin to prevent movement thereof in the opposite direction and thus positively lock the drive pin and restrain the same against loosening under vibration and the like.

3,513,510
SEAT BELT BUCKLE
Nicholas Copes, 14 Baymark Road, Thornhill, Ontario, Canada
Filed Aug. 8, 1968, Ser. No. 751,185
Int. Cl. A44b *11/25, 19/00*
U.S. Cl. 24—77 4 Claims

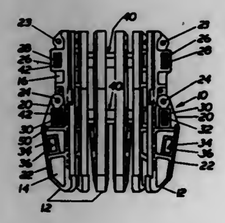
A seat belt buckle composed of a box shaped housing to which one end of a belt is adjustably secured and a plate shaped member to which the other end of

the belt is secured. Formed in the housing is an aperture having enlarged end portions, one formed in the top wall and the other formed in the front wall. The end portions are spaced apart by an elongated slot shaped portion. A pin secured to the plate shaped member is adapted to fit into the enlarged portion of the aperture formed in the top wall, to slide along but be retained in the slot shaped portion and to be removed from the



enlarged portion in the front wall. A retaining member or tongue positioned in the slot shaped portion blocks the passage of the pin. Manual depression of a push button moves the tongue out of the slot shaped portion thereby permitting the pin to advance to the enlarged portion in the front wall and out of contact with the housing.

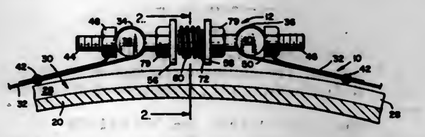
3,513,511
SLIP ASSEMBLY
Charles D. Crickmer, 12923 Memorial Drive, Houston, Tex. 77024
Filed June 5, 1968, Ser. No. 734,671
Int. Cl. A44b *21/00*
U.S. Cl. 24—263 **12 Claims**



A slip assembly including a plurality of slip bodies held in spaced orientation with respect to each other by one or more resilient, self-supporting, ring shaped members passing through openings in the slip bodies.

3,513,512
FASTENING ASSEMBLY WITH QUICK RELEASE
John J. Phillips, Rolling Hills, Calif., assignor to G & H Technology, Inc., Santa Monica, Calif., a corporation of California
Filed Oct. 21, 1968, Ser. No. 769,054
Int. Cl. B65d *63/00*; F02k *9/06*
U.S. Cl. 24—279 **11 Claims**

This disclosure includes a clamp for securing a plurality of members together and a fast acting release for freeing the clamp and allowing separation of the members The clamp encircles at least a portion of the members and has the adjoining ends thereof drawn together by the release which is effective to produce a large amount of tension in the clamp. A retainer having several pieces held together by an encircling spring prevents release of the clamp. The spring is restrained by a keeper which is actuated by a small electrically conductive wire loaded in tension. When a small electrical current flows through



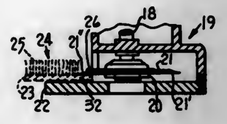
the wire its temperature rises and its tensile strength decreases whereby the wire breaks, the keeper is actuated, the members in the retainer are allowed to separate whereby the clamp and the retained members are released.

3,513,513
APPARATUS FOR MANUFACTURING CONCRETE BLOCKS AND THE LIKE
Lonnie J. Estis, Mobile, Ala., assignor of one-half to Wright Smith, Jr., Mobile, Ala.
Filed Jan. 10, 1968, Ser. No. 696,782
Int. Cl. B28b *13/02*
U.S. Cl. 25—41 **2 Claims**



The disclosure relates to apparatus for manufacturing concrete blocks which comprise a hopper for the material to be stored in before being delivered to moulds (material being cement, aggregate and water); moulds for forming the individual blocks; and a feed box assembly which receives the material from the discharge opening of the hopper, which is usually adjacent the rear of the block manufacturing machine and transfers it to a position from which it falls into the mould boxes therebelow; said feed box assembly possessing an agitator grid made up of a framework with horizontally disposed bars wtih prongs extending downwardly therefrom.

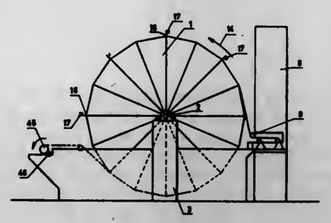
3,513,514
EDGE SHEARING DEVICE FOR PILE MATS
Samuel Furiness, Jr., 63 Stemmer Drive 07066, and Robert H. Roland, 22 Holly Glen Lane, Berkeley Heights 07922, both of Clark, N.J.
Filed July 10, 1968, Ser. No. 743,767
Int. Cl. D06c *13/00, 23/02*
U.S. Cl. 26—15 **3 Claims**



A machine for removing pile from the edge of mats having a sheet base onto which a fiber pile is attached,

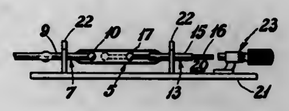
consists of a housing having a side opening and a bottom plate. In the housing, a downwardly-projecting driven shaft is mounted, and a rotary cutting blade is attached to the shaft above the plate, with its outermost edge projecting through the opening of the housing. The innermost edge of the blade is raised about 0.08" to 0.12" above the outermost edge. Pressure fingers mounted on the plate hold the mat edge against the plate during the cutting operation.

3,513,515
APPARATUS FOR ASSEMBLING WARPS FOR FABRICS, MORE PARTICULARLY WARPS FOR SAMPLES AND SPECIMENS OF FABRICS
Johannes G. M. C. H. van Luyk and Herman Huskes, Enschede, Netherlands, assignors to Koninklijke Nederlandse Textiel-Unie N.V., Hengelo, Overijssel, Netherlands, a corporation of the Netherlands
Filed Oct. 9, 1968, Ser. No. 766,105
Claims priority, application Netherlands, Oct. 11, 1967, 6713794
Int. Cl. D02h *5/00*
U.S. Cl. 28—33 **5 Claims**



Apparatus for assembling warps for fabrics, more particularly short, full-width warps for samples and specimens of fabrics. A rotating reel or drum is axially divided into sections and a large number, e.g. 50, of threads is wound on the reel or drum in one section at a time, in each section the last turn of the threads being partly separated from the preceding turns by means of a separator formed by an arm that is rotatable from its stationary position in a radial plane at the edge of the section into an axial position above the winding surface of the section. Additional separators may be provided in each section for forming a lease and for separating the first turn of the threads from the subsequent turns.

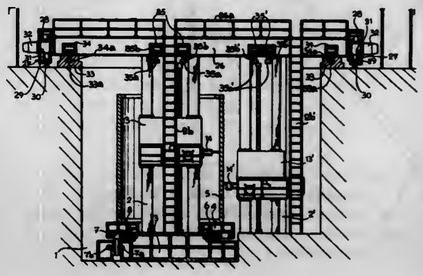
3,513,516
ADJUSTABLE ELECTRODE SPARK GAP ASSEMBLY
Peter A. Oddo and Harold F. Becker, Red Bank, N.J., assignors, by mesne assignments, to Signalite, Inc., Neptune, N.J., a corporation of New Jersey
Filed Mar. 16, 1965, Ser. No. 440,263
Int. Cl. H01j *9/18, 9/36*
U.S. Cl. 29—25.16 **3 Claims**



A method of fabricating a spark gap in which a movable electrode extends into the gap through a hollow tube and the spacing of the gap is set prior to exhausting and sealing off the gap.

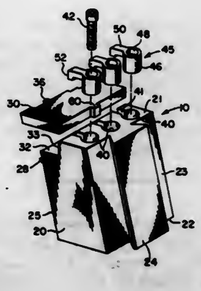
3,513,517
MACHINING OF LARGE HOLLOW CYLINDRICAL WORKPIECES
Maso Galbarini and Francesco Cotta Ramusino, Milan, Italy, assignors to Societa Generale per l'Industria Metallurgica e Meccanica, Milan, Italy
Filed Oct. 23, 1967, Ser. No. 677,220
Claims priority, application Italy, Aug. 3, 1967, 52,666-A/67
Int. Cl. B23p *23/00*
U.S. Cl. 29—26 **7 Claims**

In the maching of a large-diameter hollow cylindrical workpiece the latter is rotatably supported with its axis vertical and a machining head is supported within the workpiece on a vertical column fixed at its lower end,



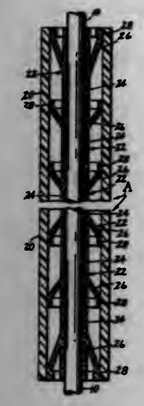
preferably in a pit, and clamped at its upper end to fixed structure to hold the column rigidly. An external machining head may be similarly supported.

3,513,518
CUTTING TOOL
James V. Lekan, 2102 Corning Ave., Cleveland, Ohio 44109
Filed Dec. 22, 1967, Ser. No. 692,968
Int. Cl. B26d *1/00*
U.S. Cl. 29—96 **1 Claim**



A dovetail form tool for automatic screw machines and the like comprising a master dovetail block and an insert type form blade clamped therein, the form blade having a locating tongue for cooperation with the master block to allow repeatable alignment and predeterminable dimensioning.

3,513,519
ROLLER FOR TRANSPORTING SHEET MATERIAL
Edward H. Savela, Golden Valley, Minn., assignor to Pako Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Nov. 6, 1967, Ser. No. 684,591
Int. Cl. B21b *31/08*; B65h *5/06*
U.S. Cl. 29—125 3 Claims



A roller for transporting sheet film and the like including a substantially rigid shaft, a multiplicity of resilient annular support members mounted on the shaft and a resilient tubular member mounted on and concentric with said support members.

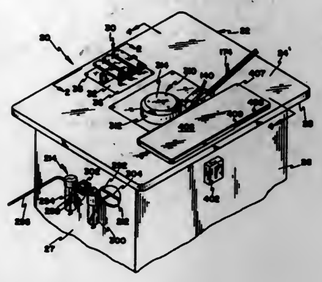
3,513,520
METHOD OF MAKING COMPOSITE METAL BEARING STRIPS
Guy Anthony Vandervell, London, England, assignor to Vandervell Products Limited, London, England, a British company
Filed Feb. 20, 1967, Ser. No. 617,366
Claims priority, application Great Britain, Feb. 23, 1966, 7,995/66
Int. Cl. B21d *53/10*; B23k *31/02*; B23p *17/00*
U.S. Cl. 29—149.5 8 Claims



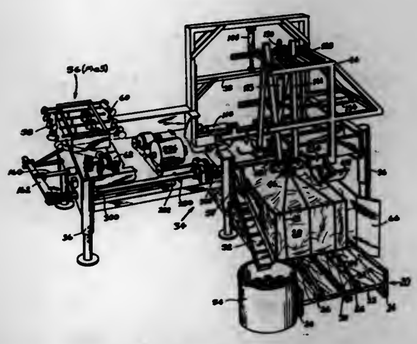
A method of making a composite strip by casting onto a steel backng layer, in a reducing atmosphere, a copper lead alloy, and cooling the resulting two layer strip, and subsequently reheating the steel backing and copper layer in a reducing atmosphere and applying in a molten condition a lead tellurium alloy and subsequently cooling the resulting three layer strip.

3,513,521
APPARATUS FOR ASSEMBLING AND SECURING T-EDGING
Alton L. Fritz, Phoenix, Ariz., assignor to Royal Industries, Pasadena, Calif., a corporation of Delaware
Filed Mar. 3, 1969, Ser. No. 803,864
Int. Cl. B23p *19/00, 19/04*
U.S. Cl. 29—200 9 Claims

An apparatus for preparing a workpiece and affixing protective and decorative edging, preferably T-edging, to the peripheral edge of the workpiece, the apparatus providing (a) a slotting head for guiding the workpiece in a predetermined orientation and a moving slotting blade for cutting a groove in the peripheral edge of the workpiece; (b) a cutting tool for guiding the displacement of the T-edging, for maintaining the leading end portion of a T-edging in a proper orientation and for selectively, at the election of the operator, notching out a length of the tongue of the T-edging at a well defined position and/or completely severing the T-edging at a precise location; and (c) a hammer for forcing the tongue of the T-edging into the slot formed in the workpiece, the hammer operating only when displaced from the at-rest position by force applied to the workpiece. An indicator provides reference marks which, when aligned with a corner of the workpiece, indicates to an operator when to notch the tongue of the T-edging so that the notch will be properly located at the corner of the workpiece. Similarly, the location of the severed end of the T-edging can be predetermined to eliminate any gap between or overlap of the free ends of the T-edging disposed around the entire periphery of the workpiece.

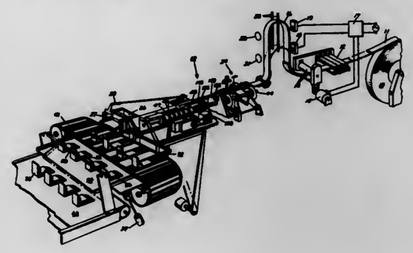


3,513,522
UNBALING MACHINE
Victor J. Thomson, Rancho Felicia, Box 275, Santa Inez, Calif. 93460
Filed Apr. 3, 1967, Ser. No. 627,687
Int. Cl. B23p *19/04*
U.S. Cl. 29—200 16 Claims



Apparatus for the cutting and removal of tie bands about a bale of hay or the like comprising, cutting means to effect substantially simultaneous severance of the tie bands, gathering means to effect gathering of the severed tie bands, removal means to grasp the gathered tie bands and effect their removal from the hay bale or the like, discharging means to effect disposing of the removed tie bands from the removal means, and operating means to effect sequential automatic operation of the cutting means and the gathering means and the removal means and the discharging means.

3,513,523
MACHINE AND METHOD FOR FORMING LAMINATIONS FOR MAGNETIC CORES
Armin F. Mittermaier and Lowell M. Mason, Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York
Filed Apr. 20, 1967, Ser. No. 632,242
Int. Cl. H01r *43/04*
U.S. Cl. 29—203 10 Claims

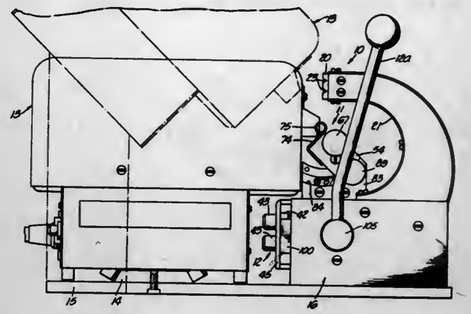


A gripper carriage is driven by a variable drive train to advance an end portion of magnetic strip material from an upstanding loop of strip material until the gripper carriage engages a first index stop with a spring-biased engagement. With the gripper carriage biased against the stop, a first preselected length of the strip material is indexed for forming the first leg of a lamination. The indexed end portion of the strip material is bent at right angles by a forming shoe. A shoe release mechanism prevents the forming shoe from dragging the strip material and opening the bend. The gripper carriage then advances a second preselected length of strip material until a second index stop is engaged by the carriage with a spring-biased engagement thereby to feed out the strip material for the second leg of the lamination. The formed lamination is then severed and deposited on an indexing conveyor. These operations are repeated until a predetermined number of laminations are formed and deposited on the indexing conveyor. The laminations are then transferred by an ejecting bar to a stacking table.

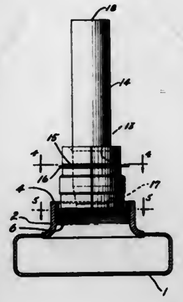
In order to ensure a positive feed without shearing the index stops or a portion of the gripper carriage drive train as the positions of the stops are varied, the travel of the gripper carriage is correspondingly varied. A computing section of the machine computes the height of the core as laminations are formed and initiates recycling of the machine when the desired stack height has been attained.

3,513,524
MULTI-CONDUCTOR HOLDING APPARATUS
Ronald E. Switzer, Mountainview, and Donald R. Allan, Menlo Park, Calif., assignors to Raychem Corporation, Menlo Park, Calif., a corporation of California
Filed Aug. 14, 1967, Ser. No. 660,370
Int. Cl. H05k *13/00*
U.S. Cl. 29—203 20 Claims

An apparatus for holding a plurality of conductors which are to be connected to the pins of a terminal block while the conductors are being associated with the appropriate pins and while the solder sleeves used to make a soldered connection are heated to above their heat recovery temperature. The apparatus is provided with a plurality of push button actuated hooks for holding each of the conductors in a given position with respect to the terminal block, and with a movable carriage for holding the terminal block and permitting it to be positioned in several different orientations with relation to the conductors.



3,513,525
TOOL FOR INSERT CAPS
Charles T. Flachbarth, Parkersburg, W. Va., and William Walker, Belpre, Ohio, assignors to Textron Inc., Providence, R.I., a corporation of Delaware
Filed Apr. 5, 1968, Ser. No. 719,081
Int. Cl. B23p *19/00*; H05k *13/00*
U.S. Cl. 29—203 4 Claims

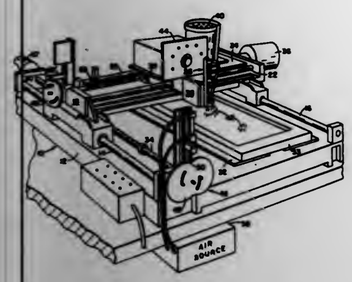


A tool comprising three jaws and a ram mounted as a unit in an insert cap, the jaws being expandable against the wall of the cap to press the same against the side of the insert, expansion of the jaws being effected by striking the ram with a hammer.

3,513,526
FINE POSITIONING CONTROL FOR LEAD SCREW OF X–Y TABLE
John D. Eastin, Guilford, N.C., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Mar. 18, 1968, Ser. No. 713,930
Int. Cl. B23p *19/04*; H01r *43/04*
U.S. Cl. 29—203 8 Claims

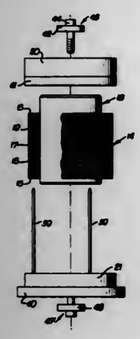
Apparatus for fine positioning control of an indexing table having a workhead or assembly tool mounted there-

on. The apparatus includes means for accurately positioning the workhead or assembly tool with respect to a workpiece mounted on the stationary base of the device. The apparatus includes one lead screw, mounted to the stationary base of the device, and disposed for actuation of the index table, and thereby the workhead, in the Y indexing dimension. Another lead screw mounted to the Y



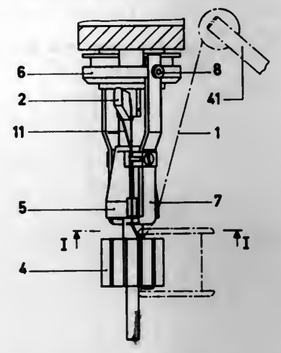
dimension housing, above and normal to the Y dimension lead screw, is disposed to move the index table, and thereby the workhead, in the X indexing dimension. A cam is secured to one end of each lead screw and is rotated, for vernier adjustment of the lead screw, by a plunger actuatable by an air cylinder responsive to rough positioning of the indexing table by the lead screw.

3,513,527
MANDREL DEVICE FOR ASSEMBLING AND SECURING LAMINATIONS
Charles D. Hoy, Anaheim, Calif., assignor to Task Corporation, Anaheim, Calif., a corporation of California
Filed Apr. 10, 1967, Ser. No. 629,539
Int. Cl. K02k *15/00*
U.S. Cl. 29—205 **7 Claims**



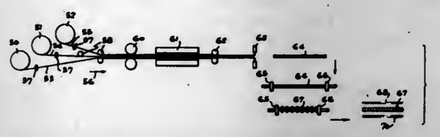
The disclosure concerns a mandrel device for assembling and securing thin rotor or stator laminations in a stack for use in electrical machinery. Annular laminations are assembled on a central mandrel, preferably with zero clearance; also platens at opposite ends of the stack are interconnected in the mandrel for exerting force holding the stack in endwise compressed condition. The stack periphery then being entirely exposed for application of a fluid bonding agent which penetrates between the laminations.

3,513,528
LAYING DEVICE FOR COMMUTATOR CONTACT LOOPS ON AUTOMATIC ARMATURE WINDING MACHINES FOR UNIVERSAL MOTORS
Manfred Nussbaumer, Dietikon, Switzerland, assignor to Micafil A.-G., Zurich, Switzerland, a joint-stock company
Filed July 11, 1967, Ser. No. 652,512
Claims priority, application Austria, Aug. 16, 1966, A 7,777/66
Int. Cl. H02k *15/06*
U.S. Cl. 29—205 **7 Claims**



A device for laying in the commutator contact wire loops of coils, after they have been wound into the slots of an armature, comprises a rotatable tool support which surrounds a rotatable cover sleeve over the commutator that includes a slot over which each wire loop is pushed by a finger. The tool support includes a power actuated hold-down tool which presses the wire loop toward the axis of the commutator and, a power actuated tamping tool that tamps the loop into the commutator slot and a power actuated cutting blade which thereafter functions to cut off the portion of the wire loop which protrudes beyond the end of the commutator slot. The wire loop is formed about a hook which is rotatable as well as axially displaceable. The cover sleeve, hook and tool support are secured upon concentric shafts and rotation of these shafts is effected by a gear drive constituted by gear segments on the shafts meshed with rack gears whose longitudinal displacements are determined by a rotatable turret head carrying longitudinally adjustable stop pins which engage the ends of the rack gears. The shaft carrying the tool support is coupled to the shaft carrying the cover sleeve so that one gear drive common to both is utilized.

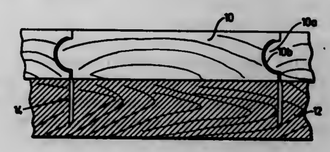
3,513,529
METHOD OF PRODUCING CELLULAR STRUCTURES
Aaron L. Hitchens, P.O. Box 456, Northridge, Calif. 91324
Original application June 28, 1966, Ser. No. 561,093, now Patent No. 3,389,748, dated June 25, 1968. Divided and this application Apr. 12, 1968, Ser. No. 752,084
Int. Cl. B23p *17/00*
U.S. Cl. 29—411 **4 Claims**



A method of fabricating a honeycomb structure from a plurality of metal sheets which are secured together

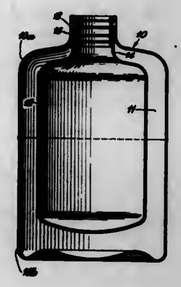
at predetermined and staggered locations. A bonding agent is applied to each sheet to form bands and the sheets are arranged relative to each other so that the bands applied to the sheets are staggered with respect to the bands carried by adjacent sheets. The sheets are caused to bond together by means of heat and pressure to form a sandwiched panel. The panel is then expanded into honeycomb material by forcing the opposite ends of the panel together whereby portions of the sheets not bonded together are urged outward in a direction normal to the applied force.

3,513,530
METHOD FOR NAILING TOGETHER MOLDING BOARDS IN THE CONSTRUCTION OF MOLDS
Axel Karl Rosenblom, Capellavagen 18, Lidingo 1, Sweden
Filed Nov. 6, 1967, Ser. No. 680,797
Int. Cl. B23p *17/00*
U.S. Cl. 29—417 **4 Claims**



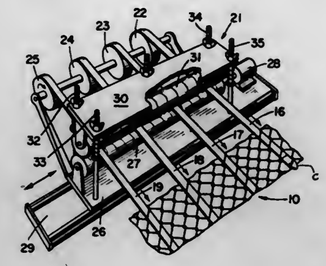
Method and means for building concrete molds, the mold boards of which are fitted together by means of a tongue and groove joint and which are secured in position by specially designed nails; wherein the nails do not penetrate through the boards, as with conventional constructions of this nature, but engage in the joint itself in such a way that the two mating portions of the mold boards are clamped against the underlying crossbar. The invention also consists of suitable apparatus for fastening the nails in this manner.

3,513,531
METHOD OF MAKING VACUUM CONTAINERS
Joseph G. Humphress, Youngstown, N.Y., and Robert L. Zeunik, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York
Application Nov. 30, 1967, Ser. No. 690,046, now Patent No. 3,438,115, dated Apr. 15, 1969, which is a continuation-in-part of application Ser. No. 410,088, Nov. 10, 1964. Divided and this application June 24, 1968, Ser. No. 796,245
Int. Cl. B23p *17/00*
U.S. Cl. 29—421 **5 Claims**



A method of making a double walled container having a neck tube joining inner and outer shells, defining an evacuable space between the shells, wherein the joints between the neck tube ends and the shells are made by magnetically deforming flanges on the shells into annular grooves formed into the neck tube.

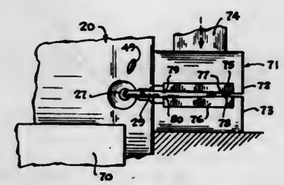
3,513,532
STRIP INSERTING METHOD FOR CHAIN LINK FENCES
John J. Lambert, 7265 W. 83rd St., Los Angeles, Calif. 90045
Filed May 15, 1967, Ser. No. 638,242
Int. Cl. B23p *19/04*
U.S. Cl. 29—433 **1 Claim**



This disclosure relates to a method and apparatus for inserting elongated strips of aluminum which may be of various colors into channels defined by the chain mesh structure of chain link fences to thereby greatly enhance the beauty of the fences and also provides a wind break and block visibility if desired.

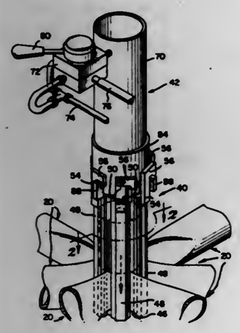
The method involves continuously urging one or more elongated strips into the formed channels in the fence in a very rapid manner. The apparatus for carrying out the method contemplates a pair of rollers powered by an electric motor, one or more strips being simultaneously fed between the rollers directly into the channels of the chain link fence.

3,513,533
METHOD OF MAKING BAILED CONTAINER
Howard J. Nauta, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 549,027, May 10, 1966, now Patent No. 3,341,047, dated Sept. 12, 1967. This application Aug. 9, 1967, Ser. No. 659,382
Int. Cl. B23p *11/00*
U.S. Cl. 29—437 **9 Claims**



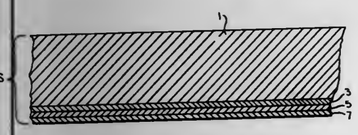
A process for fabricating a bailed container by shaping a bail blank from round wire stock of the desired length so the ends thereof hook into bosses or recesses in the container. A portion of the bail between the hooked ends is then pressed between dies to a non-circular cross-section. A second pressing operation can be used to squeeze the hooked ends inwardly so they more tightly grip the container.

3,513,534
METHOD AND APPARATUS FOR ASSEMBLING A JOINT
James E. Bradley, Lonnie L. Caldwell, and Ray J. Gabler, Kansas City, Mo., assignors to Butler Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed Mar. 12, 1968, Ser. No. 712,404
Int. Cl. B23q 3/00; B23p 19/00
U.S. Cl. 29—468 13 Claims



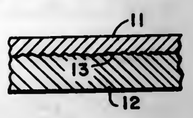
A guide means is provided defining a plurality of spaced slots for receiving the flattened ends of structural members, said ends having spaced ribs thereon. The guide means includes an open end portion which slidably receives a hub having keyways therein complementary to said flattened ends for receiving the ends therewithin. Actuating means is operatively connected with the guide means adjacent the open end portion thereof and includes a part engaging said hub for moving the hub slidably within the guide means and longitudinally thereof to force the flattened ends of said structural members into the keyways in said hub.

3,513,535
METHOD OF CERAMIC BRAZING
John F. Clarke, Plainville, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Original application Feb. 26, 1964, Ser. No. 347,610, now Patent No. 3,382,052. Divided and this application Oct. 5, 1967, Ser. No. 677,829
Int. Cl. B23k 31/02
U.S. Cl. 29—473.1 11 Claims



A method of brazing a ceramic part to a metal part. The metal part is first bonded, by means of solid-phase bonding techniques, to a trilayer solid-phase bonded brazing sheet and the resultant four-layer starting material is then formed, such as by punching, cutting or the like, to the desired shape. The side of the starting material composed of the trilayer brazing sheet is then assembled against the ceramic part and the entire assembly is squeezed together and heated to a temperature at which the trilayer brazing sheet forms a viscous liquid-phase alloy which bonds with the ceramic part. The pressure and temperature are thereafter lowered to solidify the alloy in a bond with the ceramic part.

3,513,536
METHOD OF DELINEATING P-N JUNCTIONS IN INDIUM ANTIMONIDE DIFFUSED JUNCTION DEVICES
Vernon L. Lambert, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Mar. 8, 1968, Ser. No. 711,661
Int. Cl. H01l 7/00
U.S. Cl. 29—574 2 Claims

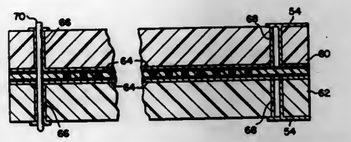


The invention comprises a method of delineating p-n junctions in photovoltaic diodes by placing a sample wafer, in which doping elements have already been diffused, in an evacuated container with a charge of a Group VI–A element, such as sulfur, selenium or tellurium, and heating the container to diffuse one of said additional elements therein, removing the diffused wafer and then bias-cutting or angle-lapping it, thereby to enable the junction to be clearly perceived visually. Measurements from this sample can be applied to other diodes derived from the batch from which the sample is taken and the p-n junctions thereby accurately located.

3,513,537
METHOD OF MAKING A COMPOSITE SUPERCONDUCTING WIRE
John E. C. W. Williams, Cambridge, Mass., assignor to United Kingdom Atomic Energy Authority, London, England
No Drawing. Original application Sept. 3, 1963, Ser. No. 306,346. Divided and this application Mar. 24, 1967, Ser. No. 625,574
Claims priority, application Great Britain, Sept. 7, 1963, 34,437/62
Int. Cl. H01v 11/00
U.S. Cl. 29—599 12 Claims

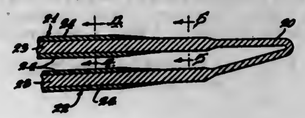
A method of making a composite superconductive wire by providing a multiplicity of lengths of superconducting material in a ductile, non-superconducting material, and swaging and/or drawing the non-superconducting material to form a wire in which the superconducting material has been reduced to filaments of small enough diameter to remain superconductive in a magnetic field in excess of the critical field.

3,513,538
METHOD OF MAKING A FILAMENTARY MAGNETIC MEMORY USING RIGID PRINTED CIRCUIT CARDS
Thaddeus F. Bryzinski, West Webster, N.Y., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,673
Int. Cl. H01f 7/06
U.S. Cl. 29—604 1 Claim



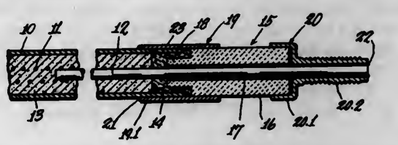
An array of spaced, insulating lands is cast in situ upon a printed circuit card bearing spaced, parallel conductive strips. The lands are aligned normally across the strips. Stretchable filaments are placed in the grooves between the lands, and a second card, identical to the first is cemented upon the array of lands in opposed registration with the first card. The filaments are pulled out, leaving elongated apertures to receive filamentary magnetic memory elements. Connections are made through the cards to the conductive strips by any convenient means such as by electroplating through holes to connect the strips to an external circuit.

3,513,539
METHOD OF MAKING A SOLDER GUN TIP
Dhuaine J. Davis, Wheaton, Ill., assignor to D. J. Davis Company, Inc., a corporation of Connecticut
Original application Oct. 21, 1965, Ser. No. 499,808, now Patent No. 3,401,255, dated Sept. 10, 1968. Divided and this application May 21, 1968, Ser. No. 740,412
Int. Cl. H05b 3/00
U.S. Cl. 29—611 3 Claims



A method of making a soldering gun tip from a length of wire having a core of one conductivity and a clad covering of a greater conductivity. The clad covering is removed from an intermediate portion of the length of wire and the wire is formed into a V-shaped heating element. The intermediate section may be flattened following the removal of the clad covering.

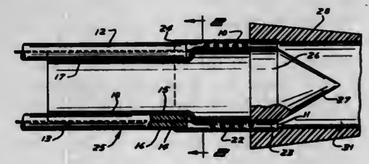
3,513,540
TERMINAL CLOSURE FOR METAL SHEATHED, ELECTRIC RESISTANCE HEATING ELEMENTS
Alben C. Boggs, Pittsburgh, Pa., assignor to Edwin L. Wiegand Company, Pittsburgh, Pa.
Filed Sept. 6, 1967, Ser. No. 665,830
Int. Cl. H05b 3/00
U.S. Cl. 29—611 3 Claims



The method of making a hermetically sealed closure at the open end of a tubular, metallic sheathed, electric resistance heating element, and the article produced by such method, which consists of disposing a quantity of flowable, heat-expandable dielectric material at the element open end and between the latter and a closure member, compressing the dielectric material by urging the closure member toward the element end, hermetically securing the closure member to the element sheath to entrap the dielectric material, and applying heat to the assembly to expand the dielectric material in situ.

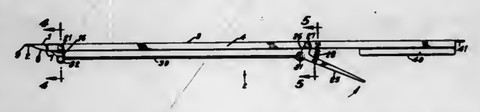
3,513,541
METHOD OF MAKING AN ELECTRICAL RESISTANCE ELEMENT
William L. Brown, Minneapolis, Minn., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed June 27, 1967, Ser. No. 649,186
Int. Cl. H01c 7/00, 17/00
U.S. Cl. 29—614 9 Claims

This disclosure teaches a new electrical resistance element construction and a method of making same. The elements are commonly used for resistance thermometer construction wherein the electrical resistance of a material, normally a fine metalic wire, changes with respect to temperature. The resistance wire is wound onto an electrically insulated or insulative mandrel and is subsequently shielded and protected with an outer shell. A cavity (which is purposely left between the mandrel and the outer shell) is sealed at one end and then filled with a liquid, normally very pure water. If necessary, the unit is centrifuged to insure that the water fills all of the air pockets in the cavity. A container is then placed around the outer shell and a plug (if the inner mandrel is hollow) inserted inside the mandrel thus extending and enlarging the cavity beyond the extremes of the unit. The extended cavity is then filled with a very finely powdered dielectric material and water slurry. The unit is again centrifuged and the heavier dielectric material (normally



alumina) will replace the water originally centrifuged into the cavity between the mandrel and the outer shell and will be compacted tightly around the resistance wire. The unit is then removed from the centrifuge and dried in an oven to evaporate any of the liquid (water) which may still be present in the unit. The open end of the cavity is then sealed and the element is ready for use. Suitable lead wires are attached prior to centrifuging and means are provided for maintaining the resistance wire wrapped around the mandrel in position so that it does not electrically short out to the mandrel or the adjacent winds of the wire do not short to each other during centrifuging. As shown, one way of doing so is to affix portions of the wire to the mandrel, or the mandrel can contain grooves which will hold the wire from longitudinal displacement during centrifuging.

3,513,542
INSPECTION KNIFE
Charles J. Dominick, 3024 Durfee Ave., El Monte, Calif. 91732
Filed Jan. 2, 1968, Ser. No. 694,981
Int. Cl. B26b 11/00
U.S. Cl. 30—123 5 Claims



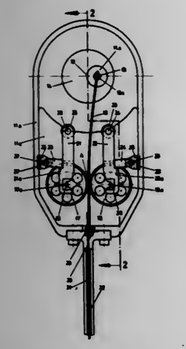
The device contemplates a knife having two blades each associated with an elongated shank provided with a handle. One blade is pivoted to the other blade and a lever is provided which when moved will swing the pivoted blade away from the other blade, the blades normally being parallel and in juxtaposition. The blades have plane surfaces which are sharpened so that the bevels thereof extend from the outer plane surface inwardly toward the edge to provide a combined slicing or cutting edge. When meat is being broiled, a cut may be made in the meat body by the two blades followed by separating one blade relative to the other blade to expose the interior of the meat and to give the cook or chef a visual view of the meat to determine the degree of cooking thereof throughout the body of the meat, such as well done, medium or rare.

3,513,543
INSPECTION KNIFE
Charles J. Dominick, 3624 Durfee Ave., El Monte, Calif. 91732
Filed Jan. 2, 1968, Ser. No. 694,980
Int. Cl. B26b *11/00*
U.S. Cl. 30—124 5 Claims



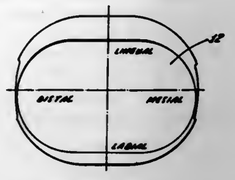
The device of the disclosure includes two blade members hinged together at the lower edges thereof whereby the blade members may be separated angularly or moved into parallel juxtaposition. The blade members at one end have sharpened or knife edges while the remaining portion of the blade members, or that portion of each thereof termed the shank, is not sharpened. The handle portion of the shank is provided with pairs of wings which extend outwardly from the edges of the shanks and the wings for each blade are in angular relationship to the plane of the shanks. A coil spring at the hinge portion between the shanks of the blade members normally urges the shanks and the blade members to close together and an operator may, while holding the handle in one hand, exert pressure against the wings to separate the blade members along the hinge line for the shanks. The specific shanks are plane surface so that the sharpened or knife edge of the blade members may close toegther and jointly form a thin cutting edge. The inspection knife is for the purpose of cutting into meat and then separating the meat at the cut or slit area to allow visible inspection of the body of the meat to determine how rare it may be, and if further cooking is necessary dependent upon the desire of the person eating the meat. As it is sometimes desired to lift the meat from the broiler or bar-B-que grille or frying pan, the upper edges of each blade member are provided with two or more barbs, the barbs of one blade overlapping the other blade in staggered relationship whereby the barbs may be separated for penetration of the meat, or released from the meat.

3,513,544
ROTARY TYPE MOTOR WITH FLEXIBLE DRIVE MEANS TO RECIPROCATE CUTTERS FOR CUTTING SHEET MATERIAL
Karl Reiger, Rommelshausen, Germany, assignor to Kraus u. Reichert Spezialmaschinenfabrik u. Apparatebau, Fellbach, Germany, a firm
Filed Sept. 15, 1967, Ser. No. 668,011
Int. Cl. B26b *7/00*
U.S. Cl. 30—272 10 Claims



A motor-driven machine having a reciprocating cutting blade which is adapted to cut through a stack, composed of layers of sheet material, during vertical reciprocation of the cutting blade. A guide means guides the blade for reciprocating movement and a motor is provided for driving a rotary crank means. A connecting rod extends between and is operatively connected with the crank means and the blade for converting rotary movement of the crank means into reciprocating movement of the blade. This connecting rod is made of a springy bendable material and preferably takes the form of an elongated leaf spring which is fixed at one end to a crank pin of the rotary crank means and at its opposite end to the blade. As a result of the springy bendability of the leaf spring which forms the connecting rod, the machine is of light weight and is capable of high-speed, smooth operation.

3,513,545
PREFORMED ORTHODONTIC BAND
Frank R. Miller, Bradbury, Calif., assignor to Ormco Corporation, Glendora, Calif., a corporation of California
Filed Aug. 9, 1968, Ser. No. 751,556
Int. Cl. A61c *7/00*
U.S. Cl. 32—14 14 Claims
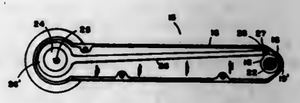


An improved construction for an orthodontic incisor, cuspid, bicuspid or molar band is provided. The band of the present invention has relatively thin interproximal portions as compared with the thickness of the remainder of the band. The interproximal portions of the band are thinned, for example, by a grinding action which is accompanied by a simultaneous hardening of the metal in the band, so that no loss of strength is encountered. The thinned interproximal portions of the band facilitates the fitting of the band over the tooth, since unlike the prior art tooth bands, no substantial tooth separation is required.

ERRATUM

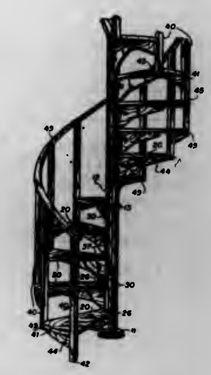
For Class 32—54 see:
Patent No. 3,513,550

3,513,546
DENTAL APPARATUS
Howard Cohen, 1170 Ocean Parkway, Brooklyn, N.Y. 11230
Filed Aug. 21, 1967, Ser. No. 662,107
Int. Cl. A61c *3/06*
U.S. Cl. 32—59 13 Claims



The apparatus is for forming and copying an abutment tooth to serve as an anchor for a crown, bridgework or similar dental attachment. The forming of an abutment is done with a tubular grinding element which is oscillated against the occlusial face of the tooth being treated. Such tooth may be of the mouth or of a model of the mouth. The dentist's use of identical grinding tools, identically positioned and worked as was employed by the laboratory, serves to prepare the mouth as a copy of the prepared model which was initially cut to provide the abutments for the required restoration. This permits the restoration to be installed in the patient's mouth at the same visit as the mouth is prepared, thus avoiding the construction of any temporary replacement thereby saving the dentist's time and reducing costs. The apparatus is also useable for the old method where the mouth is prepared first.

3,513,547
CIRCULAR STAIRCASE
Abraham Suckno, 289 Friar Lane, Mountainside, N.J. 07092
Filed Oct. 4, 1968, Ser. No. 765,101
Int. Cl. E04f *11/00*
U.S. Cl. 52—187 6 Claims



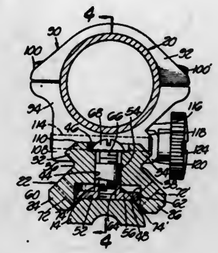
A circular staircase wherein treads are bolted to a central column and supported in horizontal channels therein; tread supports in abutment with the central column are bolted thereto; balusters and fascia attached to each other and the treads also reinforce them.

3,513,548
EXTENDIBLE DRAFTING COMPASS
Takeo Itano, 6459 N. Wayne, Chicago, Ill. 60626
Continuation-in-part of application Ser. No. 756,633, Aug. 30, 1968. This application Jan. 14, 1969, Ser. No. 791,097
Int. Cl. B43l *9/04*
U.S. Cl. 33—27 5 Claims



An extendable drafting instrument comprising a plurality of elongated flat blade-like members slidably positioned within at least one clamp device and a pivot holder assembly. Arcuate figures of small and large radii with conventional scribe implements may be drawn with said instrument. The adjustable clamp device and pivot holder assembly cooperate with said blade members thereby guiding and supporting said blade members, providing minimum contact with the work surface underneath. This combination results in minimal flexure and lateral offset making its use fast, easy and accurate.

3,513,549
TELESCOPIC SIGHT MOUNTING
Jesse R. Smiley, 220 E. 15th, San Bernardino, Calif. 92404
Filed June 18, 1968, Ser. No. 745,650
Int. Cl. F41g *1/42*
U.S. Cl. 33—50 11 Claims



The invention is a sight mounting or sight mounting bar for mounting telescopic sights on firearms such as rifles. The mounting comprises a bar which has a swivel attachment at an intermediate point to a mounting post which post has a dovetail foot or tenon which secures to the transverse dovetail groove in the rifle normally occupied by a sight. The bar can move angularly around the mounting post during installation so that it aligns itself with the rifle barrel after which it is clamped. The mounting bar provides means for adjusting it at its ends so that its axis can be tilted angularly relative to the axis of the bore for adjusting the telescope axis in this plane.

3,513,550
VIBRATOR FOR DENTAL PURPOSES
Bjorn A. O. Ekman, Gumla Bjorlandavagen 166, Goteborg, Sweden
Filed Oct. 25, 1967, Ser. No. 678,019
Claims priority, application Sweden, Oct. 26, 1966, 14,680/66; May 12, 1967, 6,679/67
Int. Cl. A61c *3/08*
U.S. Cl. 32—54 3 Claims

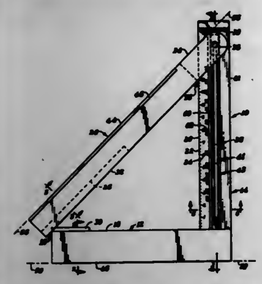


The present vibrator is for use in dental work and connection to driving means for rotating a first member which imparts a rocking movement to a second member used as a working tip, for example, in connection with amalgam fillings.

3,513,551
DRAFTING SLOPE GAUGE
Hans F. Geiger, 5845 N. New Jersey St., Indianapolis, Ind. 46220
Continuation-in-part of application Ser. No. 735,449, June 7, 1968. This application June 20, 1969, Ser. No. 835,207
Int. Cl. B43l *7/00*
U.S. Cl. 33—92 16 Claims

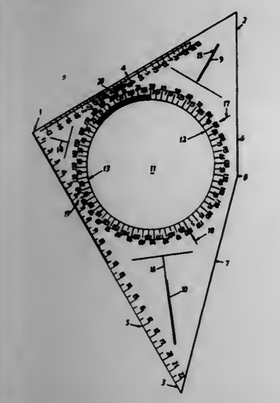
An L-shaped slope-indicator gauge, primarily useful for draftmens' use, in which a pair of fixed scales on one of the arms provide respectively for the reading of relatively low and relatively high slopes by the orienting or turning over of the device so as to use a specific one or the other tool-arm as its base; and a movable arm is adjustably held to the arms in any selected position to

provide the specific slope-reading desired. Spring-tension means assure a desired frictional holding of a set position



or reading, yet permit adjustment of the reading when desired.

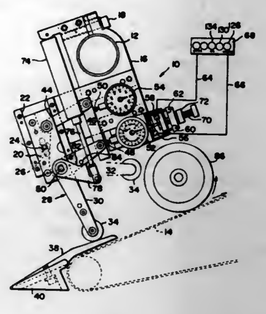
3,513,552
SET SQUARE
Pierre Lagrosse, Ave. de la Gare, Oraison, France
Filed July 29, 1968, Ser. No. 748,471
Claims priority, application France, Aug. 31, 1967, 21,962
Int. Cl. B43l *13/00*
U.S. Cl. 33—104 **1 Claim**



A set square has four linear sides of which three adjacent pairs define angles of 90°, 60° and 45°, one side having a linear scale and another side having a logarithmic scale, and two elongated linear openings respectively bisect the 60° and the 45° angle, and a circular opening centred on the meeting point of the bisectors of all three angles, the edge of the circular opening being marked with degrees and graduations.

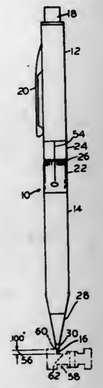
3,513,553
GAUGING APPARATUS
Stanley F. Dame, Somersworth, N.H., assignor, by mesne assignments, to Thompson Manufacturing Company, Inc., Somersworth, N.H., a corporation of Massachusetts
Filed Sept. 29, 1967, Ser. No. 671,637
Int. Cl. G01b *5/00*
U.S. Cl. 33—147 **10 Claims**

An apparatus is provided for automatically gauging the dimensions of an object such as the thickness of a moving leather hide, for example. The apparatus is mounted above the object and provided with a pivoted feeler arm the free end of which bears against the object to be gauged. The arm is connected to a parallel bar system which, in turn, operates a pair of dial indicators one of which is a reference gauge and the other displays the thickness variations of the object being measured. The thickness of the measured object can be represented in weight measurement by means of selecting the ratio between the length of the feeler arm and the length of an arm in the parallel bar system.



The measuring gauge can be coupled to a light indicator system for signalling to the operator when the object being gauged is over, under or within an accepted range.

3,513,554
MICROMETER PENCIL
Franklin H. Bickford, 504 4th St., Liverpool, N.Y. 13088
Continuation-in-part of application Ser. No. 568,835, July 29, 1966. This application Aug. 16, 1968, Ser. No. 753,278
Int. Cl. G01b *3/28, 5/18*
U.S. Cl. 33—170 **10 Claims**

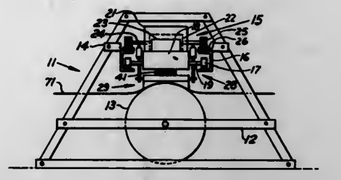


Micrometer pencil comprising a mechanical pencil having manual relatively movable barrel portions for advancing the pencil lead, the barrel portions being provided with indicia whereby the degree of advance is indicated and the pencil thereby made to serve as a depth micrometer.

3,513,555
THICKNESS GAUGING APPARATUS
Bradstreet J. Vachon, 32 Prior Drive, Framingham, Mass. 01701
Filed Mar. 30, 1967, Ser. No. 626,999
Int. Cl. G01b *3/22*
U.S. Cl. 33—172 **26 Claims**

A thickness gauge with a sensing head maintained a given distance above a base supported sheet material by an air cushion formed by air discharged from the sensing

head. A rigid support mechanism fixes the lateral position of the sensing head above the sheet while a flexible coupling allows movement of the head in directions normal to



the sheet material. A readout device responsive to movement of the sensing head provides an indication of sheet material thickness.

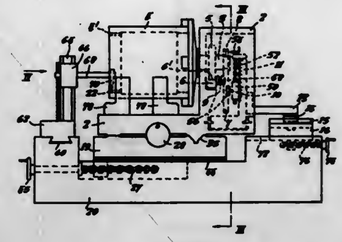
3,513,556
TUBE MEASURING GAUGE
Lawrence E. Holland, Hartsville, S.C., assignor to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina
Filed Apr. 4, 1968, Ser. No. 718,681
Int. Cl. G01b *5/08*
U.S. Cl. 33—178 **4 Claims**



A gauge for measuring the inner diameter of a tube comprising a tapered sleeve slidably mounted on a rod and yieldingly spring loaded into a stop position which is moved into gripping engagement with the inner wall of a tube into which the sleeve is inserted to overcome the spring pressure and thereby provide an indication of the inner diameter of the tube by registration of the tube end with indicia on the outer surface of the sleeve.

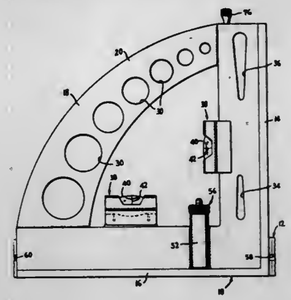
3,513,557
MACHINE FOR TESTING THE PROFILE AND HELIX ANGLE OF INTERNAL GEAR WHEELS
Karl Muller, Zurich, Switzerland, assignor to Maag Gear Wheel & Machine Company Limited, Zurich, Switzerland, a company of Switzerland
Filed July 16, 1968, Ser. No. 745,163
Claims priority, application Germany, July 21, 1967, 1,623,244
Int. Cl. G01b *7/28*
U.S. Cl. 33—179.5 **6 Claims**

An instrument for testing the tooth flanks of a helical gear wheel, of the kind disclosed in United States of America Pat. No. 2,770,048, having a feeler which traverses the involute profile and a helical generating line of the tooth flank, and comprising a generating cylinder adapted to receive a test piece, a bar adapted to roll on said generating cylinder, an auxiliary slide adapted to move in parallel to said bar, a slideway disposed in a plane which is parallel to the generating cylinder axis and to the generating bar and being adjustably inclined to the axis and being adapted to drive the auxiliary slide, a ratio lever adapted to pivot on a pin which is provided on a bearing housing of a spindle for the test piece and which couples the auxiliary slide to the generating bar and whose transmission ratio is adjustable in accordance with the ratio of the generating cylinder diameter and the base circle of the test piece, a support for supporting the feeler and the inclined slideway, and means for moving said support and said test piece transversely and axially relative to the test piece axis, is modified by dis-



posing the feeler and the inclined slideway at opposite ends of the support and positioning the said feeler and inclined slideway for the test piece to be located therebetween.

3,513,558
LEVEL AND METHOD OF MAKING SAME
Frank J. Kuchta, New Britain, and William H. Walker, Meriden, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Feb. 9, 1968, Ser. No. 704,292
Int. Cl. G01c *9/28*
U.S. Cl. 33—213 **7 Claims**

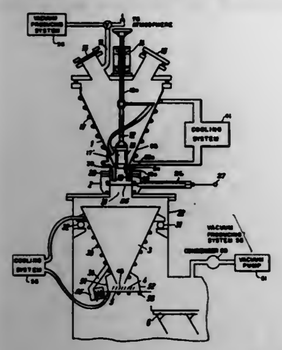


There is disclosed a novel level construction wherein the leg of the level has spaced from the planar surface thereof a seating portion with an arcuate surface. A level member having a level vial and a mounting member of synthetic plastic material seating the vial and providing a mounting portion with a cooperating arcuate surface is seated thereon and is secured thereto in the desired calibrated position by adhesive or other suitable means.

3,513,559
FREEZE-DRYING APPARATUS
Hanns Ellenberg, Rosrath, Germany, assignor to Leybold-Heraeus-Verwaltung GmbH, Cologne-Bayental, Germany
Filed May 9, 1969, Ser. No. 823,424
Claims priority, application Germany, May 11, 1968, 1,778,566
Int. Cl. F26b *5/06*
U.S. Cl. 34—5 **10 Claims**

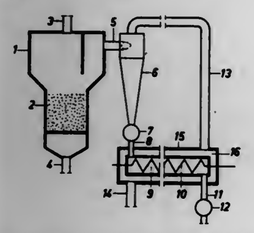
Apparatus for continuous freeze-drying is provided in which a frozen granulate is stored in a funnel-shaped hopper which is cooled and may be evacuated or filled with gas as desired. The material is discharged from the hopper through a cooled discharge opening and a vacuum lock onto a vibratory distributor located within a vacuum

drying chamber. A sliding plug in the discharge opening of the hopper, to which is attached a helical stirrer located within the funnel-shaped portion of the hopper, may



be vertically moved to adjust the size of the discharge opening and the rate of discharge from the hopper to the vacuum drying chamber.

3,513,560
METHOD IN DRYING OF HYDROUS SOLID MATERIAL AND THE SUBSEQUENT HEAT TREATMENT OF THE DRIED MATERIAL
Charles Louis Viel Lamare, Taby, Sweden, assignor to Aktiebolaget Celleco, Stockholm, Sweden, a corporation of Sweden
Filed Mar. 4, 1968, Ser. No. 710,271
Claims priority, application Sweden, Mar. 2, 1967, 2,849/67
Int. Cl. F26b *3/08, 7/00*
U.S. Cl. 34—10 **4 Claims**



A method for further utilizing the heat content of gases used in drying hydrous material in a fluidized bed for heat treatment of the dried material. The material is first dried in a fluidized bed and then transferred to a separate chamber where it is indirectly heated by the same stream of gases used for fluidizing. An economically short period of retaining the material in the bed is thus realized.

3,513,561
PROCESS FOR DRYING AND PURIFYING POST-CHLORINATED POLYVINYL CHLORIDE
Gunther Meyer, Oberlar, Heinrich Thielking, Troisdorf, and Meinhard Springorum, Offenbach am Main, Germany, assignors to Dynamit Nobel A.G., Patent Abteilung, Troisdorf (Bez. Cologne), Germany, a corporation of Germany
No Drawing. Filed July 31, 1967, Ser. No. 657,012
Claims priority, application Germany, Aug. 19, 1966, D 50,885
Int. Cl. F26b *3/08*
U.S. Cl. 34—10 **5 Claims**

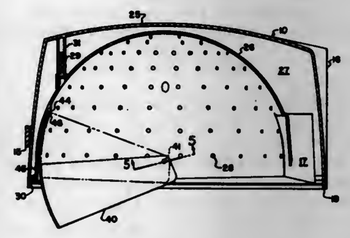
Polyvinyl chloride that has been post-chlorinated in the presence of swelling agents is dried and purified in a turbulent air suspension.

3,513,562
FLUIDIZED DRYING DEVICE
Robert S. Henly, Port Matilda, and Richard F. Kruppa, Pine Grove Mills, Pa., assignors to Applied Science Laboratories, Inc., State College, Pa., a corporation of Pennsylvania
Filed Mar. 18, 1968, Ser. No. 713,824
Int. Cl. F26b *9/00*
U.S. Cl. 34—57 **6 Claims**



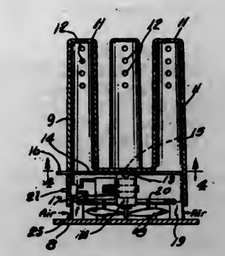
This invention comprises of a device for mixing, homogenously drying and preconditioning column packings utilized in gas-liquid chromatography. The device is comprised of a preheating chamber into which a gas is introduced, the gas then passes through a fritted disc into a mixing chamber to which stationary phases and solid supports are introduced. By controlling the flow of this gas through the mixing chamber, a fluidizing effect is produced which mixes, evenly drys, and preconditions the contents of the mixing chamber.

3,513,563
HAIR DRYER HOOD
Brandt F. Ziegler, North Canton, Ohio, assignor, by mesne assignments, to The Hoover Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,927
Int. Cl. A45d *20/24*
U.S. Cl. 34—99 **8 Claims**



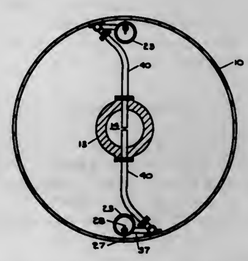
A hair dryer hood for use on a stand-type hair dryer and which is stored on the base unit, characterized in that a hood extension member increases the volume of the hood in operating position and reduces the volume of the hood in the storage position by retracting inside the hood when it is stored.

3,513,564
GARMENT, BOOT AND MITTEN DRYER
Robert D. Gramprie, 5968 M–171, Oscoda, Mich. 48750
Filed Mar. 21, 1968, Ser. No. 715,013
Int. Cl. F26b *25/00*
U.S. Cl. 34—104 **3 Claims**



A clothes dryer provided with closed tubes having open lower ends and vents in the upper end sections thereof, means for heating air and forcing it into said tubes, and means for controlling the volume of air forced through said vents.

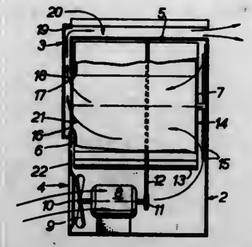
3,513,565
ROTARY DRUM DRYER
Ralph S. Jacobson, Bellingham, Wash., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia
Filed Nov. 8, 1968, Ser. No. 774,235
Int. Cl. F26g *11/02*
U.S. Cl. 34—125 **8 Claims**



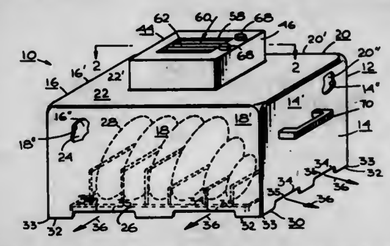
A rotary drum dryer having an improved condensate removal means comprising a manifold in the dryer having condensate withdrawal outlets at each end of the manifold with piping from the condensate withdrawal outlets extending toward the inner surface of the drum until the piping is closer to the inner surface of the drum than the manifold.

3,513,566
TUMBLER DRIERS
Frank Whitney Shacklock, 16 Watson Place, Papatoetoe; Donald Robert Baird, 73 Ti Rakau Drive, Pakuranga; and Keith Desmond Ferguson, 19 Kipling Ave., Epsom, all of Auckland, New Zealand
Filed Mar. 6, 1968, Ser. No. 710,989
Claims priority, application New Zealand, Mar. 8, 1967, 148,063; June 2, 1967, 149,000; Dec. 12, 1967, 151,015
Int. Cl. F26b *17/20*
U.S. Cl. 34—133 **20 Claims**

A tumbler drier has a horizontally positioned drum rotatably mounted inside a substantially air tight cabinet and a reversible electric motor drives a non-directional fan which pressurizes the cabinet with air at room temperature and also drives the drum via a unidirectional clutch. Most of the air within the cabinet passes into the drum and is heated by a heater before entry therein, and the remainder passes directly to exhaust via a small air gap between the drum and the cabinet, and the pressure gradient across this gap stopping any air from the drum returning into the cabinet. In one mode of operation the drum is driven to tumble the articles therein while hot air is forced past them to abstract moisture and in the other the drum is stationary while the articles are dried.



3,513,567
DRYING ARRANGEMENT
Beverly Paul, 948 S. Westmoreland, Los Angeles, Calif. 90006
Filed June 20, 1968, Ser. No. 738,436
Int. Cl. F26b *21/00*
U.S. Cl. 34—233 **9 Claims**

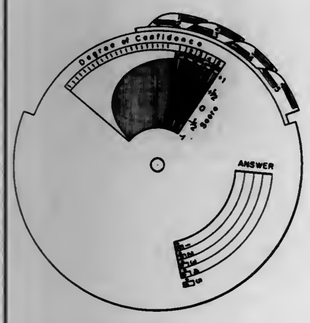


There is disclosed herein an improved drying arrangement particularly adapted for drying dishes, silverware, pots and pans, etc. As disclosed, there is provided a hood member having side walls, end walls and top, and the hood is positionable over, for example, a dishrack in which the material such as dishes, bowls, silverware, pots and pans, etc., may be placed. The hood member is provided with an electrical heater means and an electrical motor-driven air fan means to draw air over the heater means, through an air inlet means in the hood member and into a drying volume in the interior of the hood member. The air, in passing over the heater means is heated. The heated air then flows over the material to be dried in the dishrack and in so doing increases the rate of evaporation of water from the material to dry rapidly the material. Air outlet passages are appropriately provided to allow the continuous flow of air into and out of the drying volume in the hood member.

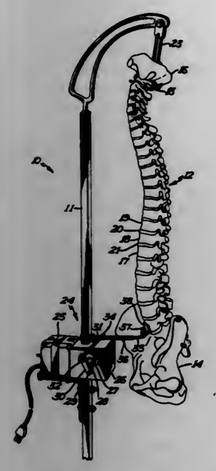
3,513,568
EDUCATIONAL DEVICE
Emir H. Shuford, Jr., 4 Lincoln Terrace, Lexington, Mass. 02173, and Herman Edward Massengill, Jr., 107 Hemlock St., Arlington, Mass. 02174
Filed Aug. 28, 1967, Ser. No. 663,635
Int. Cl. C09b *1/22*
U.S. Cl. 35—8 **8 Claims**

The invention relates to an educational device for use in answering test questions. The device comprises a plurality of superimposed relatively movable plates, each

plate being formed with apertures exposing portions of underlying plates. Each movable plate bears an arc, preferably color coded, representing the degree of confidence which the individual has in the correctness of his answer to a given question and a scoring function which represents the score an individual will receive if a particular answer is correct. Windows formed in the device expose a section of the scoring function and another window exposes portions of an alpha-numerical code corresponding to the graphical display of degree of confidence. Means are provided to prevent interaction between relatively movable plates.



3,513,569
VERTEBRAE STRUCTURE
Thornton D. Heron, Milaca, Minn. 56353
Filed Dec. 29, 1967, Ser. No. 694,701
Int. Cl. G09b *23/32*
U.S. Cl. 35—17 6 Claims

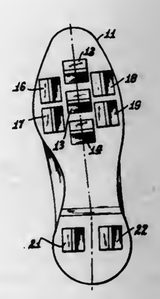


A mechanically actuated spine column or vertebrae structure including a skull base, atlas and a lower pelvic structure, the inter-vertebrae gaps or spaces being provided with a resilient pad for accommodating flexure between mutually adjacent vertebrae in the vertebrae column. The structure is normally disposed in an upright fashion, and motion is imparted to the structure at the lower lumbar zone by means of a reciprocatory rocking arm, the source of motion being coupled to the lower lumbar area at a point which is substantially at the normal center of gravity of the body. This coupling arrangement provides motion in the structure which substantially matches motion of ordinary walking.

3,513,570
SELF-ERASE WRITING SYSTEM
Armand L. Dil Pare, 49 Alexander Ave., Hicksville, N.Y. 11801
No Drawing. Filed June 25, 1968, Ser. No. 739,613
Int. Cl. B43l *1/00*
U.S. Cl. 35—66 23 Claims

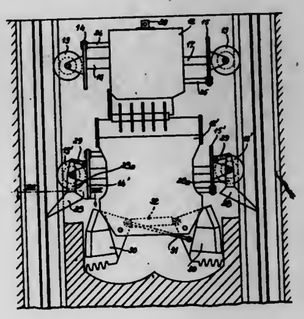
A self-erase writing system is provided by the combination of a temperature controlled writing surface and a writing instrument. The writing instrument may comprise means for applying liquid or a solid to the writing surface, means for removing material from the writing surface, or means for holding and drawing a heated or cooled tip stylus across the surface. By control of the temperature of the writing surface at, below or above ambient temperature the writing can be made to appear, persist or to be erased. By way of example, a writing surface provided with a top porous layer is impregnated with an aqueous solution of cobalt chloride and dried to yield a blue colored writing surface. When a writing instrument provided with water or a dilute aqueous solution of cobalt chloride is employed there results pink markings on the writing surface. Erasure of the pin markings is effected by increasing the temperature of the writing surface so as to vaporize the water or by permitting the water to evaporate at room or ambient temperature. By maintaining the writing surface at a temperature below ambient the writing can be retained for a prolonged period of time. This self-erase writing system is based on the fact that cobalt chloride hexahydrate or an aqueous solution of cobalt chloride is pink in color whereas anhydrous cobalt chloride is blue.

3,513,571
FOOTBALL SHOE
Angelo C. Larcher, 8036 S. Western Ave., Chicago, Ill. 60620
Filed Jan. 31, 1969, Ser. No. 795,646
Int. Cl. A43c *15/00*
U.S. Cl. 36—67 5 Claims



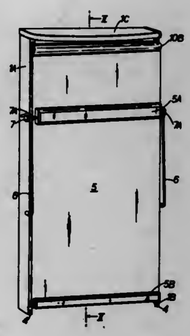
A shoe for athletic wear, such as football shoes, having a unique arrangement of newly formed cleats on its sole designed to afford needed traction without impeding the ability of the shoe to slide over the turf when the wearer is subjected to impact.

3,513,572
EXCAVATING APPARATUS FOR DIGGING TRENCHES
Gabriel Novet, Chindrieux, France, assignor, by mesne assignments, to Stang Cofor Inc., Orange, Calif., a corporation of California
Filed Sept. 1, 1967, Ser. No. 665,171
Int. Cl. E04f *5/10*
U.S. Cl. 37—103 1 Claim



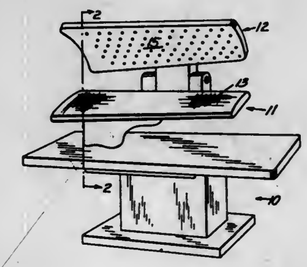
An excavating apparatus for digging trenches between vertical guide rails comprises pairs of lateral rollers urged against the rails by horizontal hydraulic telescoping means, against the action of biasing springs. An excavating blade is pivotally mounted about the axis of each rollers of the lower pair, each blade being hydraulically actuated to remove the portion of the ground or the like not reached by the jaws of the main excavating bucket in the vicinity of the guide rails. Each blade has a central recess to receive the adjacent rail and to act on the sides thereof.

3,513,573
TROUSERS PRESS
Peter J. S. Corby, Windsor, England, assignor to Rondel Limited, Hamilton, Bermuda, a company of Bermuda
Filed Oct. 17, 1968, Ser. No. 768,371
Claims priority, application Great Britain, Oct. 23, 1967, 48,016/67
Int. Cl. A47j *51/00*
U.S. Cl. 38—71 4 Claims



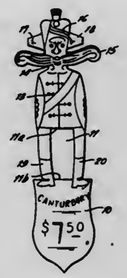
A trousers press has a flexible electrically heatable mat on the surface of one pressing member. The mat is compressible in such a manner that in use thicker portions of the trousers, for instance the side seams, will be accommodated between the facing surfaces of the two pressing members.

3,513,574
FABRIC PRESSING PAD ASSEMBLY
Theodore J. Hobe, Bloomsburg, Pa., and Harris R. Klecker, Overland Park, Kans., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 618,561
Int. Cl. D06f *71/36*
U.S. Cl. 38—66 1 Claim



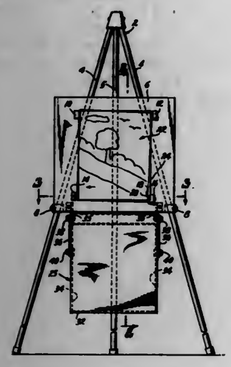
A non-woven lofty open porous mat formed of relatively coarse synthetic polymeric fibers bonded with adhesive at points of contact to define a three-dimensionally extending network of interconnected voids is used as one of the layers in a padded support for either steam or dry fabric pressing operations. The mat readily compresses and promptly returns to substantially its original thickness upon removal of the pressure. Moisture is promptly exhausted through the mat which remains firm and dry.

3,513,575
LABEL FOR BELTS
Barry Schiller, Woodmere, N.Y., assignor to Canterbury Belts Ltd., New York, N.Y., a corporation of New York
Filed July 25, 1968, Ser. No. 747,749
Int. Cl. A44c *3/00*
U.S. Cl. 40—2 3 Claims



A label for belts to be secured to a belt loop. The tag or label may be made of leather and has self locking characteristics to allow it to be placed around a belt loop and attached thereto. The tag has identical containing areas for the display of price and other trade indicia.

3,513,576
CARD EXHIBITOR
Hendrik D. Mugnas, 4104 Wakefield Chapel Road, Annandale, Va. 22003
Filed June 6, 1968, Ser. No. 735,151
Int. Cl. B42f 17/00
U.S. Cl. 40—78.03 8 Claims



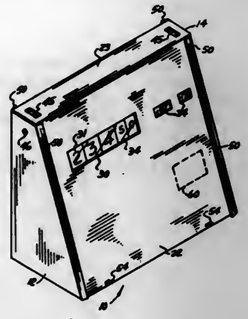
A plate having shoulders for positioning a stack of cards for exhibition when the cards and plate are in a generally upright position with only one lower corner of the stack resting on a horizontal shoulder from which the top card may be slid to permit it to drop into a receiver. The receiver and plate are pivotally joined for folding to a compact configuration and, when in use, the receiver positioned to insure positioning the cards therein in a desired order, either the same order in which they were arranged in the stack or in the reverse order.

3,513,577
SIGN HAVING ADJUSTABLE BAND
Paul Kleinman, Bedford, N.Y. 10516
Filed Feb. 16, 1968, Ser. No. 706,111
Int. Cl. G09f 11/29
U.S. Cl. 40—86 3 Claims



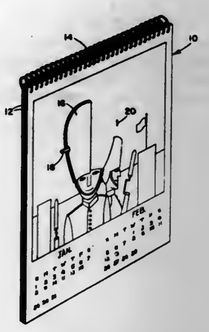
A sign comprising a housing having a transparent front section of U-shape in cross section. A rear section is secured to said front section and has a central portion arranged in close proximity to the front section defining a guideway. The rear section has a pair of angle portions integral with the central portion defining in conjunction with the front section a pair of chambers. A pair of plates are disposed on opposite ends of the housing. A pair of shafts are rotatably mounted in the plates with the shafts extending through the chambers. A sign band of stressed self-winding material is secured at its ends to the shafts and has a portion in the guideway. Knob means are provided for selectively rotating the shafts for bringing a selected portion of the band into the guideway for permitting observation thereof through the transparent front section.

3,513,578
PRICE INDICATOR
Robert J. Slavsky, Lathrop Village, Mich., assignor to Shaw & Slavsky, Inc., Detroit, Mich.
Filed June 26, 1968, Ser. No. 740,258
Int. Cl. G09f 11/26
U.S. Cl. 40—96 3 Claims



A price indicator comprising a foldable blank, folded into a truncated triangular tube having open ends and upright front and rear walls with the front walls having display openings behind which are and may be moved endless digit bearing pricing rolls or strips.

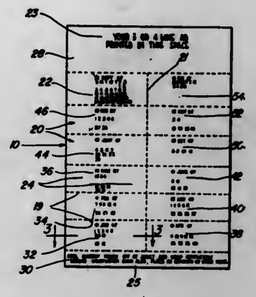
3,513,579
CALENDAR WITH PICTURE COMPLEMENT
John R. Christensen, P.O. Box 2382, Green Bay, Wis. 54306
Filed Dec. 29, 1967, Ser. No. 694,483
Int. Cl. G09f 11/06
U.S. Cl. 40—102 1 Claim



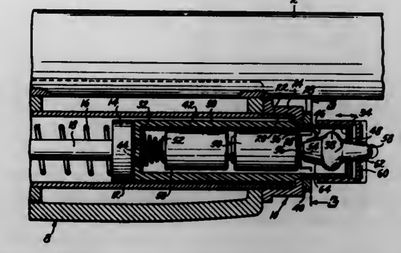
A calendar with a plurality of pages, each page having a picture thereon and a paper honeycomb complement to the picture which is foldable from a storage position substantially coplanar with the page to a display position projecting from the page.

3,513,580
LAMINATED DISPLAY FORM
Tom J. Agres, 143 N. Harvey, Oak Park, Ill. 60302
Filed Nov. 1, 1967, Ser. No. 679,690
Int. Cl. G09d 3/00
U.S. Cl. 40—107 4 Claims

A sheet of metallic foil has a pressure sensitive adhesive affixed to a first surface thereof. Discrete displays are printed on a second surface of the metallic foil, and a layer of clear plastic is laminated over the second surface of the foil. The composite laminated form is divided into severable sections, each of which contain one of the discrete displays appearing on the metallic foil. A backing material is placed over the adhesive on the first surface of the metallic foil to normally prevent the display form from adhering to another surface but providing for a selected section to be stripped therefrom for removable attachment to an appropriate support member.



3,513,581
FLASHLIGHT ATTACHMENT FOR GUNS
Olin Slater, 2412 Eagle Drive, Augusta, Ga. 30906
Filed June 4, 1968, Ser. No. 734,425
Int. Cl. F41c 27/00
U.S. Cl. 42—1 4 Claims



An insulated housing is mounted in and its major portion enclosed by the front end of the cartridge magazine of a shotgun. The magazine cap is drilled to receive and retain the housing in place. Batteries and a light bulb in the housing are spring-urged forwardly to break an electrical circuit and a perforated front housing cap, forwardly of the magazine, embraces the tip of the bulb and can be threaded rearwardly on the housing to close the electrical circuit through the batteries and bulb.

3,513,582
FISHING ROD
Andre Carabasse, 22 Rue Rouget de l'Isle, Saint-Prix, France
Filed Aug. 29, 1968, Ser. No. 756,213
Claims priority, application France, Sept. 1, 1967, 119,763
Int. Cl. A01k 87/00, 87/04
U.S. Cl. 43—18 11 Claims

A fishing rod or fishing rod section which is hollow and which has internally an element of lattice form and of a water-repellent material for guiding a fishing line through the interior of the rod or rod section. The element has annular ribs and grooves extending longitudinally of the rod or rod section and is of hollow cylindrical shape.



3,513,583
ATTACHING MEANS WITH RELEASABLE SECURING TAB FOR EXPENDABLE SINKER
Neil A. Leash, 8212 Valewood Court, Orangevale, Calif. 95662, and Kenneth H. Leash, 2204 NE. 7th Ave., Portland, Oreg. 97212
Filed Sept. 16, 1968, Ser. No. 759,849
Int. Cl. A01k 95/00
U.S. Cl. 43—43.12 2 Claims

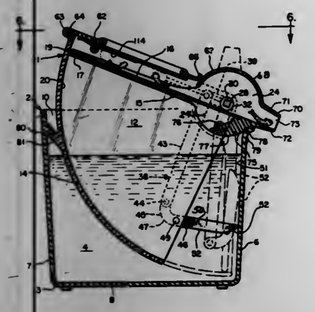


An adhesive coated tape element capable of being quickly attached to an expendable sinker and provided with a releasing tab extending therefrom for securing the element and attached sinker to a fishing line. The tab is formed of material having adequate tensile strength when dry but which decomposes upon contact with water to release the sinker from the line.

3,513,584
FISHING BUCKET
Norman W. Donner, 5409 S. Laflin St., Chicago, Ill. 60609
Filed Dec. 13, 1968, Ser. No. 783,648
Int. Cl. A01k 97/04
U.S. Cl. 43—56 7 Claims

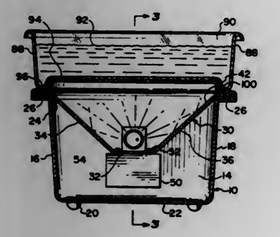
A fishing bucket comprising outer and inner containers having a screen swingable on the inner container between a lowered position within the container and an inclined position out of the outer container to surface the bait,

the invention being disclosed in several embodiments each providing means for tilting the screen to net the minnows in the bucket, one of these tilting means being a handle operated linkage carried on the inner container



and reactable against the outer, and the other two embodiments utilizing a return spring arrangement and the user tilting the screen by downwardly swinging the nozzle to which the screen is attached.

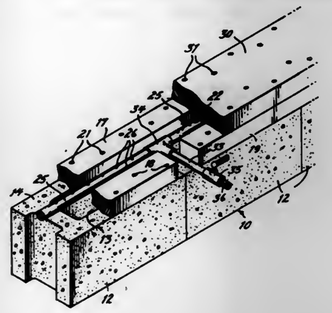
3,513,585
INSECT TRAP
John A. Ross, Winthrop Harbor, Ill., assignor to Hall Industries, Inc., North Chicago, Ill., a corporation of Illinois
Filed Feb. 17, 1969, Ser. No. 799,746
Int. Cl. A01m *1/04*
U.S. Cl. 43—113 11 Claims



A device to attract and kill flying insects wherein rays of light, both reflected and direct, are transmitted upwardly through the surface of a liquid contained in an open-topped receptacle of transparent material nested at its bottom periphery upon a top closure plate, also transparent, the closure plate having a double curved flange encompassing and holding a lower reflector plate within a weatherproof bottom closure or housing for the light source and the electrical connections.

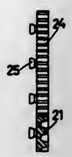
3,513,586
VERMIN-PROOF BUILDING FOUNDATION
George F. Meyer, 225 Hawthorne Ave., Haddonfield, N.J. 08033, and James Gushue, Memosa Lakes, Medford, N.J. 08055
Filed Oct. 1, 1968, Ser. No. 764,264
Int. Cl. E04b *1/72*; E04h *9/16*
U.S. Cl. 43—124 6 Claims

A foundation including an upper coarse of open blocks, laterally spaced elongate support members on said blocks, a plate extending along and superposed on said support members, and a distribution conduit extending along and within the space between said support members, blocks



and plate for distributing an insecticide to the interior of the foundation.

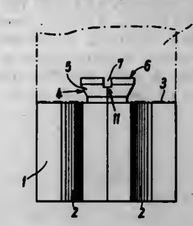
3,513,587
CONSTRUCTION KIT INCLUDING TOOTHED RACK ELEMENT
Artur Fischer, 133 Grunmettstetterstr., 7241 Tumlingen, Germany
Filed Jan. 11, 1967, Ser. No. 608,706
Claims priority, application Germany, Jan. 18, 1966, F 48,192
Int. Cl. A63h *33/00*
U.S. Cl. 46—16 14 Claims



The present invention provides a toothed rack in an assembly kit comprising structural elements with elongated undercut grooves or with male coupling portions having a wider head and a narrower neck connecting the head to the respective structural element. The toothed rack is elongated and comprises at least one row of gear teeth, cooperating coupling portions for connecting to said elements to operate as a rack or to be utilized as an additional structural element.

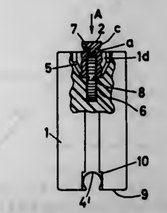
3,513,588
TOY ASSEMBLY KIT
Artur Fischer, 133 Grunmettstetterstrasse, 7241, Tumlingen, Kreis Freudenstadt, Germany
Filed Jan. 9, 1968, Ser. No. 696,543
Claims priority, application Germany, Jan. 25, 1967, F 51,342
Int. Cl. A63h *33/08*
U.S. Cl. 46—25 9 Claims

In a toy assembly kit a building block comprises a rigid carrier having an exposed surface, and a coupling projection extending outwardly from this surface. The coupling projection is of polygonal cross-sectional configuration and is undercut intermediate the exposed surface of the rigid carrier and a free end face of the coupling projection remote from this exposed surface. The free end face is provided with a transversely extending slot having a depth in the direction towards the exposed surface which



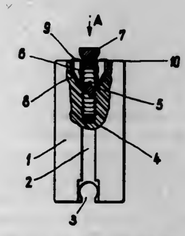
is a fraction of the distance between the latter and the free end face.

3,513,589
BUILDING TOY WITH RIGID CARRIERS PROVIDED WITH COOPERATING UNDERCUT MALE AND FEMALE COUPLING PORTIONS
Artur Fischer, 133 Grunmettstetterstrasse, 7241 Tumlingen, Germany
Continuation-in-part of application Ser. No. 545,025, Apr. 25, 1966. This application May 31, 1966, Ser. No. 553,845
Claims priority, application Germany, June 4, 1965, F 46,256
Int. Cl. A63h *33/08*
U.S. Cl. 46—25 13 Claims



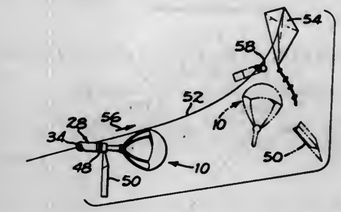
A building block has a rigid body portion provided with an exposed face. A coupling portion is carried by the body portion projecting outwardly from the exposed face. The coupling portion decreases in cross-section toward the face and is bounded by a peripheral surface composed of a plurality of identical facets.

3,513,590
BLOCKS CONNECTABLE BY LATERAL SLIDING, INCLUDING MEANS FOR REDUCING SLIDING CONTACT
Artur Fischer, 133 Gruenmettstetterstrasse, 7241 Tumlingen, Kreis Freudenstadt, Germany
Filed May 29, 1967, Ser. No. 641,820
Claims priority, application Germany, June 4, 1966, F 49,391
Int. Cl. A63h *33/08*
U.S. Cl. 46—25 20 Claims



A construction toy kit having blocks with mating undercut heads and grooves. The blocks are connected by lateral sliding of a head into a groove, and include contact-reducing means projecting from the block face adjacent the head for preventing surface-to-surface contact of the face with a similar face on an other building block in response to mating engagement of the coupling means with complementary coupling means provided on such other building block.

3,513,591
TOY PARACHUTE
Woodrow C. Hansen, 2819 Lucena Drive, San Jose, Calif. 95132
Continuation-in-part of application Ser. No. 550,345, May 16, 1966. This application Mar. 17, 1967, Ser. No. 623,888
Int. Cl. A63h *33/20*
U.S. Cl. 46—86 4 Claims



Resilient shroud lines maintain a sheet in an extended position to form a toy parachute which is connected to a kite guide line by a separable link. A friction grip joint holds one link section to another link section as the parachute is carried aloft by the wind and the link sections separate when the pull of the wind overcomes the friction grip.

3,513,592
TOY VEHICLE, ESPECIALLY RAILWAY TOY VEHICLE
Max Ernst, Lohengrinstr. 14, Nuremberg, Germany
Filed July 31, 1967, Ser. No. 657,314
Claims priority, application Germany, Aug. 9, 1966, E 32,246
Int. Cl. A63h *19/05*
U.S. Cl. 46—216 7 Claims

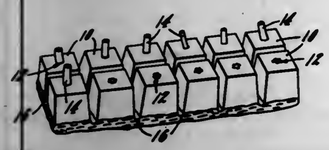


A two-sectional toy or model railroad freight car which according to the invention comprises two identical sections arranged as an image to each other while a bearing stool with a wheel axis is interposed between and on opposite sides of said wheel axle is pivotally connected to said car sections. In addition thereto additional pivot means common to and in pivotal engagement with both of said car sections is guided in said bearing stool intermediate said first-mentioned pivotal connections of the car sections with said bearing stool in the direction of the longitudinal extensions of the wheel axle on said bearing stool.

3,513,593
SYNTHETIC SOIL BLOCK WITH RECESS
Gail Edwin Beck, Madison, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 14, 1967, Ser. No. 667,758
Int. Cl. B65d *85/50*; A01g *9/02*
U.S. Cl. 47—34.13 8 Claims

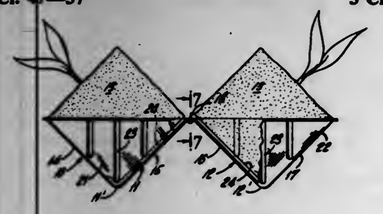
In a soil substitute or plant growth medium adapted to be formed into self-supporting shapes, a recess in the medium for receiving and surrounding the stem of a plant

cutting for propagation thereof is provided with rib-like projections arranged in a manner tending to maximize



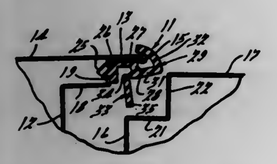
the range of cutting sizes and configurations which can be accommodated and propagated therein.

3,513,594
CONTAINER FOR PREFORMED CUBES OF SOIL FOR PLANTS
Arthur Hasselbach, P.O. Box 336, Cranbury, N.J. 08512
Filed Aug. 31, 1967, Ser. No. 664,883
Int. Cl. B65d *11/18*; A01g *9/10*
U.S. Cl. 47—37 3 Claims



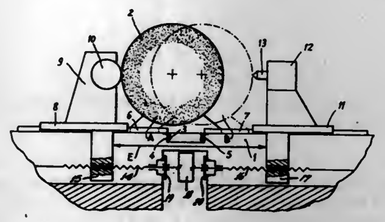
A container for preformed cubes of soil for growing plants and formed of two triangular sections interconnected one to the other and which sections are movable from a position with the longitudinal edges coplanar to a position forming a substantially rectangular container for holding at least two rows of cubes.

3,513,595
DOOR EDGE GUARD
John C. Mills, St. Clair Shores, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 6, 1967, Ser. No. 688,478
Int. Cl. B60j *5/100*
U.S. Cl. 49—462 1 Claim



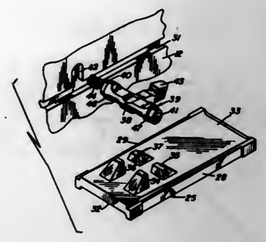
A unitary door edge guard of a resilient plastic material preformed to have a protective portion adapted to project over the hem flange edge of the free edge wall of a vehicle door in an opened position of the latter. Pressure transmitting means engageable with a vehicle body member causes retraction of the protective portion to a concealed position behind the hem flange of the door in closed position of the latter.

3,513,596
GRINDING MACHINES WITH GRINDING-WHEEL WEAR COMPENSATING DEVICE
Jean Beauchet and Georges Garcin, Annecy, France, assignors to Societe Nouvelle de Roulements, Annecy, Haute-Savoie, France, a corporation of France
Filed Dec. 8, 1967, Ser. No. 689,176
Int. Cl. B24b *7/00*, *49/00*
U.S. Cl. 51—5 3 Claims



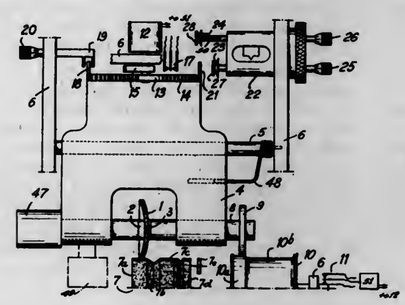
Grinding machine equipped with a diamond-type trueup for compensating the wear of the grinding wheel, which comprises on the frame structure of the machine a grinding-wheel supporting head, a workpiece support and a diamond carrier, characterized in that said workpiece support and said diamond carrier are on the one hand movably mounted on said frame structure on either side of the grinding wheel and in the plane of rotation of this wheel, and on the other hand operatively and separately connected to a common control mechanism capable of producing their symmetrical feeds or displacements, said mechanism being driven from a single control member.

3,513,597
LOCKING BLADE FOR CENTRIFUGAL BLASTING WHEEL
John E. De Groot and Bernard Fuerst, Grand Rapids, Mich., assignors to The Wheelabrator Corporation, Mishawaka, Ind., a corporation of Delaware
Original application Feb. 1, 1965, Ser. No. 429,281, now Patent No. 3,352,064, dated Nov. 14, 1967. Divided and this application July 10, 1967, Ser. No. 652,137
Int. Cl. B24c *3/00*
U.S. Cl. 51—9 1 Claim



The invention is addressed to a blade for a centrifugal blasting wheel formed of a pair of axially spaced wheel members joined one to another with radial grooves extending in parallel relationship along the inner faces of the wheel members for receipt of radially extending blade members over which particulate material is displaced during rapid rotational movement of the wheel. The improvement resides in a means for releasably securing the blades in position of use in the wheel comprising radially spaced abutments the outermost of which is at a higher level than the innermost with a member mounted for rotational movement between the wheels having a central eccentric or cutoff portion adapted to enable the innermost abutment to pass thereunder when in unlocking position and to block the innermost abutment from passage thereunder when in locking position to provide means for releasably securing the blade in position of use with the outermost abutment dimensioned to engage said locking device independent of its position to establish the inserted position for the blade. A further important feature resides in a radially extending arm integral with the locking member centrifugally to urge the locking member in locking position responsive to rotational movement of the wheel thereby to prevent inadvertent release of the blade during operation of the wheel.

3,513,598
SPECTACLE-LENS TRIMMING, BEVELLING AND GROOVING MACHINES
Robert Raymond Maurice Asselin, 10 Rue Magenta, and Pierre Henri Leon Asselin, 61 Rue Poussin, both of Elbeuf, Seine Maritime, France
Filed Mar. 7, 1967, Ser. No. 621,256
Claims priority, application France, Mar. 7, 1966, 52,307
Int. Cl. B24b *9/14*
U.S. Cl. 51—101 14 Claims



An automatic machine for grinding spectacle lenses comprises, on one hand, a carriage pivotally and slidably mounted on a fixed shaft and supporting a positively rotated lens and template and, on the other, a feeler against which the template butts when the lens has acquired the required shape and size. The feeler is movably mounted for displacement by the template when the latter contacts it, and it cooperates with control means actuating a member which causes the carriage to rotate and translate with respect to the fixed shaft in order to move the lens out of contact with the grinding tool and fetch into an adjacent position.

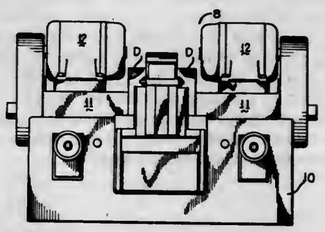
3,513,599
MOUNTING MEANS FOR KNIFE SHARPENER STONE
Frederick M. Hubrich, Newark, Del., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed July 20, 1967, Ser. No. 654,725
Int. Cl. B24b *3/54*
U.S. Cl. 51—128 3 Claims

A blade sharpening device in which the grinding wheel is mounted on a driven shaft which is within a hollow drive shaft. A slip clutch in the form of a spring clip maintains the driven and driving shafts together. When excessive pressure is applied to the grinding wheel which is mounted on the driven shaft, it slips thereby preventing a blade from being damaged because excess pressure



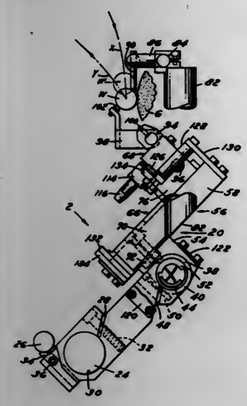
overcomes the spring pressure exerted against a flat on the driven shaft.

3,513,600
STEPPING MOTOR CONTROL PROVISIONS FOR MACHINE TOOL FEED MECHANISM
Elman R. Dunn, Roscoe, Ill., assignor, by mesne assignments, to Litton Industries, Inc., a corporation of Delaware
Filed June 14, 1967, Ser. No. 646,107
Int. Cl. B24b *51/00*
U.S. Cl. 51—165 13 Claims



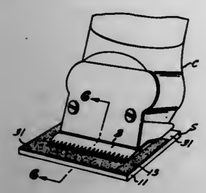
This disclosure relates to means for advancing and retracting movable elements in a machine tool including the abrasive disc or discs of a disc grinder. A stepping motor is connected to the feed mechanism of the movable machine tool elements. The stepping motor includes two windings for either continuous or intermittent rotation of a feed screw. The means for controlling the intermittent rotation of the motor includes a plurality of limit switches arranged for operation by a multiple lobe cam. The cam is driven by a motorized gear reduction unit which includes a clutch and brake mechanism. Disengagement of the clutch and operation of the brake stops rotation of the cam. The motor may be actuated to provide continuous rotation to the cam to thereby provide a continuous series of steps by the stepping motor for rapid incremental movement of the movable machine tool element toward or away from its operative position. The cam operating motor, brake and clutch combination may be actuated to produce an indefinite number of continuous steps or a predetermined number of steps or a single step of the stepping motor, in either direction of rotation.

3,513,601
GRINDING GAUGE
James C. Fisk, G-3219 E. Bristol Road, Flint, Mich. 48507
Filed Nov. 29, 1967, Ser. No. 686,638
Int. Cl. B24b *49/00*
U.S. Cl. 51—165 10 Claims



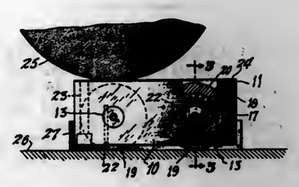
A grinding gauge for fixed mounting on a grinding machine to effect a gauging function on a workpiece during the grinding operation and enabling loading and unloading successive workpieces to be ground without moving the gauge to permit entry and exit of workpieces, the gauge including a base fixed to the machine, a gauge body mounted on the base for limited pivotal movement with respect thereto, and a pair of workpiece engaging contacts mounted on the body, one such contact coupled to mechanism for sensing variations in the size of the workpiece. Advantageously the contacts are positioned one slightly above and one slightly below the line forming a common diameter of workpiece and grinding wheel, whereby the contact adjacent the grinding wheel clears the wheel when in grinding position, yet permits ingress and egress of workpieces along an essentially vertical path, without movement of the entire gauge when the grinding wheel is retracted from the workpiece.

3,513,602
CLIPPER BLADE SHARPENER
Charles S. Fisher, 10101 Adams, Huntington Beach, Calif. 92646
Filed Oct. 30, 1967, Ser. No. 679,130
Int. Cl. B24b *19/00*
U.S. Cl. 51—241 1 Claim



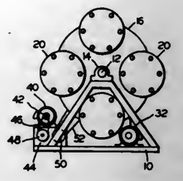
A clipper blade sharpener to be substituted for a first blade of a pair of clipper blades for sharpening the second blade of the pair of blades. The sharpener includes a base plate of substantially the same thickness as the first blade of the pair of blades. The plate includes a flat surface and an abrasive sheet is removably affixed thereto. Means are provided for attaching the plate to the clippers whereby the first blade of the pair of clipper blades can be removed, the sharpener substituted therefor, and the clippers operated to cause relative reciprocation between the abrasive sheet and the second blade.

3,513,603
METHOD OF TRUEING ROLLER BEARINGS IN A BLOCK ASSEMBLY
Robert W. Farmer, Livingston, N.J., assignor, by mesne assignments, to Raritan Bearing Corporation, a corporation of Delaware
Filed Mar. 4, 1968, Ser. No. 710,009
Int. Cl. B24b *1/00*
U.S. Cl. 51—323 2 Claims



A pair of anti-friction roller bearings is supported transversely between a pair of side walls which have substantially parallel flat top and bottom faces. The bearings have outer raceways whose outer diameters are such that a transverse plane common to either the top or the bottom faces of the side walls passes through both outer raceways as a chord thereof; so that a portion of each outer raceway extends outwardly beyond the chordal plane and provides the load bearing contact surface of the bearing. In order to insure distribution of load uniformly over the bearings, the points of contact of the outer raceway bearing surfaces with the planar face of a track, rail, machine way or the like must lie in a plane that will be common to the plane of the face of the rail, track, or way over which the bearings roll in linear motion. This is accomplished by anchoring the assembly on a flat, planar surface with the outer raceways of both bearings firmly in contact therewith. The then uppermost edge faces of the side walls are ground to present plane surfaces common to a plane that is parallel to the surface plane of the surface on which the outer races of the bearings are seated during the grinding operation.

3,513,604
HIGH SPEED SURFACE FINISHING METHOD
Masahisa Matsunaga, Tokyo, and Hisamine Kobayashi, Nagoya, Japan, assignors to Kabushiki Kaisha Shikishima Tipton, Nagoya, Japan
Filed Nov. 22, 1967, Ser. No. 685,028
Claims priority, application Japan, Nov. 26, 1966, 41/77,653
Int. Cl. B24b *1/00*
U.S. Cl. 51—313 5 Claims



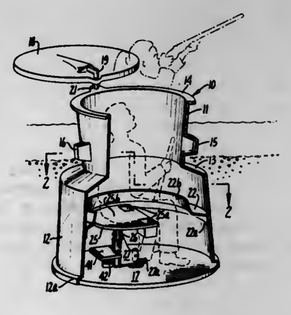
Within a barrel having an internal cross section in the shape of an equilateral polygon having from five to eight sides there is loaded a mixture of workpieces and abrasives in an amount equal to approximately a half of the internal volume of the barrel. The barrel is rotated in one direction about its own axis with the number n of rotation in a unit time and simultaneously revolved in the opposite direction about a fixed axis parallel to and positioned a distance R from the axis of the barrel with the number N of revolution in the same unit time where R is greater than a radius r of a circle inscribed in the polygon. Using a Cartesian orthogonal coordinate system

$$(R/r,\ n/N)\ \frac{R}{r} \text{ and } \frac{n}{N}$$

are selected to meet the following relations

$$-1 > \frac{n}{N} \geq -0.3\frac{R}{r} - 1 \text{ and } 1.5 \leq \frac{R}{r} \leq 8$$

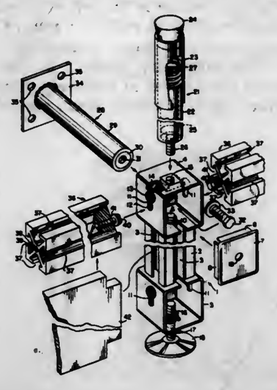
3,513,605
HUNTING BLIND CONSTRUCTION AND ADJUSTABLE SEAT
Henry A. Smith, 399 Western Drive, Richmond, Calif. 94801
Filed Apr. 22, 1968, Ser. No. 723,202
Int. Cl. A01m *31/02*; A47c *3/34*
U.S. Cl. 52—20 21 Claims



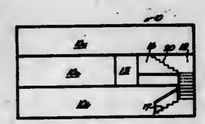
A hunting blind of substantially circular construction having integrally formed upper and lower sections, the lower section being of greater interior circumference than the upper section, said blind having a construction that provides both comfort and adequate concealment with ease of entry and exit, and includes means for effectively heating the blind, a pivoted cover, foothold supports, a circular shelf and an orbital seat that may be selectively adjusted in height and pivoted to permit scanning of the entire horizon.

3,513,606
STRUCTURAL FRAMEWORK AND CONNECTOR JOINT THEREFOR
Vernon H. Jones, Cuyahoga Falls, Ohio (2553 Falmouth Road, Akron, Ohio 44313)
Filed Feb. 21, 1968, Ser. No. 707,209
Int. Cl. E04h *17/16, 17/18*
U.S. Cl. 52—27 6 Claims

A versatile joint structure for removably fastening together a structural framework which can be assembled in various combinations with panels to create removable walls, partitions, furniture, display fixtures, shelving racks, exhibits, sign frames and the like, all of which are neat and attractive in appearance and yet may be easily assembled and later disassembled for moving and reuse elsewhere with a minimum time and effort. This structure is comprised primarily of a number of frame members of rectangular cross-section joined together at their ends by hollow rectangular junction boxes, each box having specially contoured holes in its walls for receiving bolts or screws which are threaded into the ends of the frame members. The frame members are contoured to receive and support panels, shelves, and miscellaneous brackets and fixtures.



3,513,607
MODULAR HIGH RISE BUILDING CONSTRUCTION
Hector N. Renes, 3650 Edwin Ave., Apt. 1C, Fort Lee, N.J. 07024
Filed Aug. 20, 1968, Ser. No. 754,057
Int. Cl. E04f *11/00*; E04h *1/04*
U.S. Cl. 52—79 8 Claims



A high rise building construction utilizing a plurality of vertically and/or horizontally joined modules, each module of which comprises a plurality of suites on three or more floor levels. An end-to-end corridor on the intermediate floor level provides direct access to suites on the floor through appropriate doorways and access to relatively upper and lower suites by means of stairways terminating in foyers entered through doorways leading from the intermediate floor level corridor. In a vertically arranged system of such modules corridor ends are vertically aligned for service by a common elevator.

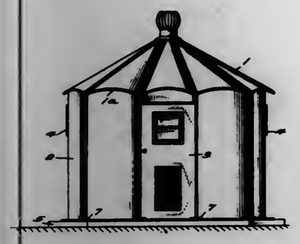
ERRATUM

For Class 52—187 see:
Patent No. 3,513,547

3,513,608
CURVILINEAR PREFABRICATED BUILDING WITH CONICAL ROOF
Walter Nagrod, Alexandria, Va. (7804 Atwood St., Apt. 5, District Heights, Md. 20028)
Continuation-in-part of application Ser. No. 652,873, July 12, 1967. This application Nov. 20, 1968, Ser. No. 778,019
Int. Cl. E04b *7/00*
U.S. Cl. 52—82 3 Claims

This invention is directed to a house of relatively simple construction for quick installation and for temporary

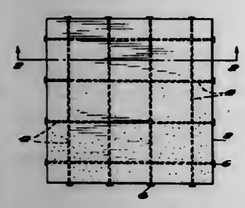
or permanent use, the elements of which lend themselves to easy construction and a composite building when completed which possesses inherent strength and resistance to storm elements. Each house is formed of a series of side panels extending upward with the lower ends of the panels secured to a base and each panel secured to its adjacent side member. The panels are peculiar in that they can be and preferably are formed of relatively thin flat sheets possessing natural rigidity, which sheets are, while being



incorporated in the house, subjected to tension providing them with lateral curvature with the result that the assembly of the upright side panels provides a series of arcuate panels, the total assembly of which possesses strength and resistance to storms and lateral movement.

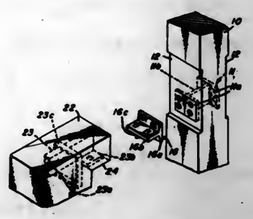
The panels, together with the holding members preferably of extruded aluminum, which receive and embrace the side edges of the panels to hold the panels under tension, embody a vital feature of the invention.

3,513,609
TENDONS FOR POST-TENSIONED CONCRETE CONSTRUCTION
Frederic A. Lang, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 623,709, Mar. 16, 1967. This application Mar. 13, 1968, Ser. No. 712,796
Int. Cl. E04c *3/10, 3/18, 5/01*
U.S. Cl. 52—230 **11 Claims**



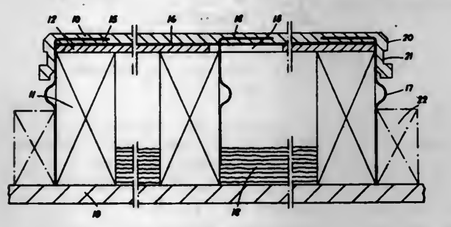
A tendon composed of a single wire coated with a uniform tight coating of plastic material having a low friction interface between the wire and the coating or a plurality of such tendons integrated in a common plane is used for post-tensioning concrete. An anchoring system is provided wherein the end of a post-tensioned tendon extending from a concrete structure is encased in a metallic sheath and the sheath is crimped in a series of reversals of increasing angularity in the direction away from the concrete structure. An alternative tendon-anchoring system is provided wherein a curable plastic material is present between wire and coating, which is cured while the wire is held under tension to anchor the wire to the coating and thus to the concrete structure along the length of the wire.

3,513,610
CONCRETE STRUCTURAL MEMBER, FRAMEWORK STRUCTURE, AND CASTING METHOD
Derek K. Devonport, East Bridgford, England, assignor to Trent Concrete Limited, Colwick, Nottingham, England
Filed Feb. 8, 1967, Ser. No. 614,631
Claims priority, application Great Britain, Feb. 26, 1966, 8,552/66
Int. Cl. E04b *1/00, 5/00, 7/00*
U.S. Cl. 52—283 **3 Claims**



A reinforced concrete structural member, such as a pillar or beam, has a cast-in metal connection element which is contained wholly within the cross-section of the member and has a face, whereat it is pierced with connection holes, exposed at an exterior surface of the member. In the case of a pillar, the connection element is cast-in at a required height and has flanges, with their faces exposed, connected by webs within the concrete and pierced with bolt holes. In the case of a beam, the latter has a rebate at its end providing a horizontal undersurface at which the said face of the element is exposed. In a framework structure built up of these pillars and beams, each beam end is secured to a pillar by means of a beam-support bracket having a flange bolted to a flange of the connection element of the pillar and having a web bolted to, and underlying, the exposed face of the connection element of the beam. In manufacture of such a structural member, the latter is cast in an open trough-like mould of adjustably-determined length in which the connection element is disposed, at the required location, in face contact with a wall of the mould.

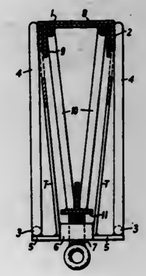
3,513,611
BUILDING UNIT WITH A RESIN LAYER AND A FIRE-RESISTANT LAYER
William James Old, Northwood, England, assignor to William Old (Resiform) Limited, North Harrow, Middlesex, England, a British company
Filed Aug. 7, 1968, Ser. No. 750,932
Claims priority, application Great Britain, Aug. 7, 1967, 36,209/67
Int. Cl. E04c *2/26*; E04b *1/74*
U.S. Cl. 52—309 **18 Claims**



A building unit comprises a layer of glass-fiber reinforced synthetic resin and a layer of fire-resistant sheet material, the layer of fire-resistant sheet material overlying, but not directly secured to, one surface of the layer of glass-fiber reinforced synthetic resin. Support means

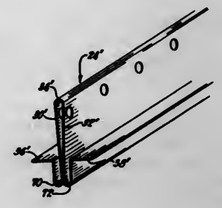
engage the side of the fire-resistant sheet material remote from the layer of resin and bracket means connect the layer of resin to the support, said bracket means being so arranged as to permit expansion of the glass-fiber reinforced synthetic resin.

3,513,612
EXTENSIBLE BEAM
Louis Alziari, 25 Boulevard Carabacel, Nice, Alpes Maritimes, France
Filed July 17, 1968, Ser. No. 745,492
Claims priority, application France, July 19, 1967, 8,617
Int. Cl. E04c *3/04*; E04h *11/54*
U.S. Cl. 52—632 **2 Claims**



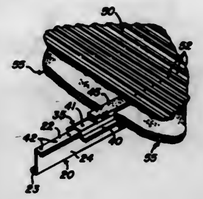
In an extensible beam, a cross-member carrying means for tightening against an extension slidable within the beam proper is positioned intermediately on a resilient cross-member of the beam, and ties connected to the end of an upper chord of the beam are connected to the tightening means so that forces acting on the tightening means are transmitted directly to the ties, but through resilient means to the remainder of the beam.

3,513,613
FILM FACED FIBROUS BODY AND APPARATUS FOR SUPPORTING THE SAME
Isaac Palmer Jones, Homer W. Duffee, Daniel A. McCartan, and John W. Reid, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Continuation of application Ser. No. 435,492, Feb. 26, 1965. This application Jan. 31, 1968, Ser. No. 702,131
Int. Cl. E04b *5/52*
U.S. Cl. 52—222 **1 Claim**



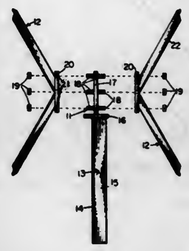
A support system for a monolithic appearing surface comprised of a series of grid-like supporting members with oppositely projecting flange means to be received within kerfed edges of associated panels and clamping means for receiving free film edges which extend beyond the main body of the panels.

3,513,614
METHOD FOR CONSTRUCTING AN INSULATED ROOF STRUCTURE
James D. Studzinski, Dayton, Ohio, assignor to Illini Building Systems, Inc., Dayton, Ohio, a corporation of Ohio
Filed Feb. 3, 1969, Ser. No. 796,038
Int. Cl. E04b *1/80, 7/02*
U.S. Cl. 52—743 **1 Claim**



A roof structure includes a plurality of parallel spaced elongated purlins, and metal roof panels are secured to the upper surfaces of the purlins. Elastically flexible insulation panels are installed after the roof panels are secured to the purlins and are supported adjacent the underneath surfaces of the roof panels by longitudinally extending cap members mounted on the purlins. The insulation panels may also be supported by insulation strips positioned adjacent the sides of the purlins.

3,513,615
TAKE-APART CUBICAL QUADRANT ANTENNA SPREADER ASSEMBLY
Alva A. Berry, 1339 S. Washington Way, Kennewick, Wash. 99336
Filed Nov. 12, 1968, Ser. No. 774,633
Int. Cl. H01q *1/12*
U.S. Cl. 52—633 **4 Claims**

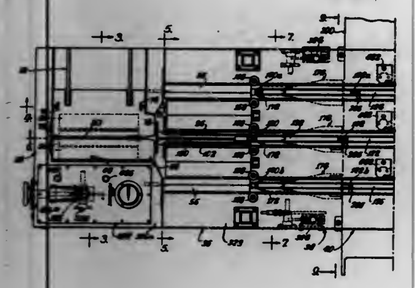


A spider-like structural support for quadrant antennas providing releasably assembliable elements to allow preformation of the structure with later assemblage at the erection site. The invention provides paired opposed support structure for plural parallel spaced quadrant antennas of various resonant wave lengths.

3,513,616
TRANSFER APPLYING METHOD AND APPARATUS
Allan C. Davis, Baltimore, Md., assignor to The Meyercord Co., Wheaton, Ill., a corporation of Illinois
Filed Dec. 13, 1967, Ser. No. 690,346
Int. Cl. B65b *61/20, 43/39, 7/20*
U.S. Cl. 53—3 **56 Claims**

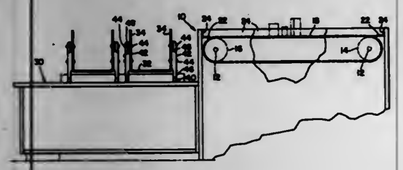
This disclosure relates to a method and apparatus for contemporaneously applying transfers to a plurality of articles, such as packages of cigarettes, within a plurality

of receptacles or cartons. More particularly, this disclosure relates to a method and apparatus for supplying a group of cartons, separating the cartons, opening the cartons



to expose packages of cigarettes within the cartons, applying tax or revenue transfers to the packages of cigarettes, and closing the cartons.

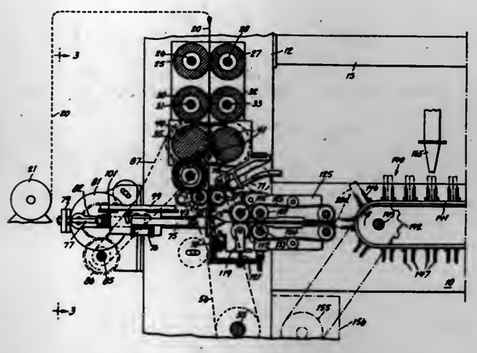
3,513,617
METHOD FOR INTRODUCING A NUMBER OF HETEROGENEOUS ITEMS OF MERCHANDISE SIMULTANEOUSLY INTO A BAG
Albert B. Greenfield, 1311 Huntingdon Pike, Huntingdon Valley, Pa. 19006
Filed May 29, 1967, Ser. No. 641,883
Int. Cl. B65b *67/04, 35/32, 5/06*
U.S. Cl. 53—26 1 Claim



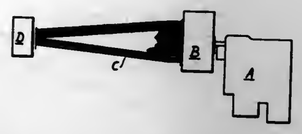
The apparatus includes a receiver, or loader, which is formed of a bottom wall and side walls, with, or without, one end wall, and in which the purchased heterogeneous items of merchandise are stacked to form a "block" or "mould" of a shape which corresponds to the shape of the bag, whereby all of the items can be introduced into the bag simultaneously by merely drawing the bag over the loader and tilting the latter to slide the merchandise into the bag as a unit.

3,513,618
PACKAGING APPARATUS AND PROCESS
George M. Woodruff, Nyack, Oscar W. Stoeckli, Rye, N.Y., and Joseph G. Shando, Dover, Del., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,367
Int. Cl. B65b *41/13*
U.S. Cl. 53—27 23 Claims

The apparatus and process forms, fills with product, seals, and inserts into cartons pouches or carton liners formed from blanks of sheet material severed from a single web of material and feed in parallel through the various processing stages. Each pouch-forming mechanism includes a rectangular forming plunger provided with tucking fingers operating to shape each pouch into a structure having a flat bottom, sides, and ends to result in a more densely packed carton, thereby minimizing the size of a carton required for a predetermined amount of product. This shaping of the pouch also provides sufficient clearance between the pouches of adjacent lanes as to enable multi-lane processing of blanks cut from a single web of pouch material supplying all of the several parallel lanes of the apparatus.

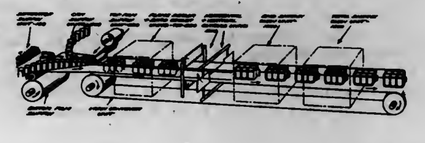


3,513,619
APPARATUS FOR ARRAYING CIGARETTES OR THE LIKE
Horst Kochalski, Hamburg-Lohbrugge, and Ulrich Bornfleth, Hamburg-Bergedorf, Germany, assignors to Hauni-Werke Korber & Co. KG, Hamburg-Bergedorf, Germany
Filed July 13, 1967, Ser. No. 653,234
Claims priority, application Great Britain, July 18, 1966, 32,267/66; Oct. 12, 1966, 45,669/66
Int. Cl. B65b *19/04, 57/20;* B65h *19/12*
U.S. Cl. 53—62 24 Claims



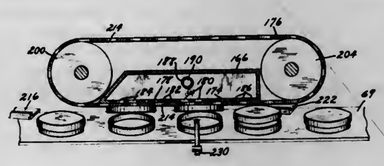
Apparatus which assembles cigarettes or like rod-shaped articles to form arrays which are ready for further processing, particularly in wrapping or packing machines without the interposition of chargers or trays. The apparatus comprises at least one set of pneumatic tubes whose outlets are grouped to discharge successively at least one array of rod-shaped articles at a time, a feed for supplying articles lengthwise into the inlets of the tubes, and receiving means for accepting arrays of articles from the outlets. The feed may include one or more producing machines which can deliver articles directly into the inlets of pneumatic tubes, or a suitable distributing unit which receives articles from one or more producing machines and groups them for simultaneous or sequential admission into pneumatic tubes. The receiving means may include one or more processing machines and/or one or more conveyors which accept arrays from the outlets of pneumatic tubes and convey such arrays to processing machines.

3,513,620
METHOD AND APPARATUS FOR PACKAGING GROUPS OF ARTICLES IN A TUBULAR SLEEVE
John George Selby Billingsley, Newark, and Jack Edgar Colsen, Hockessin, Del., Edward Stanley Pierce, Sinking Spring, Pa., Harold Eugene Ramsey, Palatine, Ill., and Paul Glenn Stephen, Landenberg, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation of application Ser. No. 483,945, Aug. 31, 1965. This application Nov. 12, 1968, Ser. No. 778,360
Int. Cl. B65b *21/24, 35/30, 43/08*
U.S. Cl. 53—26 18 Claims



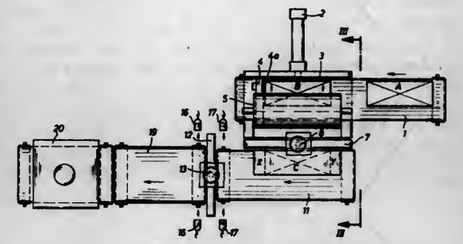
A high speed apparatus and process for continuously automatically packaging groups of articles in a tubular sleeve member, involving continuously conveying a plurality of articles from a first position along a given path to a second position, forming said articles into a series of spaced groups, supplying shrinkable film continuously into operative association with said articles, forming the film into an elongated surrounding envelope around said articles, sealing said film to form a unitary sleeve assembly surrounding said articles, severing said sleeve assembly to form individual groups of articles each enclosed by a tubular sleeve member having open end portions, first shrinking the end portions only of the sleeve member to form at least partial end closures therefrom and then shrinking the entire sleeve member into secure engagement with said articles contained in each sleeve member.

3,513,621
METHOD AND APPARATUS FOR AUTOMATICALLY OPENING, FILLING AND CLOSING RECEPTACLES WITH TELESCOPING COVERS
Alexander R. Chamberlin, Bloomsburg, Pa., assignor to Microbiological Instruments, Inc., Yonkers, N.Y., a corporation of New York
Filed Aug. 31, 1967, Ser. No. 664,762
Int. Cl. B65b *3/04*
U.S. Cl. 53—37 21 Claims



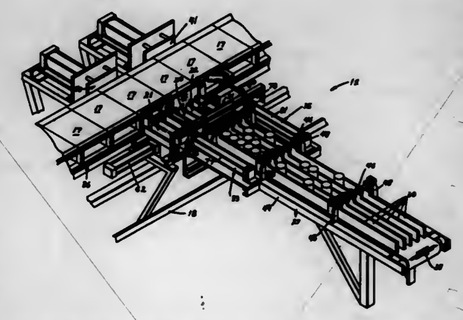
An automatic dish filling machine including dispensing means, conveyance means, independent cover removal, retaining, and replacement means, independently actuated filling means, and malfunction rejection means. The dispensing means places two-part dishes onto the conveyance means. A suction means removes and retains covers of the dishes off the bases for a predetermined period, during which sensing of the presence of the cover actuates the filling means. Upon removal of the suction, the cover is released and is pivotally cammed back on the base. The malfunction rejection means then senses if the proper quantity of media has been placed in the dish, and if the cover has properly reengaged the base.

3,513,622
PACKAGING OF ARTICLES
Karl-Ernst Timmerbeil, Ennepetal 101, Muhlinghausen, Germany
Filed Aug. 3, 1967, Ser. No. 658,133
Int. Cl. B65b *57/74, 11/22*
U.S. Cl. 53—59 5 Claims



In a method and apparatus for wrapping articles in shrinkable thermoplastic foil, the article moves along a first conveyor until it strikes a barrier which triggers a transfer device to displace the article laterally of the first conveyor and onto a second conveyor extending parallel to the first conveyor. Between the first and second conveyors, a curtain of shrinkable thermoplastic foil extends vertically in a plane which is parallel to the direction of the two conveyors. During transfer of the article, the article causes this curtain of foil to wrap around the article, and welding means seal the foil curtain behind the article and also weld together the two ends of the severed curtain. As the article travels along the second conveyor, it intercepts a photoelectric barrier causing welding jaws to clamp and seal the forwardly projecting open end of the foil wrapping, the second conveyor being halted momentarily for this purpose. The article then travels onto a third conveyor forming a continuation of the second conveyor and, as the article clears a second photoelectric barrier on the receiving end of the third conveyor, the welding jaws seal the projecting open trailing end of the foil sleeve. The article then passes through a heating tunnel which causes the foil to shrink tightly around the article.

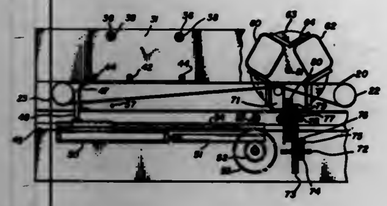
3,513,623
APPARATUS FOR END-LOADING CARTONS
Reinhold A. Pearson, % R. A. Pearson Company, E. 304 2nd Ave., Spokane, Wash. 99202
Filed Nov. 9, 1967, Ser. No. 681,824
Int. Cl. B65b *57/10*
U.S. Cl. 53—61 8 Claims



An apparatus is described for end-loading cans into cartons positioned transversely on a single carton conveyor. The apparatus includes a reciprocable carriage mounted

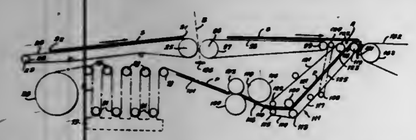
alongside the carton conveyor. A feed conveyor is mounted transverse to the carriage for feeding cans onto the carriage. The carriage has two adjacent load compartments that are alternatively shifted between a loading station and a feeding station. Pusher means are mounted adjacent the loading stations for alternatively pushing loads of cans from the load compartments into cartons positioned adjacent the loading station. The carton conveyor indexes the cartons forward each time the carriage shifts so that one carton conveyor can efficiently service two loading stations. An article holding and separating device is mounted between the feed conveyor and the carriage for holding the can from being fed while the carriage is shifted. The device also moves the forward rank of cans back slightly so that the cans on the carriage are not scraped or damaged by the front rank of cans on the feed conveyor.

3,513,624
MASTER CONTAINER FILLING MACHINE
L. D. Adcox, Monte Vista, Colo., assignor of one-half to John B. Milne, Monte Vista, Colo.
Filed Apr. 15, 1968, Ser. No. 721,476
Int. Cl. B65b *57/14, 5/06;* **B65g** *47/42*
U.S. Cl. 53—62 **20 Claims**



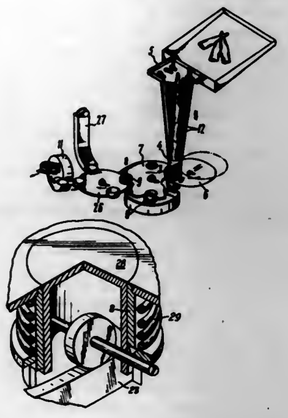
A machine for filling a master container with a plurality of previously filled packages by automatically moving the packages individually or in pairs through passageways and filling spouts constructed to avoid imposing resistance on the packages in their passage to and into the master container. The individual packages may be regular or irregular in contour. Means are provided for speedily handling individual packages instead of accumulating them into heavier and larger units before placement in the master container. The construction permits the use of relatively light power-producing mechanisms not heretofore practical for machines designed for placing accumulated units into a master container. The machine is speedy and compact and portable by manual movement on rollers or casters.

3,513,625
INTERLEAFING SYSTEM FOR SHEET MATERIAL STACKING APPARATUS
Ronald L. Eller and Ronald L. Gowler, East St. Louis, Ill., and Milton Lief, Olivette, Mo., assignors, by mesne assignments, to L. W. Nash Company, East Palestine, Ohio, a corporation of Delaware
Filed Aug. 16, 1967, Ser. No. 661,124
Int. Cl. B65b *11/38;* **B65h** *39/14, 43/08*
U.S. Cl. 53—66 **12 Claims**



Sheet metal stacking apparatus which incorporates a system for automatically unrolling paper from a supply roll in response to the movement of sheet material to be stacked, measuring the paper length to that of the sheet material and cutting the proper length, bringing the cut paper and the sheet material together in a predetermined relationship, and maintaining the sheet material and cut paper in joined relationship until the sheet material has been stacked with the paper therebetween in interleafed order.

3,513,626
DEVICE FOR PUTTING FOOD-STUFFS INTO CANS
Zoya Valentinovna Zhavoronkova, Ulitsa Rimskogo-Korsakova 7, kv. 3; Alexandr Tikhonovich Zatsepilin, Leninsky pr. 57, kv. 1; Robert Konstantinovich Kondrashov, Ulitsa Chernyakhovskogo 74, kv. 4; Vladimir Nikolaevich Korzhov, Ulitsa Chernyakhovskogo 74, kv. 7; Nikolai Fedorovich Slavinsky, Ulitsa Vagonostroitelnaya 45, kv. 11; and Alexei Savelievich Subbotin, Ulitsa Krasnaya 276, kv. 9, all of Kaliningrad, U.S.S.R.
Filed Feb. 28, 1967, Ser. No. 619,246
Int. Cl. B65d *63/00, 63/02;* **B65b** *1/22*
U.S. Cl. 53—123 **3 Claims**

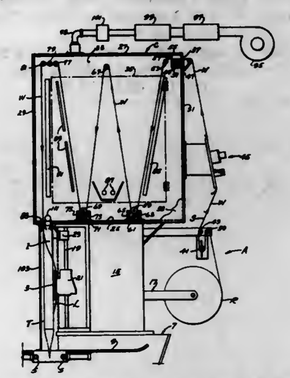


A device for putting fish in cans comprising a charging hopper provided with a vibrating attachment and made up of several pipes to convey the fish into a machine, with the pipes having their lower ends converging towards a calibration sleeve arranged above a turntable which is mounted under the hopper on a vertical shaft with dosing cups arranged along its periphery, and the top ends of the pipes extend to a feeding chute arranged over the hopper.

3,513,627
ASEPTIC PACKAGING
Eugene F. Doucette, Burlington, and Lawrence S. Spiegel, Andover, Mass., assignors to Packaging Frontiers, Inc., Waltham, Mass., a corporation of Delaware
Filed Sept. 1, 1967, Ser. No. 664,966
Int. Cl. B65b *9/12, 31/02*
U.S. Cl. 53—180 **10 Claims**

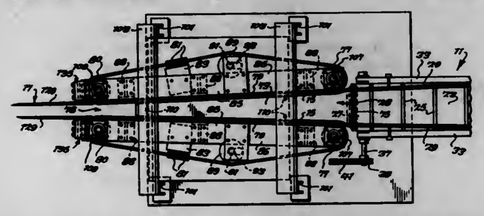
In a form-fill-seal package machine, a web of packaging material being fed to the mandrel of the machine is sterilized as it travels to the mandrel and maintained sterile until it is formed into tubing around the mandrel and until formation of filled sealed packages from the tubing by being passed through a sterilizing chamber, wherein the web is sterilized by treatment with a sterilizing medium the chamber being supplied with a sterile gas under sufficient pressure to prevent room air, which may be unsterile, from entering the chamber. The mandrel is enclosed by a

shroud, and the space in the shroud around the mandrel is supplied with sterile gas from the chamber so as to main-



tain a sterile environment for the forming of the tubing, and the filling and sealing.

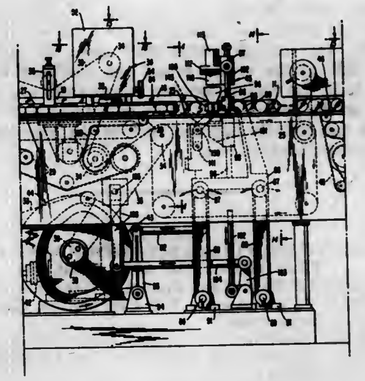
3,513,628
ARTICLE COMPRESSING APPARATUS
Charles A. Lee and Warren R. Furbeck, Knoxville, Tenn., assignors, by mesne assignments, to International Paper Company, New York, N.Y., a corporation of New York
Filed Aug. 22, 1967, Ser. No. 662,404
Int. Cl. B65b *1/20, 13/20, 63/02*
U.S. Cl. 53—124 **14 Claims**



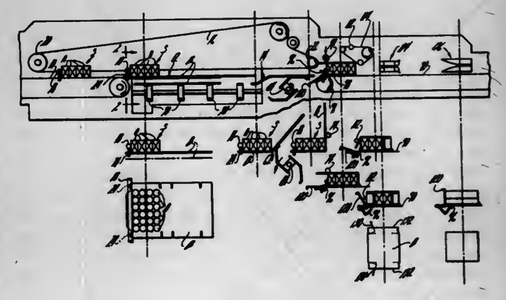
An article or a stack of articles, such as disposable diapers, are compressed between a pair of converging endless belts which discharge the article into a holder. The latter may be a pair of spaced jaws which hold the article compressed as a wrapper is disposed about the article to hold the same in a compressed state. To provide sufficient force to overcome resistance of the movement of an article into the holder without tearing or scuffing the same, the belts act through a succeeding article which is abutted against the article being discharged to push the latter into the holder. A stream of abutted articles may be maintained within the belts by running an article input carrier to the belts at a speed faster than the belt speed and by using a slip clutch drive for the input carrier to prevent overrunning or jamming of articles as they are abutted.

3,513,629
OVERWRAP PACKING MACHINES
Frank V. N. Hoagland, Fairlawn, and Arthur J. Griner, Wyckoff, N.J., assignors to National Biscuit Company, a corporation of New Jersey
Filed Dec. 8, 1967, Ser. No. 695,543
Int. Cl. B65b *51/30*
U.S. Cl. 53—182 **10 Claims**

Unitary apparatus for continuous formation of a transparent film overwrap about advancing groups of prewrapped stacks of cookies. The apparatus comprises an infeed conveyor carrying spaced prewrapped stacks of cookies, a pusher device for accumulating predetermined numbers of individual prewrapped stacks of cookies, a wrapper forming device for shaping the overwrap film about the advancing spaced groups of cookies, a heat sealing unit for sealing the marginal free edges of the wrapper film to form a sealed longitudinal seam thereon, and a transverse sealing and severing mechanism operating in synchronism with the advancing spaced groups of stacked cookies to form unitary sealed packages thereof.



3,513,630
PACKING MACHINE WHEREIN FLAT BLANKS ARE FOLDED AROUND ARTICLE GROUPS FED CONTINUOUSLY THERETHROUGH
Horst G. Lattke, Middletown, and Arthur H. Hahn, deceased, late of Wethersfield, Conn., by Emhart Corporation of Portland, Conn., assignee, assignors to Emhart Corporation, Bloomfield, Conn.
Filed Oct. 12, 1967, Ser. No. 676,999
Int. Cl. B65b *11/12*
U.S. Cl. 53—209 **25 Claims**



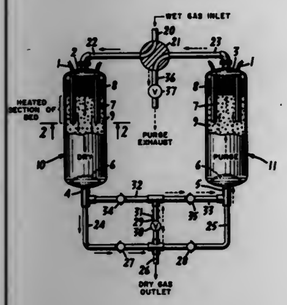
Segregated groups of articles are fed through the machine first by a flight bar conveyor, and then by a pocket chain conveyor. A stack of flat packing case blanks is stored in a magazine alongside the flight bar conveyor, and fingers withdraw the lowermost blank in the stack so that belt conveyors can move the blank to a preliminary position spaced below a deadplate across which the article groups are advanced by the flight bar conveyor. Counter-rotating blank lifting fingers then raise the blank against the underside of the deadplate so that depending

fingers on the flight bars advance the blank together with an associated article group off the downstream edge of the deadplate. A rotary device downstream of the deadplate creases the blank at the lower front corner of the article group, and a vertically reciprocable roller creases the blank at the upper front corner thereof to form the blank into a U-shaped configuration. The pocket chain conveyor receives the U-folded case, with its article group, and each pocket includes a rear gate for folding the trailing bottom flap upwardly against the rear side of the article group. An overhead flight bar then folds the trailing top flap downwardly and a second gate on the pocket chain holds both these flaps in place while the laterally opposed ends of the case are folded in a conventional manner.

3,513,631
HEAT-REACTIVATABLE ADSORBENT GAS FRACTIONATOR AND PROCESS

Chesterfield F. Seibert and Marcel G. Verrando, Jr., Cortland, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation

Continuation-in-part of application Ser. No. 439,294, Mar. 12, 1965. This application Sept. 14, 1966, Ser. No. 579,374
Int. Cl. B01d *53/04*
U.S. Cl. 55—33 16 Claims



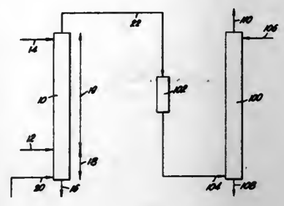
A process and apparatus for continuously removing a first gas from a mixture thereof with a second gas is provided. The gas mixture is passed through one of two sorbent beds having a preferential affinity for the first gas and the first gas is sorbed thereon forming a concentration of first gas in the first bed which ranges from a substantial proportion of its capacity at one end to less than 20% of its capacity at the other so as to produce a gaseous effluent which has a concentration of first gas therein below a predetermined maximum. At the same time, first gas sorbed on the other sorbent bed is removed therefrom by passing a purge flow of gas in contact with the second bed and heating that portion of the second bed sorbed to at least 20% of its capacity with the first gas to an elevated temperature of at least 100° C. The heating is then discontinued and the second bed is allowed to cool to a relatively efficient temperature for adsorption. The gas mixture is then passed in contact with the second bed while the first bed is desorbed in a like manner thereby maintaining a substantially continuous flow of effluent gas.

The apparatus of the invention provides a two-sorbent bed assembly having heaters positioned within the sorbent beds. The heaters extend from adjacent the inlet end of the bed through at most three-fourths of the length of the bed, and are capable of heating that portion of the bed to a temperature of at least 100° C.

3,513,632
SEPARATION OF ACRYLIC ACID AND ACROLEIN

Lawrence G. Hess, Charleston, and Donald C. Thomas, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Continuation of application Ser. No. 572,572, Aug. 15, 1966. This application Dec. 18, 1968, Ser. No. 786,828
Int. Cl. B01d *19/00*
U.S. Cl. 55—56 4 Claims

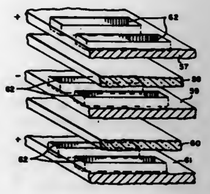


A method for separating acrylic acid and acrolein from a gaseous mixture by scrubbing the gaseous mixture with water at a temperature between the boiling temperature of acrolein and the boiling temperature of acrylic acid. The scrubbing liquid is then stripped of the absorbed components by heating while the unabsorbed gas stream is scrubbed in a second absorber.

3,513,633
FILTER AND ELECTROSTATIC PRECIPITATOR IN REEL FORM

James O. Glorvig, 2707 Ticatica Drive, Hacienda Heights, Calif. 91745

Filed Sept. 7, 1967, Ser. No. 666,568
Int. Cl. B03c *3/40*
U.S. Cl. 55—131 1 Claim



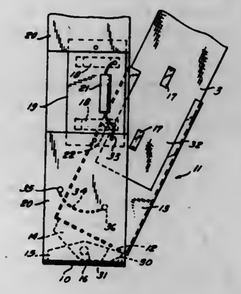
A filter for separating particles from a fluid in which the filter elements are constituted over long, narrow strips or foils of metal or insulating material, wound reel fashion with the flat side down on a drum. The strips are wound in groups constituting a pair or other multiple number, some of the strips having slots along the edges and others having openings or grooves across the strips to provide minute passageways across the contracting surfaces for filtering fluids presented edgewise to the helical structure. One or more strips of the group being wound is made narrower than its adjacent contacting strip to leave projecting portions formed by the wider strips. These projections serve to snag the larger particles between them and leave the surface intermediate of the projections free from the snagged material. Particles, of less size than the largest size, are caught by the spaced edges of the strips of narrower width and only the smallest particles will be presented to the main body of the filter to pass through the minute passageways formed by the combination of slots and grooves in the strips.

When the strips are alternately made of metal and charged to a positive polarity and the metal strips intermediate the polarized strips can be charged to a negative polarity. Consequently, an electrical filtering action is attained as well as a physical separation brought about by the minute passageways and the peak-to-peak impalement of the larger particles.

3,513,634
STRUCTURE FOR HOLDING ELECTRICALLY CHARGED MEMBER

Albino N. Angonese, East Brunswick, and Raymond J. Gorenflo, Ridgewood, N.J., assignors to Fedders Corporation, Edison, N.J., a corporation of New York

Filed Aug. 7, 1968, Ser. No. 750,811
Int. Cl. B03c *3/02*
U.S. Cl. 55—139 8 Claims

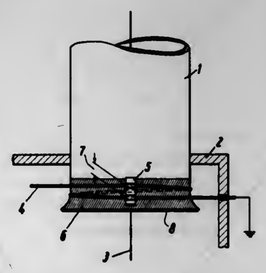


An electrically charged member is supported in a tiltable support and the support is provided with means to connect the member and support to ground when the support is in position for removal of the electrically charged member.

3,513,635
GROUND FOR ELECTROSTATIC DUST COLLECTOR ELECTRODE

Horst-Günter Eishold and Walter Steuernagel, Frankfurt am Main, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

Filed Oct. 23, 1968, Ser. No. 770,033
Int. Cl. B03c *3/49, 3/53*
U.S. Cl. 55—155 5 Claims

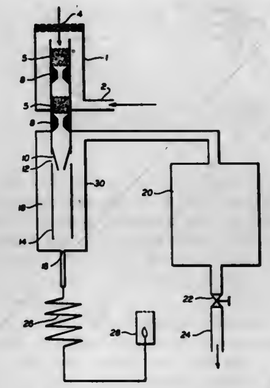


A pipe-type collecting electrode composed of non-conductive material in a wet-working electrostatic dust collector is grounded by means of an electrically conducting coating on one end of the electrode and an electrically conducting strand looped around the coating. The windings of the strand are separated by spacers composed of non-conducting material.

3,513,636
GAS DIVIDER SYSTEM

Istvan Halasz, Frankfurt, Hartmut Bruderreck, Westerholt, and Werner Schneider, Gelsenkirchen-Buer, Germany, assignors to Scholven-Chemie Aktiengesellschaft, Gelsenkirchen-Buer, Germany, a corporation of Germany

Filed July 11, 1967, Ser. No. 652,460
Claims priority, application Germany, July 16, 1966, Sch 39,271
Int. Cl. B01d *15/08*
U.S. Cl. 55—197 6 Claims

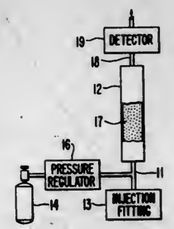


Divider system for gas streams, particularly for gas chromatograph feed, including a conventional gas stream divider or splitter and a second, compensating gas stream divider or splitter downstream from the first splitter.

3,513,637
HIGH POROSITY COLUMN FOR GAS CHROMATOGRAPHY

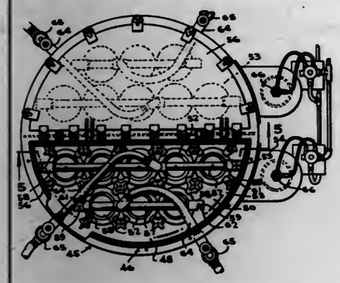
Istvan Halasz, Frankfurt am Main, and Hans-Otto Gerlach, Oberursel, Germany, assignors, by mesne assignments, to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Oct. 11, 1966, Ser. No. 585,906
Claims priority, application Germany, Apr. 15, 1966, 1,544,162
Int. Cl. B01d *15/08*
U.S. Cl. 55—197 7 Claims



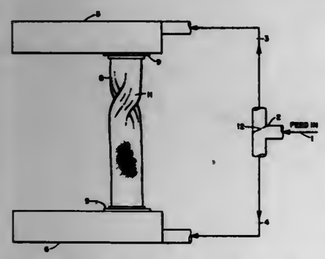
A chromatographic column defining a path for the gas stream between the point of introduction of the sample mixture and the detector wherein the tube is filled with a packing material that has an interparticle porosity greater than 0.80 and consists of primary spherical particles approximately 20 to 500 angstroms in diameter linked together in branched chains forming an irregular three dimensional network.

3,513,638
FILTER
Henry T. Young, R.D. 2, Muncy, Pa. 17756
Filed Mar. 8, 1968, Ser. No. 711,672
Int. Cl. B01d *46/04*
U.S. Cl. 55—273 2 Claims



Filter collector having a plurality of porous filter bridging passages from a particle laden fluid receiving chamber to a plenum chamber, wherein the plenum chamber is in sections, with groups of filter elements communicating with each section. There is a valved fluid outlet from each plenum section and a valved backwash fluid inlet to each section, with a timer to close the fluid outlet and open the backwash fluid inlet and reverse for each of the sections in sequence. The backwash inlets, in one disclosed form, are located in doors over the separate plenum sections allowing removal with the doors for changing filters. In another form, the inlets are in removable manifolds which extend across each plenum section.

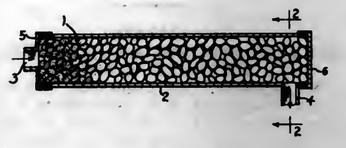
3,513,639
BAG FILTER CLEANING
Elroy L. Reich, Westfield, N.J., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,130
Int. Cl. B01d *41/00, 46/04*
U.S. Cl. 55—293 2 Claims



A bag filter medium is cleaned by subjecting it to flexure effected by moving a restriction along the length of the bag.

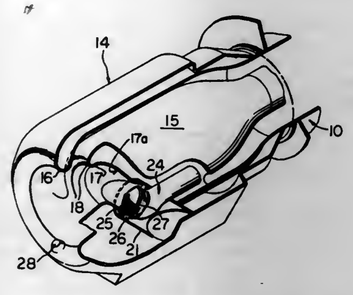
3,513,640
TREATMENT OF PUMICE FOR USE IN FILTERING OUT OBNOXIOUS CONTENTS OF COMBUSTION GASES
Anthony Molliskey, Newport, Wash., assignor of one-third each to Donald V. Meis and Earl A. Waring, both of Newport, Wash.
Filed Aug. 4, 1969, Ser. No. 847,040
Int. Cl. B01d *39/06*
U.S. Cl. 55—524 3 Claims

Pumice stone found naturally in many parts of the world is sized to particles or lumps of the desired dimensions, for example, lumps ranging from one-quarter inch through to one inch through. The lumps are washed with plain water to remove dust and water soluble materials and then dried. The lumps are then immersed in a dilute water solution of paraldehyde or formaldehyde to which is added about one to five parts citric acid to each ten parts by volume of paraldehyde or formaldehyde. The preferred concentration



of formaldehyde or paraldehyde in the water solution is about one part by volume U.S.P. grade formaldehyde or paraldehyde in fifty thousand parts water. When the pumice is thoroughly wetted with the solution the pumice is then drained and used as a filter bed through which the combustion gases are passed.

3,513,641
FOREIGN PARTICLE SEPARATOR FOR AN AIR MOVING MEMBER
Robert P. Hooper, Media, Pa., and Vernon L. Arne, Winter Park, Fla., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Continuation of application Ser. No. 374,605, June 12, 1964. This application Aug. 22, 1968, Ser. No. 755,518
Int. Cl. B01d *45/12*
U.S. Cl. 55—306 5 Claims

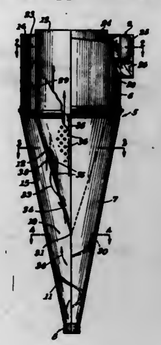


A foreign particle separator for removing foreign particles from an airstream and adapted to provide a continuous untortured flow path for the particles. A focusing member defining an air inlet serves to guide particles in the airstream against a trap member which defines a secondary opening. The trap member includes a concave surface in open-faced relationship with the focusing member and angularly disposed relative to the focusing member to guide the particles into a collection area. One application of the separator is in combination with the air intake of an air moving member, for example, immediately preceding the compressor of a gas turbine engine.

3,513,642
CENTRIFUGAL DUST SEPARATOR
Milan S. Cornett, 1322 Wake Forest Drive, Walnut, Calif. 91789
Filed July 25, 1968, Ser. No. 747,592
Int. Cl. B01d *53/24*
U.S. Cl. 55—399 4 Claims

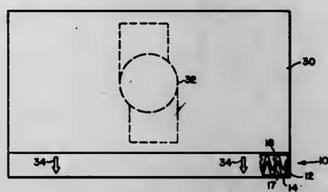
A vertically disposed housing having an upper, tangential inlet for a dust-laden air flow and having a velocity-adjusting throat, and with a reducingly conical lower portion leading to a dust discharge at the lower

end smaller than the inlet, a helical baffle skimmer in the lower interior of the conical portion, a concentric conical screen within the upper interior of the mentioned



conical portion above the baffle, for intercepting dust in a reverse dust-laden flow, rising from the baffle, and passing the air of the latter flow for discharge upwardly.

3,513,643
FILTER
Frederick E. Tarala, Pittsford, N.Y., assignor to Dollinger Corporation, Rochester, N.Y., a corporation of New York
Filed May 21, 1968, Ser. No. 730,850
Int. Cl. B01d *50/00*
U.S. Cl. 55—473 2 Claims

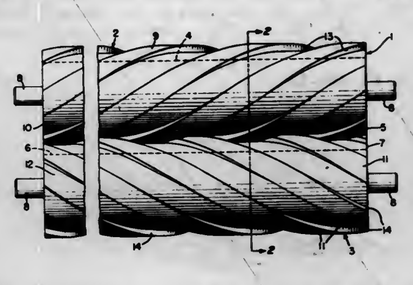


A corrugated, porous air filter element is secured in a rectangular frame, which surrounds, and is secured to marginal edge portions of the element. The element consists a central fiber glass layer secured between a relatively stiff, thermosetting layer, which resiliently retains the corrugations in place, and a porous charcoal filter paper for removing odors from air passed through the filter. The opposite ends of the corrugations and opposite ends of the filter element itself are coated with an adhesive which secures the element in the frame. The element is inserted in the frame by compressing its corrugations, inserting it while compressed in the opening of the frame parallel to the frame length, rotating the element to engage opposite ends of its corrugations with the longitudinal sides of the frame, and then releasing the element so that it fills the frame opening.

3,513,644
AIR FILTER
Edward D. Weil, Yonkers, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 19, 1968, Ser. No. 760,961
Int. Cl. B01d *39/14*; C07d *105/02*
U.S. Cl. 55—524 4 Claims

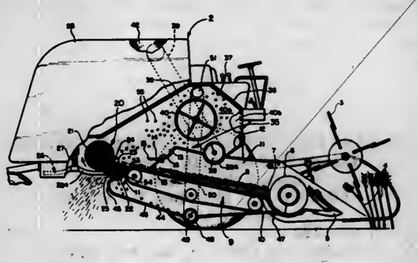
An air filter having as a dust adherent a coating of a liquid poly(haloethyl-ethyleneoxy) phosphoric acid ester having an average degree of condensation of from about 2 to about 10.

3,513,645
HAY CONDITIONER ROLL
John E. Garrett and William S. Korff, St. Marys, Ohio, assignors, by mesne assignments, to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,416
Int. Cl. A01d
U.S. Cl. 56—1 7 Claims



1. A roll assembly for use on a hay conditioning machine comprising:
(A) a pair of intermeshing rolls disposed in adjacent parallel relationship, each of said rolls comprising,
(1) an elongated cylindrical elastomeric body portion; and
(2) a plurality of substantially identical integral radially outwardly extending ribs equally spaced and extending around the periphery of said body portion, said ribs forming a plurality of chevron shaped members thereon with a grove of similar contour between each adjacent pair of ribs;
(3) the opposite sides of each rib being substantially parallel but inclined at a radially outwardly diverging angle with respect to the nearest side of the adjacent rib;
(4) the chevron pattern of the ribs and grooves of one roll being of opposite contour to those of the other roll of said pair, to permit continuous intermeshing of the ribs and grooves of one roll with those of the other as the rolls rotate wherein the ribs of each roll extend into the grooves of the other roll to simultaneously crush and crimp hay passing therebetween.

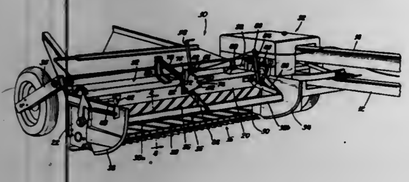
3,513,646
COMBINATION HARVESTING AND THRESHING MACHINE
Edward J. Johnston, La Grange, and John A. Walker, Downers Grove, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 13, 1967, Ser. No. 682,250
Int. Cl. A01d *41/02*
U.S. Cl. 56—20 3 Claims



A harvesting and threshing machine incorporating a pair of resilient rollers through which the harvested straw

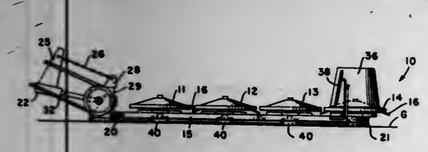
and grain is passed, the rollers snapping the grain out of the husks and projecting the grain into a storage receptacle.

3,513,647
FLICK BAR MECHANISM FOR HARVESTING APPARATUS
Edward J. Johnston, La Grange, and Frank J. Macha, Jr., Chicago, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 15, 1967, Ser. No. 660,817
Int. Cl. A01d *43/00*
U.S. Cl. 56—23 **7 Claims**



An adjustable flick bar mechanism which is used in conjunction with a harvesting machine. The flick bar can be manipulated by the driver of a tractor pulling the harvesting machine. Means are provided on the flick bar mechanism whereby the tractor driver may operate a lanyard from his driver's position to release the flick bar securing mechanism and position the flick bar in another desired position without leaving his seat.

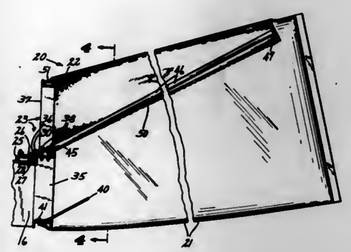
3,513,648
ROTARY MOWER DISC GUARDS
Charles M. Kline, Reinholds, and Neil W. Webster, New Holland, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 25, 1967, Ser. No. 641,274
Int. Cl. A01d *35/26*
U.S. Cl. 56—25.4 **8 Claims**



A rotary mower having a support bar located adjacent the ground and a crop cutting element mounted on top of the support bar for rotation on a vertically extending axis, said cutting element projecting forwardly of the support bar and there being a ground engageable guide shoe attached to the support bar beneath the cutting element to cause it to rise and fall responsive to ground conditions, and a rock guard carried on the shoe to protect the cutting element from damage.

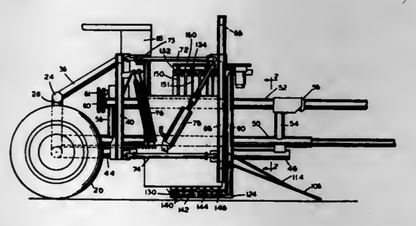
3,513,649
GRASS CATCHER FOR ROTARY MOWERS
Harold B. Berg, 1110 Welcome Circle, Golden Valley, Minn. 55427
Filed Oct. 11, 1967, Ser. No. 674,421
Int. Cl. A01d *35/22*
U.S. Cl. 56—202 **6 Claims**

An elongated bag closed at one end and open at the other end for receiving grass clippings from a rotary mower and retaining said clippings, and mounting apparatus for securing the open end of the bag in communication with the discharge outlet of the rotary mower. An elongated mesh fabric, tubular member positioned within



the bag and defining an outlet at the open end of the bag adjacent the discharge outlet of the mower.

3,513,650
DELEAFER
Wellington W. Porter, R.D. 2, Dublin Road, Waterloo, N.Y. 13165
Filed Feb. 16, 1967, Ser. No. 616,600
Int. Cl. A01d *55/00*
U.S. Cl. 56—234 **10 Claims**

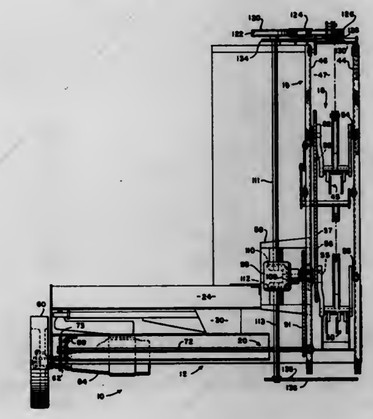


A mobile deleafer for cutting the leaves from brussels sprouts plants close to the sprouts, preliminary to harvest, the cutting apparatus comprising a pair of swinging frames disposed for movement along opposite sides of a row of sprouts, each swinging frame having pairs of contra-rotating vertical axis knives, adapted to be variably spaced from the plant stalks by stalk engaging cams, to avoid injury to the sprouts. Leaf lifting guides assist positioning of the leaves for effective cutting.

3,513,651
BALER WITH PLUNGER DRIVE SEPARATE FROM PICKUP AND FEEDER DRIVES
James H. Hollyday, New Holland, and Howard J. Hullinger, Ephrata, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed July 17, 1967, Ser. No. 653,833
Int. Cl. A01d *39/00*
U.S. Cl. 56—343 **10 Claims**

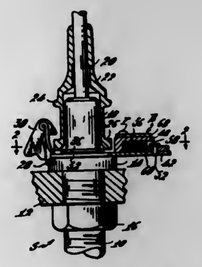
The baler drive comprises a (first) plunger gearbox connected at the front of the baler connected by a short shaft to the flywheel and a (second) pickup and knotter gearbox by the bale case in front of the feed chamber. The second gearbox is driven by rearwardly extending drive shaft coupled to the short shaft at the front and to the second gearbox by a transversely extending chain and sprocket drive. The pickup is connected to the second gearbox by a chain and sprocket drive, a belt and pulley drive on the outboard side and a first cross shaft extending transversely from the outboard side to the second gearbox.

A second cross shaft extends from the other side of the second gearbox to a knotter chain and sprocket drive. The feeder is driven by a transversely extending chain



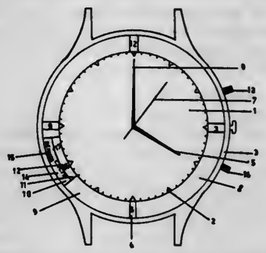
and sprocket drive within the feeder through the second gearbox chain and sprocket drive and the rearwardly extending drive shaft.

3,513,652
SPINDLE BRAKES
Richard C. Hare, Whitinsville, Mass., assignor to The George F. Clentimack Co., Inc., North Attleboro, Mass, a corporation of Massachusetts
Filed Oct. 21, 1968, Ser. No. 769,223
Int. Cl. D01h *7/22*
U.S. Cl. 57—88 **22 Claims**



A brake mechanism for use on textile spindles of the type having a spindle base whose construction includes a mounting flange and a neck extending therefrom to receive the spindle blade. The brake mechanism comprises a mounting plate fitting over the neck and against the mounting flange, being secured there by means preventing relative up and down and rotary motion. A brake pad is slidably secured to the mounting plate, being moved between braking and resting positions by a camming lever operating through a spring linkage. The spring linkage comprises opposed driving and return springs acting on the brake pad with different spring constants to provide a return force on the brake pad, a holding force on the camming lever, and an override in the linkage to compensate for brake pad wear.

3,513,653
WORLD TIME WRISTWATCH
William G. Denardo, 1684 9th Ave., San Francisco, Calif. 94122
Filed Dec. 28, 1967, Ser. No. 694,788
Int. Cl. G04b *19/22*
U.S. Cl. 58—42.5 **1 Claim**

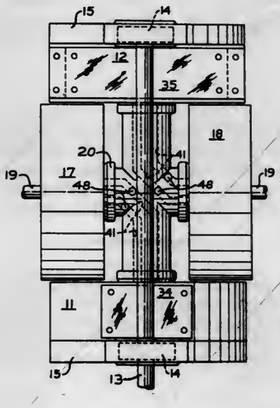


The invention relates to an improvement for wristwatches with apparatus to show the local time for localities in the twenty-four time zones based on the universal time system. The object of the invention is to provide a useful wristwatch of novel design in a particularly small wristwatch casing, simple in construction and operation, adapted to accurately and instantly furnish the time for principal localities in the twenty-four time zones. The watch mechanisms used are of a standard design and the twenty-four hour dial is automatically rotated by the watch mechanism.

ERRATUM

For Class 60—39.27 see:
Patent No. 3,513,899

3,513,654
UNITARY DUAL HYDROSTATIC TRANSMISSION MOUNTING
William K. Engel, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 15, 1968, Ser. No. 744,759
Int. Cl. F16d *31/02*
U.S. Cl. 60—53 **2 Claims**



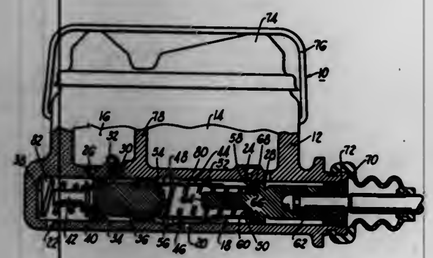
When employing hydrostatic transmissions in certain types of earthmoving vehicles, two completely separate hydrostatic transmissions, one for driving tractive elements on opposite sides of the vehicle, can provide a

number of complementary advantages in the vehicle. For example, in a track-type machine, such an arrangement can provide independent speed and directional control of the individual track, increasing the maneuverability and flexibility. While such an arrangement is advantageous, a number of inherent problems are present due to the high pressures in the transmissions, along with the high temperatures, which often cause distortion causing shaft mis-alignment and unwanted leakage. In addition, the two transmissions should be a compact unit to eliminate long connecting drag linkages for controlling them and to decrease the over-all size of the control system, which becomes very complex when the speed of the two transmissions are varied for steering the vehicle. In the instant invention, the above problems are solved along with collateral advantages of providing easier maintenance and improved service life of the dual transmission system by a novel mounting structure. Basically, the structure includes a central distributing manifold or block having two pairs of mutually perpendicular mounting faces and internal passages by which the ports of the mounting faces can be appropriately connected to ports in an adjacent mounting face with a hydraulic unit mounted on each mounting face and a common support means for common suspension of the fabricated structure. Also, part of the invention is a common shaft gear drive means associated with the structure for driving two of the hydraulic units simultaneously.

3,513,655
SPRING CAGING DEVICE FOR MASTER CYLINDERS

Raymond A. Reznicek, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware

Filed July 18, 1968, Ser. No. 745,815
Int. Cl. F15b 7/00; B60t 17/10
U.S. Cl. 60—54.6 14 Claims



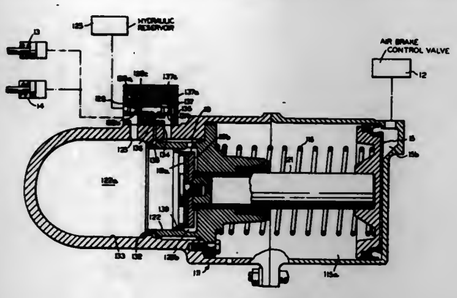
An improved caging device for operatively connecting primary and secondary pistons in a split master cylinder having two interlocking cup-shaped retainers which interlock by means of fingers on one of the containers which lock into slots or grooves in the other retainer.

3,513,656
PRESSURE TRANSLATORS

Thomas H. Engle, Cape Vincent, N.Y., assignor to General Signal Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 746,684, July 22, 1968. This application Mar. 17, 1969, Ser. No. 812,551
Int. Cl. F15b 7/00, 7/08
U.S. Cl. 60—54.5 18 Claims

A pressure translator for braking or similar systems which transduces fluid pressures into proportional but higher hydraulic pressures and serves as a double-acting slack adjuster. The translator comprises a fluid pressure-operated main hydraulic pump of the piston type, relief mechanism which is effective during an initial stage of each discharge stroke to bleed oil from the working space of the main pump, and make-up pumping means which automatically delivers a fixed volume of oil to the working space during each cycle of the main pump. The volumetric

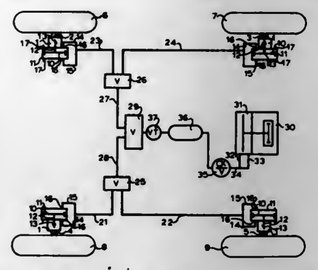


displacement per unit of travel of the main pump may be constant throughout each discharge stroke, or it may be set at a high value for said initial stage and then switched automatically to a lower value for the balance of each stroke.

3,513,657
FLUID CAM DRIVE

Daniel E. Nelson, Pacific Grove, Roderick A. Dresser, Sr., Monterey, and Eugene H. Hanson, Pebble Beach, Calif. (all of Box 2076, Monterey, Calif. 93940)

Filed Apr. 25, 1968, Ser. No. 724,131
Int. Cl. F01b 13/00; F16h 25/16; B06k 17/34
U.S. Cl. 60—57 7 Claims



This invention relates to a new and useful fluid cam drive with a compressor compressing air or other media to a cylinder with a piston to cause reciprocating travel of a shaft attached to the piston and to cause rotary travel from the reciprocating travel by means of a counter-bevelled cam drive gear with transverse guide and cam drive members extended radially from the shaft in slidable contact with the transverse guide and counter-bevelled cam drive gear.

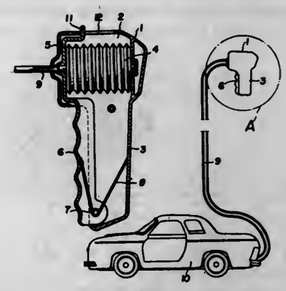
3,513,658
ACTUATING MECHANISM FOR PNEUMATICALLY EFFECTING REMOTE CONTROL OF MOVABLE TOYS

Kisaburo Okuma, Saitama-ken, Japan, assignor to Okumaseisakujo Co. Ltd.

Filed Apr. 16, 1968, Ser. No. 721,779
Claims priority, application Japan, Feb. 15, 1968, 43/9,663
Int. Cl. F15b 7/00, 7/08
U.S. Cl. 60—62.5 4 Claims

An actuating mechanism for remote control of movable toys comprises a casing, bellows in said casing, and a

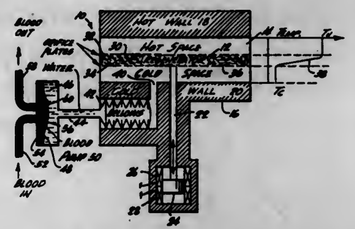
presser operatively connected to the bellows. When said presser is operated, the bellows are compressed and expanded to provide air under pressure for control of a movable toy.



3,513,659
STIRLING CYCLE AMPLIFYING MACHINE

William R. Martini, Richland, Wash., assignor to McDonnell Douglas Corporation, a corporation of Maryland

Filed Feb. 2, 1968, Ser. No. 702,745
Int. Cl. F25b 9/00
U.S. Cl. 62—6 1 Claim



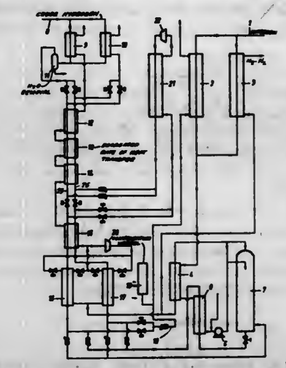
Constant volume regenerative, or Stirling cycle thermal amplifying machine having an independently oscillated regenerator. Small amount of input energy is used to oscillate the regenerator. These oscillations produce large output pressure pulses which are adapted to drive a device, such as a pump, producing a large amount of output energy. Working fluid in machine is gas in one version wherein a bellows responsive to the pressure pulses of the gas is utilized to drive the pump, and is liquid in another version wherein the bellows can be omitted and the pressure pulses of the liquid is directly utilized to drive the pump.

3,513,660
REMOVAL OF CONGEALABLE IMPURITIES FROM GASES

Rudolf Becker, Munich-Solln, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany

Filed May 10, 1966, Ser. No. 548,899
Claims priority, application Germany, May 10, 1965, G 43,555
Int. Cl. F25j 3/08
U.S. Cl. 62—12 15 Claims

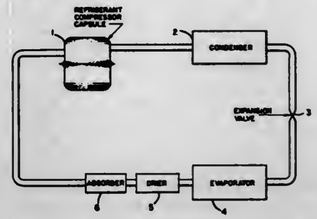
In a low temperature system for the removal of impurities such as CO_2 wherein the CO_2 is congealed on alternating heat exchange surfaces, and wherein the CO_2 usually is deposited on a relatively small area of heat exchange surface, thereby causing rapid build-up and clogging of conduits, the improvement comprising reducing the rate of heat transfer so that the CO_2 is deposited over a much larger heat exchange surface, a particular method being to compress scavenging gas to such a pressure that the congealed CO_2 sublimes at a temperature of only about 5–10° C. below the temperature at which the CO_2 is congealed in the crude gas, both of said gases being in indirect heat exchange therewith.



3,513,661
DESICCANT-CONTROL OF REFRIGERANT COMPRESSOR HEAD PRESSURE

Erik Frede Christiansen, Sonderborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a Danish company

Continuation-in-part of abandoned application Ser. No. 581,077, Sept. 1, 1966. This application Sept. 9, 1968, Ser. No. 767,029
Int. Cl. F25b 47/00
U.S. Cl. 62—85 15 Claims



A method for avoiding excessive gaseous pressures in the compressor and condenser of a hermetically sealed refrigerating system having a chlorinated hydrocarbon gaseous refrigerant subject to decomposition to form non-condensable gaseous decomposition products when the system is operated over an extended period of time. The refrigerant when primarily in a gaseous state in the system is contacted with an absorbent to remove non-condensable gaseous decomposition products from the refrigerant in sufficient quantities to preclude excessive pressures from developing in the system.

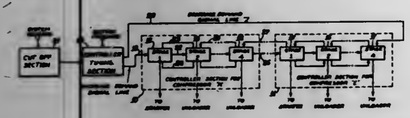
3,513,662
FEEDBACK CONTROL SYSTEM FOR SEQUENCING MOTORS

Myron B. Golber, Chicago, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware

Filed Nov. 12, 1968, Ser. No. 774,947
Int. Cl. F25b 7/00, 1/00
U.S. Cl. 62—115 16 Claims

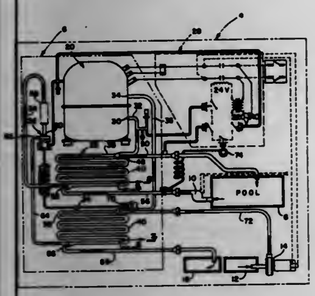
A controller provides for sequentially energizing or de-energizing individual stages of a plurality of cascaded control sections according to system demands. A timing section generates a train of increase or decrease demand pulses depending respectively upon whether a preselected control parameter is continuously above or below the con-

trol range for a predetermined time. When set to an automatic state, circuitry for individual stages of the controller sections routes the first-occurring increase demand pulse to the first de-energized stage for energizing this stage. Similarly, control circuitry routes a decrease de-



mand pulse to that stage which had been last energized for de-energizing that stage. Individual stages or entire control sections may be removed from the automatic setting to a manual setting so that demand pulses, either increase or decrease, bypass these stages.

3,513,663
APPARATUS FOR HEATING AND COOLING LIQUIDS
James B. Martin, Jr., 2760 NE. 58th St., Fort Lauderdale, Fla. 33308, and Edward M. Fairbanks, 758 NE. Harbor Drive, Boca Raton, Fla. 33432
Filed May 8, 1968, Ser. No. 727,564
Int. Cl. F25b *29/00*
U.S. Cl. 62—159 3 Claims



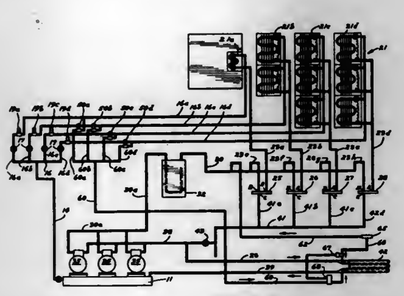
This invention contemplates a system for economically heating water in swimming pools and the like which includes the usual components which make up a compression type refrigeration system, i.e., compressor, motor; condenser, expansion valve, and evaporator.

The system of this invention utilizes any suitable refrigerant which is compressed in the compressor and discharged therefrom in a form of vapor under pressure through the condenser into heat, exchanging relation with water from the pool wherein the water is heated and returned to the pool and the hot refrigerant is condensed. This condensed vapor is metered at a controlled rate from the expansion valve into the evaporator where it is vaporized and returned to the compressor for recycling to the condenser.

Sensing means are incorporated in the system for controlling the temperature of the water in the pool by controlling the heat exchange relationship between the water in the pool and the hot gas in the condenser.

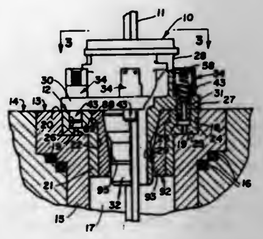
3,513,664
REVAPORIZING REFRIGERATION SYSTEM
Harold E. Duffney, 2942 Hillsboro Ave. S., St. Louis Park, Minn. 55426
Filed May 16, 1968, Ser. No. 729,811
Int. Cl. F25b *47/00*
U.S. Cl. 62—196 1 Claim

A refrigeration system comprising a multiple of evaporators including a coil which comprises a counter-flow heat exchanger and which is formed as a portion of the hot gas refrigerant line running from the compressor to the condenser and a return line running through said coil carrying the return liquid refrigerant in a defrosting cycle, said liquid refrigerant, before its return to the compressor,



first being revaporized by counter-flowing the hot gas refrigerant passing through said coil. The refrigeration cycles with respect to the evaporators not being defrosted continue their normal operation and selectively said refrigeration cycles convert to defrosting cycles.

3,513,665
KELLY BUSHING FLOATING DRIVE MEANS AND METHOD
Charles D. Crickmer, 12923 Memorial Drive, Houston, Tex. 77024
Filed Nov. 1, 1966, Ser. No. 591,215
Int. Cl. F11d *3/16*; F11c *1/28*
U.S. Cl. 64—23.5 19 Claims

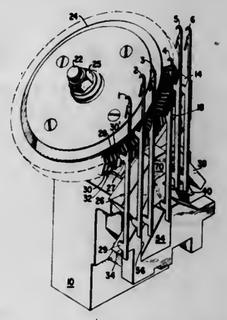


A kelly bushing of either pin drive or square drive type is provided with a drive means upwardly displacable while the kelly bushing is being brought into axial alignment and face to face engagement with a corresponding master bushing, said drive means to be later moved into engagement with the master bushing upon rotation of the master bushing relative to the kelly bushing after the initial aligning contact has been made.

3,513,666
CIRCULAR KNITTING MACHINE WITH PATTERN WHEELS
Lester Mishcon, Miami Beach, Fla., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 25, 1967, Ser. No. 670,097
Int. Cl. D04b *15/76*
U.S. Cl. 66—50 8 Claims

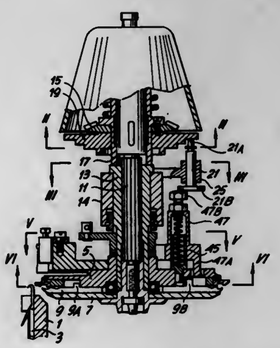
A pattern wheel circular knitting machine is described, which machine provides double the production and patterning capability of equivalent-sized prior art machines. Such features are brought about by the utilization, in a pattern wheel machine, of two-butt needles, a first butt

of each such needle being for selective only engagement with pattern wheels, and the second butt of each such needle being for engagement only with cams associated with each pattern wheel, the cams associated with each pattern wheel including a raise cam for placing the needles in such positions that the pattern wheel may eventually selectively operate on the respective first butts, a stitch cam for lowering needles as they move beyond the pat-



tern wheel and a placer cam between the raise and stitch cams. Such practice permits the pattern wheels and associated cams to be packed around the periphery of the knitting machine, with attendant high cloth production and patterning versatility. The raise and placer cams are guarded to permit the machine to operate at higher speed with less attention and to thereby further increase productivity.

3,513,667
DIAL SYNCHRONIZER FOR CIRCULAR KNITTING MACHINES
Giorgio Billi, Viale Torricelli 23, Florence, Italy
Continuation-in-part of application Ser. No. 391,888, Aug. 25, 1964. This application Nov. 13, 1968, Ser. No. 775,435
Claims priority, application Italy, Sept. 4, 1963, 18,313/63
Int. Cl. D04b *15/02*
U.S. Cl. 66—95 4 Claims



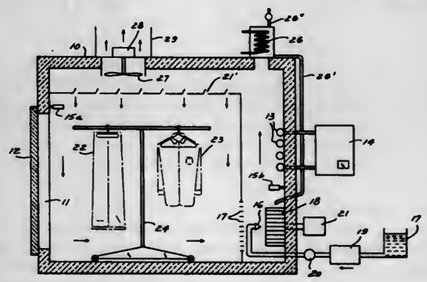
A synchronizing device for the dial hooks for a circular knitting machine which prevents pattern-controlled displacement of the dial hook control cams between active and inactive positions to obtain the displacement of the cams in the active position at a predetermined rotary position of the dial with respect to the machine frame. The device consists of a circular synchronizing cam on a dial spindle and rotatable therewith, said cam having radial and axial operative surfaces. A cam follower is provided and resiliently connected to a pattern-controlled member for operation thereby in a transverse direction in respect of said dial spindle. A control surface on the cam includes flat profiles and step circular profiles, the circular profiles each having a peripheral recess and an axially inclined ramp between flat adjacent profiles at the recess. The cam follower when urged by the pattern-controlled member in a transverse direction waits until it is reached by one of the recesses, when it enters the recess and is moved axially by the ramp. Thus a control cam for the dial hooks is displaced into its active position in two steps. The cam inactive position is obtained by the axial displacement of the cam follower obtained by a resilient means through a reverse transverse movement of the pattern-controlled member.

3,513,668
TUBULAR KNIT FABRIC
Marcus Mintz, Chomedey, Quebec, Canada, assignor to Industrial Knitting, Inc., Montreal, Quebec, Canada
Filed Feb. 10, 1967, Ser. No. 615,201
Int. Cl. D04b *21/12*
U.S. Cl. 66—193 1 Claim



A net fabric made up of warp wales interengaged by one or more spiral weft ends. Preferably, the weft end is elastic. A circular knitting machine having individually pivotable warp yarn guides operated by cams for effecting warp knitting. A tensioning device for feeding the elastic weft and consisting of a wheel stationary relative to the frame and around which the elastic is wrapped at full stretch and subsequently unwound at a reduced tension.

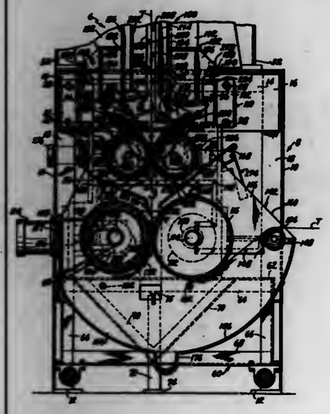
3,513,669
APPARATUS FOR VAPOR PHASE TREATMENT OF ARTICLES
Robert P. Nirenberg, New York, N.Y., assignor to DHJ Industries, Inc., New York, N.Y., a corporation of New York
Filed Dec. 29, 1967, Ser. No. 694,723
Int. Cl. D06c *1/00*
U.S. Cl. 68—5 4 Claims



Apparatus for the treatment of articles with reagents in the vapor phase in one or more separate stages utiliz-

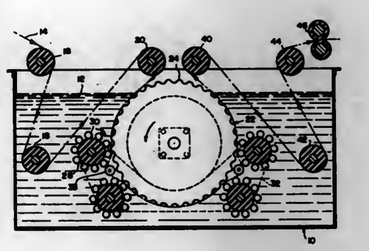
ing a chamber within which said articles are disposed and means for controlling the atmosphere within said chamber.

3,513,670
TREATING LIQUID RETAINING ASSEMBLY FOR OUTLET OPENING OF APPLICATOR TANK FOR TREATING TEXTILES
John W. Purdie, Box 2138, Davidson, N.C. 28036
Filed June 11, 1968, Ser. No. 736,160
Int. Cl. B05c *8/04, 11/115*; D06f *19/00*
U.S. Cl. 68—22 17 Claims



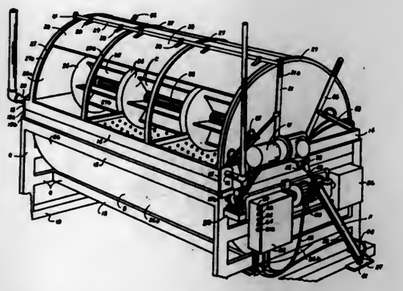
An assembly for mounting below the outlet opening of the saturation tank of a textile sizing or other treatment liquid applicator where some continuous flow is desired and means are provided to control the rate of flow of liquid from the tank at the outlet opening, independently of that removed by textile material passed therethrough. The lower end of the saturation tank includes flat end walls connected by front and rear sidewalls, the latter being spaced apart and defining an elongated tank outlet opening. A pair of oppositely driven parallel retainer rolls having identical lengths substantially equal to the distance measured between the outer surfaces of the end walls is mounted below the outlet opening, at least one of the rolls being movable toward and away from the other and wherein means are connected with said one roll to place a preselected clamping pressure on textile material received in the bight between the rolls. A sealing plate is mounted at each end of the tank, each plate engaging one end face of both of the rolls in the region above and between the roll axes, and also engaging its associated tank end wall. A pair of squeegee bars is mounted on the tank sidewalls to extend downwardly and toward each other into tangential relation with their respective retainer rolls, the ends of said bars engaging said sealing plates. The sealing plates and the squeegee bars are made of polyurethane plastic because this material has been found to provide effective resistance to wear and effective sealing where the plates engage the oppositely rotating retainer rolls. The squeegee bars also resist wear, but do not engage the retaining rolls with sufficient pressure to form a seal therewith. Actually, the squeegee bars permit the treating liquid to flow from the saturation tank into a drain pan or tank at a controllable rate. The sealing plates and squeegee bars together with the generally confronting upper roll surfaces form an extension of the saturation tank.

3,513,671
TEXTILE WASHING APPARATUS
Harold R. Wilcox, Maynard, Mass., assignor to Riggs & Lombard, Inc., Lowell, Mass., a corporation of Massachusetts
Filed Sept. 27, 1967, Ser. No. 670,837
Int. Cl. D06f *15/00*
U.S. Cl. 68—99 5 Claims



An apparatus is provided for the efficient washing of running textile webs at high speed. In a tank filled with a washing liquid there is mounted for rotation a relatively large drum the outer cylindrical surface of which is formed with longitudinal corrugations. Mounted tangentially to the drum are relatively small planetary reels each carrying an array of evenly spaced smaller nip rolls adapted to mesh with the corrugations on the larger drum. The fabric web is fed into the tank around the drum and then out of the tank. As the corrugated drum rotates along with the planetary reels the nip rolls force the fabric into the corrugation squeezing the liquid through the fabric thus providing improved contact and washing action between the fabric and the liquid.

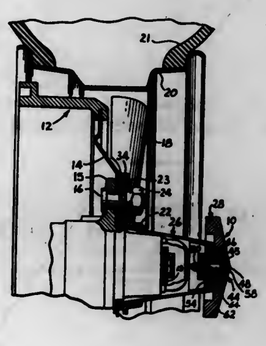
3,513,672
PADDLE DYEING MACHINE
John I. Macon, 2107 Guyer St., High Point, N.C. 27260, and Samuel H. Huffstetler 435 Oakland Drive, Burlington, N.C. 27215
Filed May 28, 1968, Ser. No. 732,703
Int. Cl. D06f *37/26*
U.S. Cl. 68—210 7 Claims



A paddle dyeing device has a cylindrical tank which pivots in its entirety about pivot points located on one side thereof, and through which service lines for steam and water pass into the tank. Through this structure and associated parts it is possible to eliminate the tilting cage by tilting the entire tank, with a minimum use of external flexible fluid lines. An integral false bottom facilitates

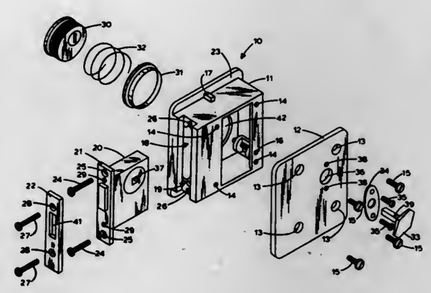
removal of the textile material which has been dyed, and permits circulation and mixing of the fluids to which the textile material is exposed during dyeing.

3,513,673
WHEEL LOCK
Patrick M. Trainor, Chicago, Ill., assignor to Shapiro, Levine & Crane, Chicago, Ill.
Filed Sept. 20, 1967, Ser. No. 669,146
Int. Cl. E05b *65/12*
U.S. Cl. 70—259 2 Claims



A key actuable vehicle wheel locking apparatus for preventing removal of the wheel from the vehicle wheel mounting by unauthorized persons and yet which contributes to the overall attractiveness and styling of the wheel, without affecting balance of wheel.

3,513,674
INTERCHANGEABLE LOCK CASING
Robert M. Rutherford, P.O. Box 8467, 501 General Somervill SE., Albuquerque, N. Mex. 87108
Int. Cl. E05b *9/08, 15/02*
U.S. Cl. 70—451 5 Claims



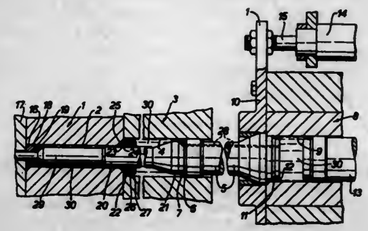
This invention relates to a casing for mortise door locks wherein a lock may be housed and retained in the casing without attachment to the door and the casing may be removably secured to the door by means of one side of the casing overlapping and engaging the exterior surface of one side of the door and an escutcheon plate removably attached to the opposite side of the casing, overlapping and engaging the exterior surface of the door opposite that engaged by one side of the casing, and lock pins are fixedly attached to the casing to be inserted into corresponding grooves in the door, so that the casing is removably secured to the door without being attached by screws or other devices inserted into the door, with an adjustment means in the housing to adjust the lock in the horizontal plane.

3,513,675
SLIDING KEYHOLDER
Frank J. Ryder, Jr., Marion, Mass., and T. Lawson Wilkinson, Cranston, R.I., assignors to Walter E. Hayward Co., Inc., Attleboro, Mass., a corporation of Massachusetts
Filed May 28, 1968, Ser. No. 732,680
Int. Cl. A44b *15/00*
U.S. Cl. 70—459 1 Claim



This specification discloses a sliding keyholder comprising two relatively movable parts. One of these is a flat tubular casing open at both ends and having a narrow side wall formed with an aperture. Spaced midway between its ends and spaced inwardly from the side wall opposite to that having the aperture the casing carries an abutment pin spanning the space between the face walls of the casing. The other part is an integral strip presenting two U-shaped end portions each having a long leg and a short leg. One of the latter is formed with a detent detachably received in said aperture. The long legs are connected and extending inwardly therefrom is a pair of spaced projections either of which is adapted to engage the abutment pin to limit sliding movement of the strip in the casing.

3,513,676
HYDROSTATIC EXTRUSION APPARATUS
Derek Green, Lytham St. Annes, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Jan. 24, 1968, Ser. No. 700,190
Claims priority, application Great Britain, Feb. 2, 1967, 5,149/67
Int. Cl. B21c *23/08*
U.S. Cl. 72—60 8 Claims



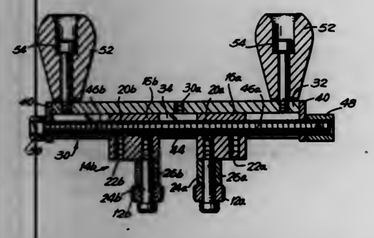
Means for controlled bleeding of high pressure liquid from the bore of an extrusion chamber comprising a two members having contracting sealing faces, a leak path for liquid from the bore of the extrusion chamber being between the contacting faces of the two members and means being provided for loading one of the members against the other so as to establish a controllable pressure between the contacting faces of the two members.

3,513,677
METAL STRIP PROCESSING MACHINE
Natalis H. Polakowski, 226 Laurel Ave., Wilmette, Ill. 60091
Filed Aug. 2, 1967, Ser. No. 657,988
Int. Cl. B21d 1/05
U.S. Cl. 72—163 11 Claims



The invention resides in a machine for the processing of metal strip such as a tension leveler wherein use is made of a small diameter work roll and which embodies the concept of slowing the rotational movement of the work roll to a peripheral speed which is a fraction of the linear speed of the work traveling through the machine at high speed whereby the work is flexed as it slips over the work roll while fresh surfaces are presented by the work roll.

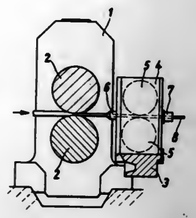
3,513,678
INSIDE KNURLING TOOL
Klaus Meyer, 819 E. Market St., Bloomington, Ill. 61701
Filed July 3, 1967, Ser. No. 650,749
Int. Cl. B25b 5/00
U.S. Cl. 72—208 6 Claims



An inside knurling tool for knurling surfaces of an opening, bore or the like. The tool has a pair of knurling rolls which are respectively supported for free rotary movement by a pair of mounting means which may be of identical construction and which support the pair of rolls for free rotary movement about their axes, respectively. A screw means is provided in order that the distance between the knurling rools can be adjusted.

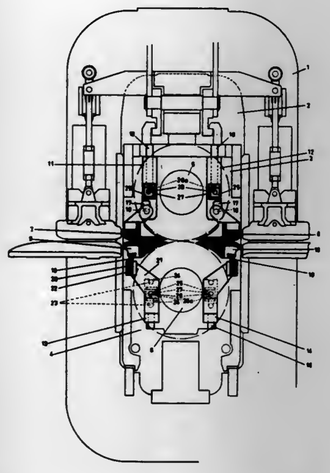
3,513,679
METHOD AND APPARATUS FOR AFTER-SIZING HOT-ROLLED BAR STOCK
Walter Dechêne, Hagen, and Kurt Rothert, Duesseldorf, Germany, assignors to Stahlwerke Sudwestfalen A.G., Hattental-Gelsweid, Germany, a corporation of Germany
Filed Aug. 18, 1967, Ser. No. 661,613
Int. Cl. B21b 15/00
U.S. Cl. 72—225 5 Claims

The controlling of variations in the cross-sectional dimensions of rolled bar stock from a hot-rolling mill by directly ramming the hot-rolled stock emerging from the last stand of the mill through a plurality of opposed post-rolls freely driven by the ramming of the bar stock therethrough and so spaced apart to correct cross-sectional variations in the stock without substantial overall change in the cross-sectional dimensions thereof. An apparatus



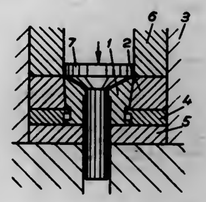
comprising the combination of such a post-rolling stand having freely driven rolls with the hot-rolling mill.

3,513,680
ROLLED STOCK STRIPPER ON ROLL STANDS IN PARTICULAR, UNIVERSAL GIRDER STANDS
Otto Modder, Dahlbruch, Germany, assignor to Siegener Maschinenbau G.m.b.H., a corporation of Germany
Filed Sept. 25, 1967, Ser. No. 670,278
Int. Cl. B21b 39/16
U.S. Cl. 72—250 6 Claims



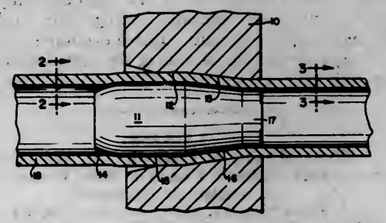
The present disclosure relates to material guiding strippers for a rolling mill and, in particular, a universal beam mill where the strippers are attached and suspended from the roll assemblies and which can be moved into and out of the mill with the assemblies. Strippers of this type have been known in the art. They are attached to the roll assemblies before the rolls are inserted into the mill and are adjusted relative to the rolls when in the mill. In the operation of the rolling mill, as is well known, the position of the rolls changes somewhat under the influence of the roll pressure and it has turned out that, although the strippers also change their position somewhat under the influence of the roll pressure, they do not follow the change of position of the rolls to the extent necessary and the function of the strippers is unfavorably influenced.

3,513,681
MEANS FOR PERFORMING AN EXTRUSION PROCESS IN A COLD FORGING PRESS
Eskil Monestam, Robertsfors, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Oct. 13, 1967, Ser. No. 675,686
Claims priority, application Sweden, Oct. 13, 1966, 13,867/66
Int. Cl. B21c 27/00
U.S. Cl. 72—272 1 Claim



An extrusion matrix with external conicity clamped with strong pre-stressing in a conical pressure cylinder, the matrix being releasable under influence of an expelling force acting on the forging.

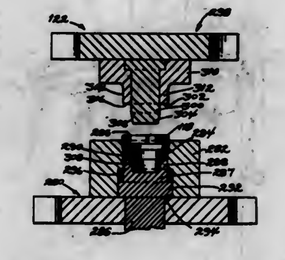
3,513,682
METHOD FOR PROCESSING WELDED TUBE
Douglas W. Rowell, Woodbury, Conn., assignor to Anaconda American Brass Company, Waterbury, Conn., a corporation of Connecticut
Filed July 13, 1967, Ser. No. 653,243
Int. Cl. B21c 1/00; B23k 31/06
U.S. Cl. 72—283 2 Claims



A welded tube, joined along a longitudinal seam by a welded joint of irregular lineal contour, is drawn over a mandrel to a larger inside diameter without confining the outside wall of the tube to smooth out the weld joint on the inside of the tube; it is then drawn between a die and a mandrel while the inside wall of the tube is completely supported in its expanded diameter so as to reduce the wall thickness of the tube and smooth out the welded joint on the outside wall of the tube. Thereafter the tube is further drawn between a die and a mandrel to smaller inside and outside diameters than its starting diameters to produce a uniform contour tube in which the weld joint is indistinguishable.

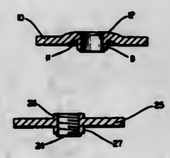
3,513,683
APPARATUS FOR COINING A LOCKING COLLAR TO A PREDETERMINED SHAPE AND VOLUME
Chester C. Moore, Aurora, Ill., assignor, by mesne assignments, to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Original application Sept. 22, 1965, Ser. No. 489,141, now Patent No. 3,373,472, dated Mar. 19, 1968. Divided and this application June 9, 1967, Ser. No. 661,153
Int. Cl. B21d 22/02
U.S. Cl. 72—354 2 Claims

The disclosure has to do with a method of making a ball bearing assembly and apparatus for use in making a locking collar therefor. The ball bearing assembly is concerned with using a special inner race member that receives a shaft or the like to be journalled and has at least one end of same formed with a plurality of spaced slots extending longitudinally thereof, assembling an outer race and bearing balls in abutting relation therewith, and applying a C-shaped clamping collar to the inner race slotted end portion and clamping the collar against the



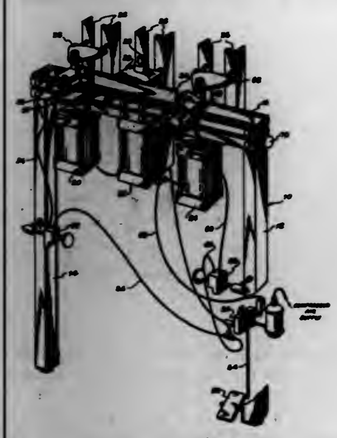
inner race to lock the inner race to the shaft or the like. The apparatus for use in making the locking collar involves processing a helix segment that has been formed by splitting a coiled length of bar stock wherein the resulting lock washer shaped blanks are individually coined to the final locking collar external and internal diameters by camping same between die members specially formed for this purpose.

3,513,684
METHOD OF MAKING PLATE METAL PRODUCT WITH TWO-WAY EXTRUDED NUT
Don C. Price, Canton, Ohio, assignor, by mesne assignments, to The Monarch Rubber Company, Hartville, Ohio, a corporation of Delaware
Original application Jan. 4, 1966, Ser. No. 518,633, now Patent No. 3,358,546. Divided and this application Nov. 13, 1967, Ser. No. 682,257
Int. Cl. B21c 37/02; B21d 28/00, 31/00, 53/24
U.S. Cl. 72—340 3 Claims



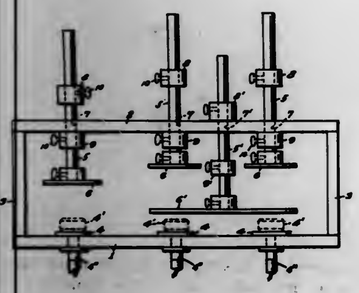
A method of making a one-piece plate metal product having an integral tubular sleeve projecting axially beyond and joined to both surfaces by piercing a hole in the plate blank, shaving the hole to eliminate metal break-out, reforming the blank around the hole to dome shape, extruding a sleeve in the dome formation to project from the concaved dome surface, then rearwardly extruding blank metal from the dome shape in the opposite direction and flattening the blank to provide sleeve portions projecting from both surfaces, and then roll-tapping the inner surface of the sleeve.

3,513,685
HANDBAG FRAMING MACHINE
Alfred J. Flechas, Hiway 200 W., P.O. Box 160, Ocala, Fla. 32670
Filed Apr. 1, 1968, Ser. No. 717,620
Int. Cl. B21d 41/00
U.S. Cl. 72—403 4 Claims



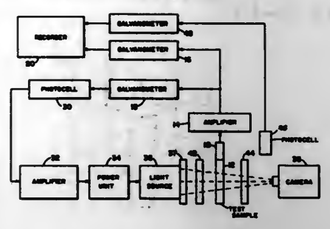
A handbag framing machine has a center die and two side dies. The three dies hold the handbag frame while the bag is inserted into the center portion of the frame and crimped into the frame by the center die. The bag is then inserted into one side of the frame and crimped into the frame by one side die. Then the other side of the frame and bag are likewise completed.

3,513,686
PROXIMITY GAGE TESTING DEVICE AND CALIBRATOR
Bernard Sorokin, Baltimore, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 3, 1968, Ser. No. 718,520
Int. Cl. G01c 25/00
U.S. Cl. 73—1 9 Claims



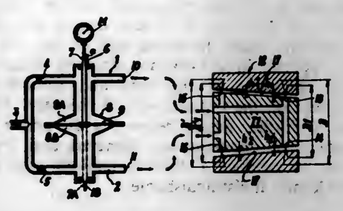
To test or calibrate a proximity gage a flat plate is brought into proximity with the gage at a selected distance therefrom. The plate is quickly brought to two predetermined positions relative to the gage as determined by adjustable stops on a slidable stem. One plate may be large enough to span two or more gages, or several gages may be inserted for simultaneous or alternate testing or calibration.

3,513,687
STRESS SIMULATING AND RECORDING APPARATUS
Judson R. Griffin and Cecil K. King, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army
Filed July 2, 1968, Ser. No. 742,624
Int. Cl. G01b 11/16; G01n 3/30
U.S. Cl. 73—12 7 Claims



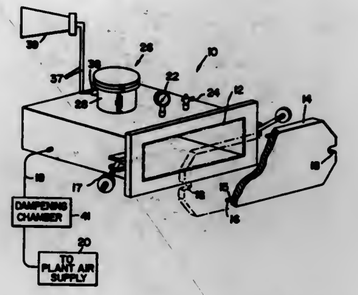
A laboratory method for simulating and recording the state of stress in various translucent structures under rapid acceleration loading conditions. To determine stress patterns in various structures, a cross-sectional slice is taken from the structure or a model is made and tested. A photoelastic model is subjected to impact loading, using a drop tested. A 4 x 5 studio camera and a high intensity xenon light source are used in photographing the dynamic stress applied to the model at a given instant after impact. The light is flashed by the peak of the pulse from an accelerometer mounted on the model to provide a trigger at the instant of peak stress. This static treatment provides optical quality of fringe patterns in a test sample and thereby allows evaluation of the reproducibility of the loading system and associated photographic synchronization and triggering circuits. Double exposures can be taken of separate individual tests of the same loading condition with little degradation of the optical fringe data.

3,513,688
PNEUMATIC MICROMETRIC GAUGES
Robert André Thibault, Cernay-la-Ville, France, assignor to Ateliers de Normandie
Filed Nov. 18, 1968, Ser. No. 776,703
Claims priority, application France, Dec. 6, 1967, 131,103
Int. Cl. G01b 13/10
U.S. Cl. 73—37.9 3 Claims



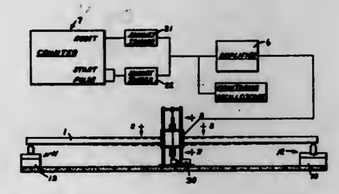
In a pneumatic micrometric gauge two pipelines are intended to be supplied in parallel from the same source of compressed gas respectively through two equal calibrated orifices with the orifices connecting with the atmosphere. An outlet orifice is provided in at least one of the pipelines for measuring the proximity of a wall. A chamber is connected to both pipelines and is sealingly divided by a freely movable pressure sensitive wall and rods are connected to both sides of the movable wall and have tapered portions axially movable in opposition in cylindrical outlet orifices in the pipelines and connecting with the atmosphere.

3,513,689
METHOD AND APPARATUS FOR DETECTING DUD CONTAINERS
Lloyd A. Nelson, Fremont, Mich., assignor to Gerber Products Company, Fremont, Mich., a corporation of Michigan
Filed Dec. 29, 1967, Ser. No. 694,444
Int. Cl. G01m 3/02
U.S. Cl. 73—37 10 Claims



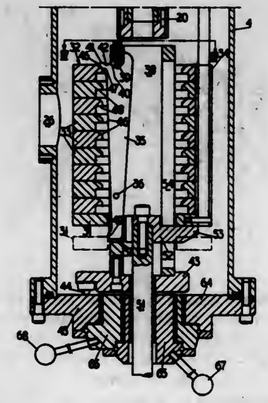
A non-destructive method and apparatus for testing hermetically-sealed containers that include a thin flexible diaphragm. When the container includes a predetermined amount of vacuum, the diaphragm is concave with respect to the container contents. When the internal vacuum is less than the predetermined amount, the diaphragm is convex. The present method is accomplished by subjecting the container to sufficient gaseous external pressure to create the concave deflection of the diaphragm even in the absence of any vacuum within the container. As a result, any container having an internal vacuum that is insufficient to retain the diaphragm in a concave position, at atmospheric pressure, will emit a detectable impulse as the diaphragm deflects from a convex to a concave position during application of sufficient external pressure. In this manner, containers having insufficient vacuum can be separated from those having sufficient vacuum.

3,513,690
METHOD AND APPARATUS FOR NON-DESTRUCTIVE TESTING OF BEAMS
Roy F. Pellerin and James D. Logan, Pullman, Wash., assignors to Washington State University Research Foundation, Pullman, Wash.
Filed Aug. 18, 1967, Ser. No. 661,576
Int. Cl. G01m 7/00
U.S. Cl. 73—67 6 Claims



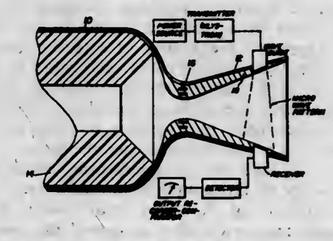
A method and apparatus are disclosed for non-destructive testing of beams. The method involves the imparting of free vibration to a supported beam and the subsequent measurement of the frequency of the vibration and rate of decay of the vibrational movement. These monitored values can then be related to the modulus of elasticity and the modulus of rupture of the beam. The apparatus utilizes unique support devices and vibration monitoring means to provide high efficiency and accuracy in the disclosed method. The supports particularly enhance the freedom of vibration necessary for reproducible results.

3,513,691
HARDNESS TESTING MACHINES AND WEIGHT SELECTING MECHANISMS
William Charles Aston and George Hall, Birmingham, England, assignors to Imperial Metal Industries (Kynoch) Limited, Witton, Birmingham, England, a corporation of Great Britain
Filed Dec. 7, 1967, Ser. No. 688,754
Claims priority, application Great Britain, Dec. 20, 1966, 56,963/66
Int. Cl. G01n 3/52
U.S. Cl. 73—83 12 Claims



A weight selecting mechanism and hardness testing machine in which weights are selected to provide different loads for a metal indenter and the indenter may be positioned in any desirable position over a specimen to be tested to perform a hardness test.

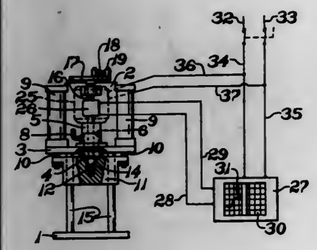
3,513,692
EROSION MEASURING DEVICE
Murray C. Sloan, Brigham City, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Sept. 19, 1966, Ser. No. 580,234
Int. Cl. G01n 17/00
U.S. Cl. 73—86 9 Claims



A device and method for determining erosion and/or propellant burn-back in solid propellant rocket motor components during operation of the motor is disclosed. Ionizable elements embedded in the component exposed

to hot gases of the motor become themselves exposed to the gases as burn-back or erosion progresses. Upon burning they ionize and the ions enter the gas stream changing the electromagnetic microwave characteristics thereof. This change is detected by attenuation of a microwave directed through the gas stream which generates a signal that is electronically analysed to provide erosion or propellant burn-back data.

3,513,693
ELASTOMER SHEAR TESTING APPARATUS
John P. Porter, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Nov. 12, 1968, Ser. No. 774,958
Int. Cl. G01n 3/32
U.S. Cl. 73—91 10 Claims

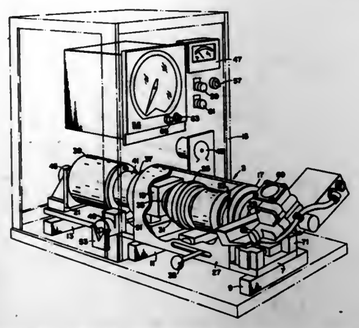


An elastomeric testing apparatus which subjects a sample of elastomer to oscillating shearing forces providing an output signal that is cyclically varying and generally sinusoidal whose curve pattern has reverse slopes wherein a control circuit includes an amplifier and full wave rectifier means connected to a memory circuit and a recorder in cooperation with a controllable linear discharge means thereby providing a trace which is the envelope of the peaks values of the output signal. Means are provided to control the slope of the linear discharge means to provide means for accurately tracing varying the output signal.

3,513,694
TENSILE TESTING
Bernard S. Baker, 316 Broad Lane, Coventry, Warwickshire, England
No Drawing. Filed May 8, 1968, Ser. No. 727,717
Claims priority, application Great Britain, May 10, 1967, 21,688/67
Int. Cl. G01n 3/08
U.S. Cl. 73—95.5 1 Claim

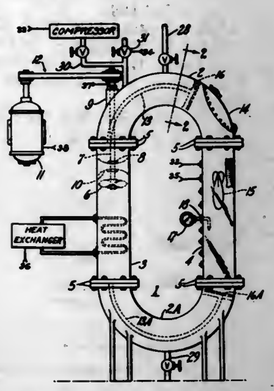
A method of carrying out a tensile test on a sample of filamentary material comprising attaching the sample at two positions spaced along its length to the relatively movable upper and lower arms of a tensile testing machine, moving the arms towards each other to remove any tension in the sample, thereby enabling the initial load on the upper arm to be measured, moving the arms away from each other to a position at which the sample is subjected to a predetermined tensile force, as measurable by the load on the upper arm, which enables the test length of the sample to be measured in terms of the separation of the arms, and moving the arms further away from each other to extend the sample until it breaks, at which position the separation of the arms is measurable to determine the extension of the sample at breakage and the load on the upper arm is measurable to determine the breaking load of the sample by subtraction therefrom of the initial load.

3,513,695
ULTRA-LOW-SPEED DYNAMOMETER
Joseph R. Stoddard, Orlando, and Frederick L. Wilson, Apopka, Fla., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed May 25, 1967, Ser. No. 642,667
Int. Cl. G01l 3/16
U.S. Cl. 73—134 5 Claims



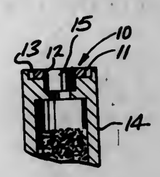
A device for testing the speed and torque of machines having speeds as low as 150°–400° of revolution per minute and torques in the range of 60–700 inch pounds. A reversible transmission is disposed for connection between the machine being tested and a reversible variable speed motor. Means are connected to the motor for controlling the speed and direction of rotation of the motor. A load cell, loaded in opposite directions, is disposed for connection with the transmission for measuring the speed and torque of the machine.

3,513,696
APPARATUS FOR DETERMINING THE RATE OF ASCENT OR DESCENT OF FREE OBJECTS IN A LIQUID MEDIUM
Alexander E. Blair, 75 Willow St., Marshfield, Mass. 02050
Filed Apr. 3, 1968, Ser. No. 718,418
Int. Cl. G01m 10/00
U.S. Cl. 73—148 6 Claims



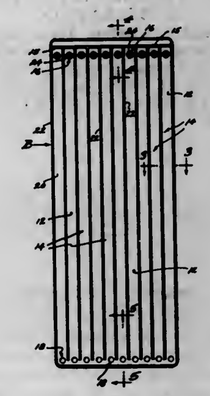
This invention is a hydrodynamic test device consisting of a closed-loop conduit, one segment of which is a transparent test chamber having a vertical axis of flow. The device is primarily used to determine the rate of descent of objects having a specific gravity of more than 1 and rate of ascent of objects having a specific gravity of less than 1 in a liquid under varying simulated conditions of depth and temperature. By circulating the liquid through the test chamber in either direction at a rate which maintains the test object in stationary suspension, the rate of descent or ascent can be measured using a flow rate meter. Temperature conditions are simulated by heating or cooling the water to the desired temperature and depth conditions by a compressor and a bleed valve connected to the conduit. Other characteristics of the test object can be determined by sensors for the variables of interest or by observation.

3,513,697
HAND LOADERS MAXIMUM EXPLOSION PRESSURE INDICATOR
Frederick L. Thayer, Roseburg, Oreg. (3028 SW. Jay, Pendleton, Oreg. 97801)
Filed Aug. 1, 1967, Ser. No. 657,575
Int. Cl. G01l 5/14
U.S. Cl. 73—167 1 Claim



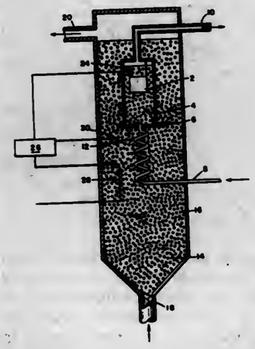
A device, used to measure the maximum pressure developed inside a cartridge when the cartridge is fired within the bore of a suitable firearm. The device includes a ring shaped disk made of metal and fitting into a recess formed in the base of the cartridge, the recess being concentric with the primer hole. The primer is reinserted into its original position prior to the cartridge being fired. The cartridge is then fired, causing the primer and the ring, which was seated around the primer body, to be deformed by forces generated by the exploding charge. The expansion of the ring is measured by a gauge, providing an indication of the approximate explosive pressure that developed in the particular cartridge being tested.

3,513,698
SKIN PRESSURE ANALYZER
Bernard W. Ross, Los Angeles, Calif., assignor to Integrity Products Corp., Los Angeles, Calif., a corporation of California
Filed Apr. 24, 1967, Ser. No. 633,009
Int. Cl. A61b 5/10
U.S. Cl. 73—172 14 Claims



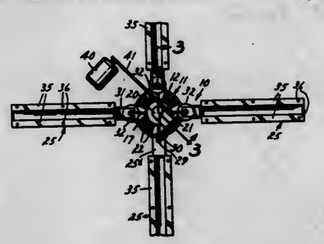
An apparatus for analyzing body pressures as between the skin of a reclining person and a support upon which he is lying, and particularly for determining the distribution of weight and pressures of the area upon which the person is lying. One or more pressure operated body supporting means is provided and to which a measured indicative pressure is applied, the escape of pressure from the body supporting means being the determining factor in establishing the limit of pressure required as a supporting force in each instance; whereby mattresses and the like are fitted to a person's particular needs.

3,513,699
ADIABATIC CALORIMETER
James J. Reilly, Jr., Bellport, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 9, 1967, Ser. No. 681,635
Int. Cl. G01k 17/00
U.S. Cl. 73—190 1 Claim



An adiabatic calorimeter having a reaction chamber immersed in a first fluidized bed, which bed is immersed in a second separate fluidized bed, wherein thermal effects generated in the chamber are determined from the temperature change of the fluidized medium of the first bed, with the second bed preventing heat loss from the first bed.

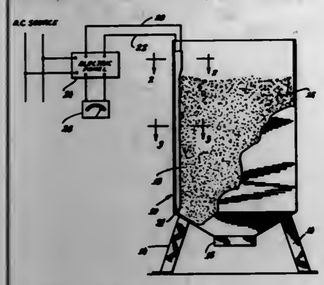
3,513,700
METERING APPARATUS
Charles E. Wiesner and Wallace D. Wiesner, both of 517 7th St., Brookings, S. Dak. 57006
Filed Aug. 16, 1967, Ser. No. 661,034
Int. Cl. G01f 1/08
U.S. Cl. 73—219 10 Claims



Apparatus for metering a flow of material from each of a plurality of sources of a comminuted material such as fertilizer to obtain a single batch of material comprising selected proportions of the original source materials. The original source materials are introduced into equally spaced openings formed in the side wall of a cylindrical housing disposed about a vertical axis. A paddle wheel unit coaxially mounted in the housing for rotation about the vertical axis carries the material from each side

wall opening to one of a plurality of bottom wall openings in the housing. Each bottom wall opening is located midway between an adjacent pair of side wall openings. The paddles on the paddle wheel unit are mounted closer together than the distance between adjacent side and bottom openings to prevent leakage therebetween.

3,513,701
CONTINUOUS TYPE LEVEL DETECTOR FOR STORED FLUENT MATERIALS
Louis Soltanoff, Four Brooks Road, Stamford, Conn. 06903
Filed June 24, 1968, Ser. No. 739,328
Int. Cl. G01f 23/18
U.S. Cl. 73—301 12 Claims



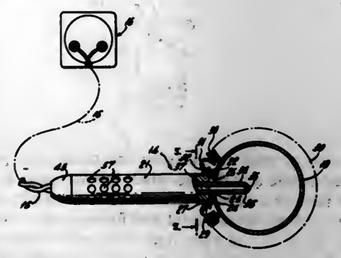
The disclosure relates to a level detector probe for stored fluent materials which continuously produces an electrical signal in direct relationship to the level of the material. It includes a flexible elongated elastomeric sheath within which are mounted spaced parallel longitudinal resistance elements. The area of the sheath in which the resistance elements are mounted is most sensitive to collapse in response to the force of the fluent material to bring the resistance elements into contact. Collapse of the sheath also causes counter spring forces to be set up in the elastomeric material to move the walls of the sheath and the resistance elements thereon apart when the force is removed.

3,513,702
GAGING APPARATUS FOR A TANK
Ralph G. Portis, Highland Park, Ill., assignor to Midland Manufacturing Corporation, Skokie, Ill., a corporation of Illinois
Filed Apr. 18, 1968, Ser. No. 722,314
Int. Cl. G01f 23/08
U.S. Cl. 73—321 4 Claims



Gaging apparatus for indicating in a continuous manner the level of liquid in a tank includes a well member sealed against the entry of liquid or vapor from the tank. A pulley-mounted endless tape is mounted within an inner housing in the sealed well member and magnetically coupled to a float member which is movably guided by the well member in response to varying liquid level. Manual means to permit jiggling is provided to determine the status of the magnetic coupling between float member and tape. Further, subsidiary means is provided to prevent damage to the apparatus when the manual means is actuated.

3,513,703
EXHAUST GAS TEMPERATURE ANALYZING SYSTEM AND METHOD
Richard E. Young, Rocky Hill, N.J., assignor to Unitwin Corporation, Rocky Hill, N.J., a corporation of New Jersey
Filed Oct. 9, 1967, Ser. No. 673,811
Int. Cl. G01k 1/14, 7/12
U.S. Cl. 73—346 11 Claims



Engine exhaust gas temperature analyzing system and method employing a novel thermocouple probe and a simple indicating meter. The hot junction of the thermocouple is disposed directly in the stream of exhaust gas in an exhaust stack; the cold junction is placed outwardly of the exhaust stack, but in the immediate environment of the engine exhaust system, whereby the temperature of the cold junction varies in a manner which is relatively proportional to the actual exhaust gas temperature, thereby partially compensating for variation in ambient conditions. Low resistance leads are employed between the probe and the indicator; such leads need not be of a fixed length for calibrating purposes.

3,513,704
PHOTOMETRIC THERMOMETER AND METHOD OF OPERATION
Donald W. Hatcher, Clinton, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 26, 1969, Ser. No. 827,843
Int. Cl. G01j 5/58; G01k 13/04
U.S. Cl. 73—339 6 Claims



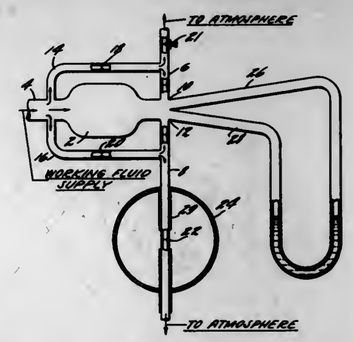
A photometric therometer and method of temperature measurement in which the absorbance of the vapor phase of a volatile liquid in a sealed transparent container is correlated with temperature. The sealed container is placed in an object whose temperature is to be measured. A photometric system is then used to measure the absorbance of the vapor phase within the sealed container and that value correlated with temperature for a particular liquid and wavelength.

3,513,705
METHOD AND MEANS FOR INDICATING ULTRAHIGH TEMPERATURES
Walter C. Severin, Lancaster, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed July 29, 1968, Ser. No. 748,519
Int. Cl. G01k 11/08
U.S. Cl. 73—358 1 Claim



A system for the accurate measurement of the ultrahigh temperatures which occur in ablative type materials during rocket motor firings. The system involves the concept of implanting very small temperature sensors into the ablative material in which temperature measurement is desired. The temperature sensors are composed of precalibrated eutectic mixtures of refractory metals and carbon encapsulated within a graphite container.

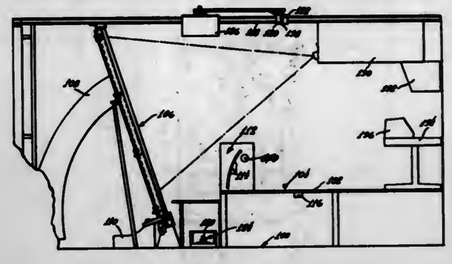
3,513,706
TEMPERATURE SENSOR
Harry R. Berrey, Windsor Locks, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 25, 1967, Ser. No. 677,960
Int. Cl. G01k 5/56, 13/02
U.S. Cl. 73—363 1 Claim



An orifice, the dimensions of which vary with temperature, is disposed in a conduit in parallel with the control port of a proportional fluid amplifier. The conduit is exposed to a fluid, the temperature of which it is desired to measure. As the temperature of the fluid changes, the area of the orifice changes due to thermal expansion or contraction, and the pressure at the control port of the amplifier is varied accordingly, thereby modulating the pressure differential across the outlet ports of the amplifier.

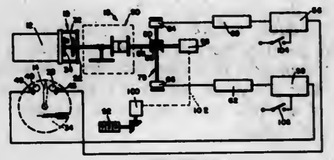
3,513,707
GOLF GAME COMPUTING SYSTEM
Jack A. Russell and Bradford J. Baldwin, Muskegon, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 588,922
Int. Cl. G01l 5/02
U.S. Cl. 73—379 54 Claims

A golf game computing system that utilizes data relative to the initial direction, the initial velocity and spin of a golf ball hit from a tee to continuously compute instantaneous displacements of the ball in three mutually perpendicular directions throughout the calculated flight of the ball and indicates the same by continuously moving a projected spot on a scene. Factors such as gravity, lift due to backspin, drag and bouncing of the ball are taken into consideration in computation. An indicator operated by the computing system illustrates the calculated point of termination of the shot on a map of a golf hole so that the subsequent shot may be played accordingly and provides the golfer with information relative to changing the



displayed scene, or operating a lie selecting device, and chipping and putting. The system includes various features of practical importance for minimizing false triggering of the computer, for automatically resetting the system when false triggering does take place, for disabling the data acquisition portion of the system as soon as data is acquired for a shot and for warning a golfer that he is interferring with the data acquisition system or that the computer is not ready for a subsequent shot.

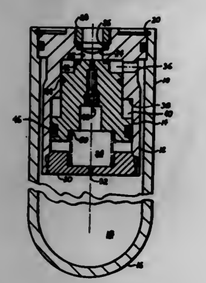
3,513,708
ALTITUDE INDICATING AND REPORTING SYSTEM
Earl W. Springer, Box 220, Fairland, Ind. 46126
Filed June 24, 1968, Ser. No. 739,406
Int. Cl. G01l 7/00
U.S. Cl. 73—384 34 Claims



An aircraft altitude indicating and reporting system comprising an altimeter, electro-optical means for tracking the position of the indicator of the altimeter, first means including a register for registering the position of the indicator and providing an output corresponding to such a position, and second means for operatively connecting the first means to the electro-optical tracking means. This second means is effective, when the indicator moves in one direction, to operate the register to add increments of such movement and, when the indicator moves in the opposite direction, to operate the register to subtract like increments of movement. The tracking means is arranged so that it will, in no way, interfere with the free movement of the indicator of the altimeter. The system of the

present invention, therefore, comprises a standard aircraft altimeter and means for reading the altimeter, which reading means is arranged so that it will, in no way, disturb or change the characteristics of the altimeter.

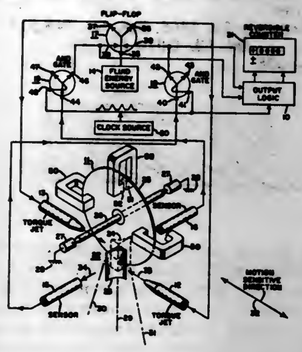
3,513,709
FLUID SAMPLER
Vlash A. Pallos, 1441 S. Loara, Anaheim, Calif. 95125
Filed Jan. 21, 1969, Ser. No. 792,379
Int. Cl. G01n *1/10*
U.S. Cl. 73—425.4 9 Claims



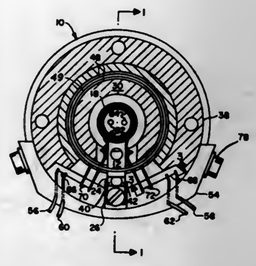
The disclosed embodiment of the present invention is a device for extracting a sample of the water from the ocean. The device is generally formed of a housing and means in an opening of the housing for controlling fluid communication between the ambient surroundings and the inside of the housing in response to ambient pressure. A portion of the housing forms a fluid reservoir for accumulating the sample of water therein. The fluid communication means includes a rupturable disc across the opening in the housing and a piston which restricts fluid communication between the external surroundings and the inside of the housing and which is exposed to ambient pressure upon rupture of the disc. The piston is mounted for movement within the housing upon the application of ambient pressure thereto to permit fluid communication between the external surroundings and the inside of the housing. In one disclosed embodiment of the present invention, a time delay is provided for applying ambient pressure to the other side of the piston, which ambient pressure produces a force on the piston to move it to the closed position thereof. A second disclosed embodiment of the present invention includes a rupturable disc in one end of the piston which is ruptured upon the application of ambient pressure thereof to move the piston to its closed position.

3,513,710
FLUIDIC DIGITAL LINEAR AND ANGULAR MOTION SENSOR
Richard L. Bates, Camillus, N.Y., and Philip E. Talley, Jr., Paoli, Pa., assignors to General Electric Company, a corporation of New York
Filed Dec. 21, 1966, Ser. No. 603,676
Int. Cl. G01p *15/00*
U.S. Cl. 73—503 12 Claims

A fluidic digital accelerometer is disclosed for linear or angular motion. An acceleration sensing mass is provided which is caused to reciprocate continuously about a null position by a pair of opposed fluid torque jets. Any acceleration will cause a displacement in the average position of the mass and a time difference between the amounts of time required for the respective torque jets to establish a dynamic balance. Each jet is operated in evenly spaced timing intervals while the mass is on the same side of null position as the jet, and separate counts are made of the intervals that each jet is in operation. The total count obtained by subtracting one count from the other gives the accumulated velocity. The counting rate gives the acceleration.

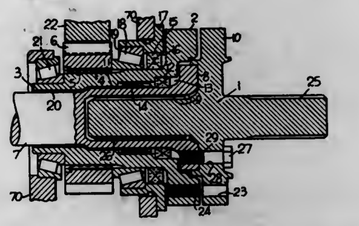


3,513,711
SUBMINIATURE SINGLE AXIS ACCELEROMETER
Herbert Rogall, Maplewood, and Robert Fennell, Little Falls, N.J., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,864
Int. Cl. G01p *15/08*
U.S. Cl. 73—517 4 Claims



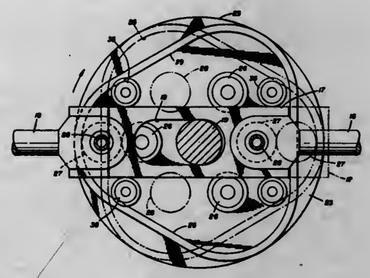
Two cup-shaped magnetic assemblies are fastened together to provide an enclosure or casing for the accelerometer, as well as a magnetic return path for the magnetic assemblies. Each magnetic assembly includes a central pole piece for supporting the primary pickoff coils and for forming air gaps within which a forcer coil may be located. A pendulum or proof mass is supported within the space between the two pole pieces by a flexure hinge or joint which permits movement thereof along the sensitive axis. Mounted on the pendulum is the secondary pickoff coil and the forcer coil each of which is electrically coupled to a harness type terminal board exterior to the casing via a plurality of flexleads. Since the terminal board is movably adjustable along the direction of the spin axis it may be used to provide a "vernier-like" adjustment to effect the null or zero reference condition of the pendulum. Finally, the forcer coil is supported on an aluminum bobbin fixed to the pendulum. The eddy currents induced in the bobbin set up interacting magnetic fields which tend to oppose and therefore damp the motion of the pendulum.

3,513,712
POWER TAKE-OFF ASSEMBLY
William J. Zajichek, Milwaukee, and James W. Crooks, Whitefish Bay, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 11, 1968, Ser. No. 766,864
Int. Cl. F16h *37/04, 37/06*
U.S. Cl. 74—15.2 10 Claims



A reversible power take-off shaft having two standard spline ends and attaching means for correlating the proper drive speed to the spline extending from a drive assembly. A radial flange formed on a double ended shaft having holes unequally spaced provide a means for selectively bolting the power take-off shaft to one of two output drive shafts.

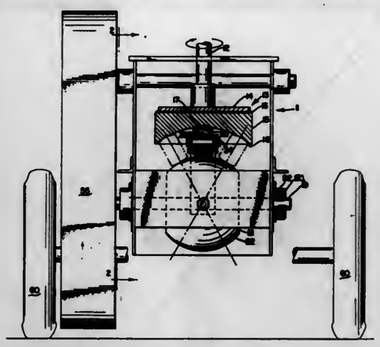
3,513,713
POWER TRANSMISSION DEVICE
Loren L. Schumacher, 3140 Reimer Road, Barberton, Ohio 44203
Filed Aug. 30, 1968, Ser. No. 756,550
Int. Cl. F16h *21/14*
U.S. Cl. 74—55 8 Claims



A power transmission device for either a two or four cycle piston engine. The pistons linearly drive a slotted arm which has cam followers thereon. The cam followers ride in a cam plate along a path defined by cam surfaces and cam rollers. A drive shaft is transversely connected to the cam plate so that the linear motion of the slotted arm is imparted as rotary motion to the drive shaft.

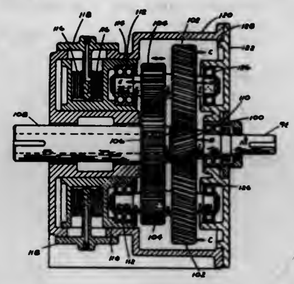
3,513,714
VARIABLE SPEED DRIVE ASSEMBLY
Marvin D. Jennings, Naperville, and Leonard A. Bettin, Lyons, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 2, 1968, Ser. No. 702,637
Int. Cl. F16h *15/26*
U.S. Cl. 74—198 5 Claims

A variable speed friction drive assembly having a self-adjusting idler wheel interposed between concave-convex spherical surfaces of driving and driven elements, the idler wheel being mounted on supporting arms which may



be rotated to various positions along the concave-convex surfaces to obtain variable speed.

3,513,715
SPEED CHANGING MECHANISM
Joseph E. Whitfield, P.O. Box 325, Brockie Drive, York, Pa. 17405; National Bank and Trust Company of Central Pennsylvania, executor of said Joseph E. Whitfield, deceased
Filed Nov. 20, 1967, Ser. No. 684,333
Int. Cl. F16h *57/02*
U.S. Cl. 74—410 24 Claims



Epicyclic gearing having either a sun or spur gear and coaxial internal gear with a plurality of planetary gears therebetween or compound gearing having two coaxial spur gears and compound outer gears connecting therebetween, and means to equalize the load upon all of the planetary and outer gears of either type by the employment of positive, non-flexible and/or incompressible elements or means which are arranged to equalize any positive or negative loads upon the various planetary and outer gears by positive shifting of the operative positions thereof automatically in directions to effect equalizing of the loads on all of said planetary or outer gears.

3,513,716
GEAR SHIFTER MECHANISMS
Kenneth Evans, Doncaster, England, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 23, 1968, Ser. No. 786,288
Claims priority, application Great Britain, Mar. 1, 1968, 10,030/68
Int. Cl. G05g *9/12*
U.S. Cl. 74—473 5 Claims

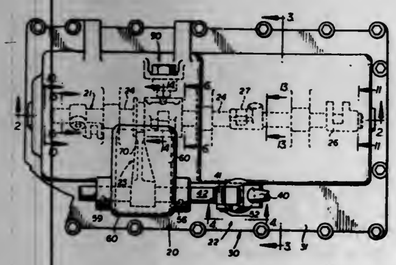
A gear shifter lever carried on two pivots of which the axes intersect at right angles is biased towards its neutral

position by means of a detent, preferably a ball, which is spring-urged between the gear shifter lever and an in-



dentation in one pivot, the indentation having sides angled with respect to the gear shifter lever.

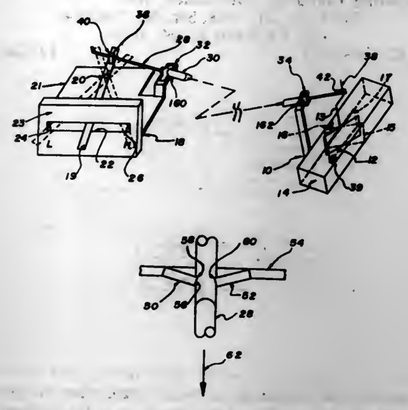
3,513,717
MONORAIL SHIFT CONTROL FOR MULTI-SPEED TRANSMISSION
Harold M. Lickey, Fort Wayne, Ind., and Harold S. Saenger, Clintonville, Wis., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed July 15, 1968, Ser. No. 746,707
Int. Cl. G05g 5/10
U.S. Cl. 74—477 9 Claims



A control mechanism for selecting and shifting the gears of a multi-speed power transmission to establish a plurality of different gear ratios in the transmission including a single reciprocal and rotatable shift rail having a plurality of longitudinally spaced, angularly staggered, radially extending flanges, each of which is individually operatively engageable only with a respective one of the shift forks or gear actuators of the transmission.

3,513,718
CONTROL SYSTEM ADJUSTMENT MEANS
Jerry J. Tomecek, 1330 Dorre, Troy, Mich. 48084
Filed Feb. 15, 1968, Ser. No. 705,661
Int. Cl. F16c 1/10
U.S. Cl. 74—501 36 Claims

There is herein disclosed control system adjustment apparatus comprising a control wire mounted in a wire sheath and connected between an actuator device and an actuable device. Special adjustment clips and apparatus are provided for mounting and connecting the wire and sheath relative to the actuator device and the actuable



device. A special method of adjustment is provided to orient the control wire, the actuator device, and the actuable device relative to one another.

3,513,719
MOTION TRANSMITTING REMOTE CONTROL ASSEMBLIES
August E. Tschanz, Birmingham, Mich., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,524
Int. Cl. F16c 1/06, 1/14, 1/16, 1/26
U.S. Cl. 74—501 27 Claims

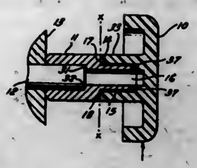


The interconnection of first and second push-pull control assemblies by a first plastic fitting being secured to the end of a conduit of the first assembly and snapped into engagement with a sleeve which at the other end has snapped thereinto a male fitting. The male fitting has threads thereon which coact with the threads in a coupling member and the coupling member has threads at the other end thereof coacting with a threaded fitting disposed on the end of a conduit of the second assembly. Each assembly includes a motion transmitting wire-like core element and the core elements are interconnected by a plastic fastening means. In an alternative embodiment, the fitting on the end of the second conduit is in direct threaded engagement with the sleeve and the other end of the sleeve is in mechanical interlocking engagement with the fitting disposed on the conduit of the first assembly.

3,513,720
BREAKAWAY HANDLE
Davies Allport, La Jolla, Calif., assignor to Amerace Corporation, New York, N.Y., a corporation of Delaware
Filed July 26, 1968, Ser. No. 748,010
Int. Cl. F16d 1/06; G05g 1/10
U.S. Cl. 74—553 5 Claims

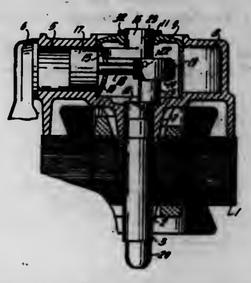
A breakaway handle for use on vehicular instruments includes a knob for finger operation by the user and a hollow sleeve extending rearwardly for engaging a control member of the instrument. The sleeve includes a reduced wall section in a predetermined location so that if

a vehicle passenger is accidentally thrown against the knob causing a predetermined stress, the knob will break



off at the reduced wall section thus substantially improving the safety of the passenger.

3,513,721
SMALL REFRIGERATION COMPRESSOR WITH COMPENSATED CAMSHAFT
Knud V. Valbjørn, Nordborg, and Benät Wegge Rømer, Augustenborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed July 5, 1968, Ser. No. 742,568
Claims priority, application Germany, July 8, 1967, D 53,552
Int. Cl. F16c 3/20
U.S. Cl. 74—603 1 Claim

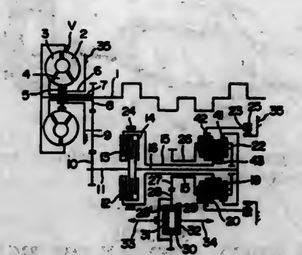


A refrigeration compressor provided with a driven crankshaft in which a crank-journal thereon is provided with a plurality of parallel bores offset from the longitudinal axis of the crankshaft which in conjunction with a plurality of parallel bores disposed in a projection of the crankshaft on to the crank-journal and disposed offset from the longitudinal axis in a direction toward the crank-journal reduce the size of the mass necessary to compensate for the imbalance of the crankshaft caused by the crank.

The present invention relates generally to small refrigeration compressors and more particularly to an improved motor crank-shaft construction.

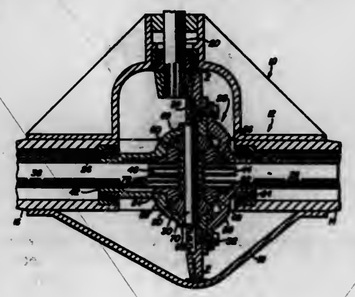
3,513,722
AUTOMATIC SPEED CHANGE DEVICE FOR VEHICLES
Yoichi Mori, Marumo Nagayuki, Fukazawa Noburu, and Obie Koichi, Yokohama, Japan, assignors to Nissan Jidosha Kabushiki Kaisha, Yokohama, Japan
Original application July 18, 1967, Ser. No. 654,231. Divided and this application Mar. 18, 1969, Ser. No. 808,043
Claims priority, application Japan, July 30, 1966, 41/49,650
Int. Cl. F16h 57/08, 57/10
U.S. Cl. 74—695 5 Claims

A speed change device for vehicles comprising a torque converter connected to an engine crankshaft, a clutch means, a brake and one-way clutch means selectively connectable to said torque converter through said clutch means, a brake and one-way clutch means selectively engageable with said planetary gear assembly means, an output gear located at a point corresponding to the longitudinal middle point of said crankshaft, wherein axes of



said clutch means, said planetary gear assembly means, said brake and one-way clutch means, and said output gear are in alignment with a common axis which is parallel with the axis of said crankshaft.

3,513,723
DIFFERENTIAL WITH LOCKING SPIDER GEARS
Joseph H. Stees, R.R. 4, Freeport, Ill. 61032
Filed June 7, 1968, Ser. No. 735,307
Int. Cl. Int. Cl. F16h 1/44
U.S. Cl. 74—711 9 Claims

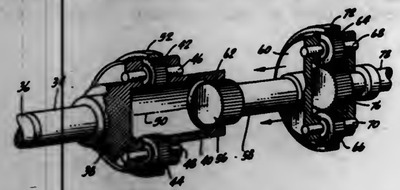


A differential carrier assembly including a carrier body adapted to be journaled in an axle housing for rotation about an axis coinciding with the axes of rotation of attendant axle shafts, the assembly including the usual ring gear and meshed spider and axle gears in addition to a lock portion disposed between and engageable by the adjacent end faces of the spider gears in response to tendency of the spider gears to swing about the aforementioned axis to cause the spider gears to be wedged between the lock portion and the carrier body and thereby frictionally retard the spider gears relative to the carrier body.

3,513,724
SPEED REDUCTION MECHANISM
Glenn D. Box, Norwalk, Calif., assignor to Monogram Industries, Inc., Los Angeles, Calif., a corporation of California
Filed July 17, 1968, Ser. No. 745,510
Int. Cl. F16h 3/52
U.S. Cl. 74—750 5 Claims

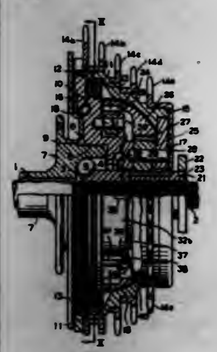
A speed reduction mechanism wherein a first planetary gear assembly and a second planetary gear assembly are

employed in a single unit, the mechanism being adjustable to operate either the first gear assembly or the first



and second gear assemblies thereby effecting two separate reduced speed settings.

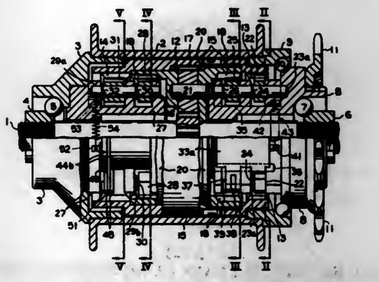
3,513,725
FREE WHEEL ASSEMBLY FOR BICYCLE EQUIPPED WITH AUTOMATIC SPEED CHANGE MECHANISM
Keizo Shimano, Takashi Segawa, and Masashi Nagano, Sakai, Osaka, Japan, assignors to Shimano Kogyo Kabushiki Kaisha, Osaka, Japan
Filed July 15, 1968, Ser. No. 744,805
Claims priority, application Japan, Aug. 8, 1967, 42/50,814
Int. Cl. F16h *3/74*
U.S. Cl. 74—752 3 Claims



This invention relates to a multistage free wheel assembly having a plurality of driving sprocket wheels of different number of teeth adapted to be selectively put into operation being engaged by a driving chain, and provided within the assembly with the sprocket wheel carrier and two kinds of speed-ratio transmission ratchet gearings, one of which a high speed-ratio transmission ratchet gearing, and said high speed-ratio transmission ratchet gearing is associated with oscillatable centrifugal governor weights adapted for bringing said ratchet gearing into or out of operative engagement, so that the speed-ratio transmission condition is automatically changed-over to low speed-ratio or to high speed-ratio transmission condition.

3,513,726
AUTOMATIC THREE-STAGE SPEED CHANGE BICYCLE HUB
Keizo Shimano and Takashi Segawa, Sakai, Osaka, Japan, assignors to Shimano Kogyo Kabushiki Kaisha, Osaka, Japan
Filed July 25, 1968, Ser. No. 747,700
Claims priority, application Japan, Aug. 12, 1967, 42/51,742
Int. Cl. F16h *3/74*
U.S. Cl. 74—752 1 Claim

This invention relates to an automatic three-stage speed change bicycle hub, which comprises a driving sleeve having a usual driving sprocket wheel, a planetary gear mechanism provided between said driving sleeve and the hub shell, a high speed-ratio transmission ratchet gearing, a low speed-ratio transmission ratchet gearing, both ratchet gearings being associated with said driving sleeve



and the internal gear of said planetary gear mechanism, and centrifugal governor weights adapted to effect operative engagement and disengagement of said high speed-ratio transmission ratchet gearings according to speed of rotation of the driving sprocket wheel.

3,513,727
TRANSMISSION CONTROLS
Tetsuo Shimosaki, Asa-gun, Hiroshima-ken, Japan, assignor to Toyo Kogyo Company Limited, Hiroshima-ken, Japan
Filed Sept. 18, 1967, Ser. No. 688,382
Claims priority, application Japan, Sept. 19, 1966, 41/62,140
Int. Cl. B60k *21/00*
U.S. Cl. 74—868 5 Claims



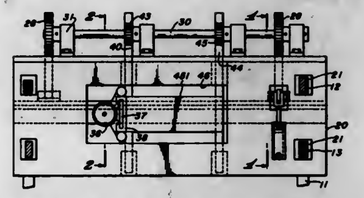
An automatic transmission control for modulating the hydraulic input pressure for the clutch and/or the brake action of the automobile vehicles in conjunction with the hydraulic pressure for the automatic transmission so as to maintain the hydraulic pressure for the brake and/or clutch actions at the substantial irreducible minimum pressure and which pressure declines with increment of the engine and/or driving shaft rotation speed.

3,513,728
METHOD FOR MANUFACTURING APPARATUS USEFUL IN AN ABRASIVE ENVIRONMENT
Lester S. Hudson and Eugene G. Ott, Dallas, Tex., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Original application June 28, 1967, Ser. No. 649,638, now Patent No. 3,461,983, dated Aug. 19, 1969. Divided and this application Feb. 7, 1969, Ser. No. 822,771
Int. Cl. B21k *5/02*
U.S. Cl. 76—108 3 Claims



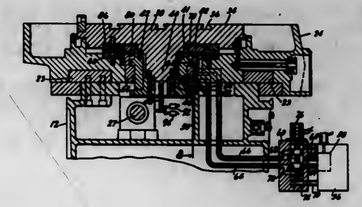
Apparatus that includes a member having a surface thereon exposed to an abrasive environment, the member having a relatively hard insert pressed into a hole in the member and having a hard facing material on the surface of the member surrounding the insert. A method of manufacturing the apparatus wherein the hole is plugged and hard facing material is applied to the surface around the plug. After the hard facing material has been permanently bonded to the surface, the plug is removed and the hard insert pressed into the hole to complete the apparatus.

3,513,729
DOOR DRILLING APPARATUS
George L. Mayo, Fort Worth, Tex., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed July 5, 1968, Ser. No. 742,774
Int. Cl. B23b *41/00, 49/00;* B27m *3/00*
U.S. Cl. 77—62 4 Claims



A door finishing machine in which clamp means clamps a door against a supporting surface and also automatically center a drilling and/or cutting tool between the side surfaces of the door regardless of the thickness thereof.

3,513,730
INDEXING MEANS FOR MACHINE TOOL
Earl Rex Lohneis, Milwaukee, Wis., assignor to Kearney & Trecker Corporation, West Allis, Wis., a corporation of Wisconsin
Filed Sept. 28, 1967, Ser. No. 671,316
Int. Cl. B23b *39/06*
U.S. Cl. 77—64 7 Claims



A means for providing arcuate motion to the index table of a machine tool. The index table is carried by a table base which is supported by, and rectilinearly movable along, the machine tool bed. A rack is mounted on the bed parallel to the direction of movement of the table base. A pinion is mounted on the index table and is selectively engageable with the rack to provide arcuate movement to the index table upon the rectilinear movemnt of the table base.

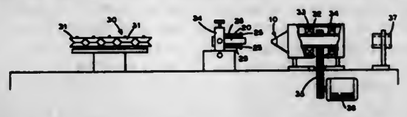
3,513,731
BAR PEELING DEVICE
Anatol Michelson, Glenolden, Pa., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Sept. 11, 1967, Ser. No. 667,631
Int. Cl. B23b *5/00*
U.S. Cl. 82—20 7 Claims

The invention is an improved bar peeling device comprising a feed charging unit for receiving long bars from a crane, or other device, a feed platform, a workpiece receiving unit that reciprocates on the feed platform and pushes a workpiece forward, a work turning device, or head, for reducing the diameters of bars fed therein by the workpiece receiving unit, and a stationary withdrawal unit for pulling the workpiece through the turning device. In particular, the invention involves a turning device or



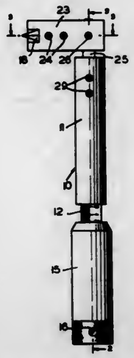
head having two separate cutting heads spaced relatively close together and revolving in opposite directions for reducing torsional stresses within the workpiece. The invention also discloses a novel arrangement of the turning head, the stationary withdrawal unit and the reciprocating workpiece receiving unit.

3,513,732
APPARATUS FOR TRIMMING ELECTRICAL INSULATION
Günther Lehnert, Hannover-Bothfeld, Germany, assignor to Kabel- und Metallwerke Gutehoffnungshutte Aktiengesellschaft, Hannover, Germany, a corporation of Germany
Filed Nov. 25, 1966, Ser. No. 597,063
Claims priority, application Germany, Dec. 3, 1965, H 57,855
Int. Cl. B23b *5/00*
U.S. Cl. 82—20 9 Claims



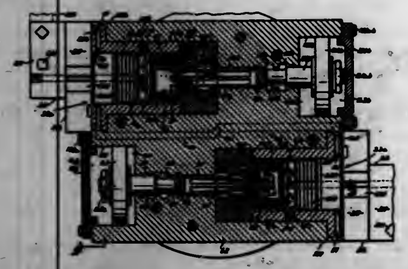
This invention relates to apparatus for trimming insulation applied to elongated electrical conductors; and more particularly, concerns apparatus for shaving the outer surface of plastic electrical insulation by means of a rotating conical cutter head as applied to wires, cables and the like.

3,513,733
CUTTING TOOL FOR A LATHE
James A. Anania, Newark, N.J., assignor of one-half to William J. Matt, Jr., Westfield, N.J.
Filed June 11, 1968, Ser. No. 736,144
Int. Cl. B23b *29/00*
U.S. Cl. 82—36 3 Claims



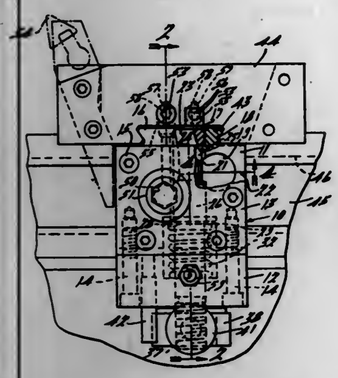
A cutting tool having a micrometer mechanism affording precise adjustment of the cutter tip relative to a workpiece when the tool is secured to the tool holder of a lathe.

3,513,734
TOOL TURRET
Robert K. Burroughs, Batavia, and Timothy A. Wakefield, Cincinnati, Ohio, assignors to The R. K. Le Blond Machine Tool Co., Cincinnati, Ohio, a corporation of Delaware
Filed Apr. 19, 1967, Ser. No. 631,991
Int. Cl. B23b 29/00
U.S. Cl. 82—36 13 Claims



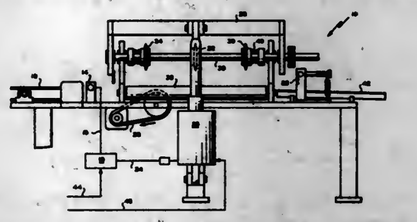
An indexable tool turret for use in a machine tool having an automatic tool changer. The turret has two tool stations, both of which have a motor operated clamp for securing a tool in the station with a locating surface of the tool clamped against a locating surface of the turret. Each station has a plurality of air jets directed at the tool when it is inserted into the station so that dirt and debris are blown clear of the tool and particularly its locating surfaces automatically as the tool is inserted into the station. Indexing of the turret is effected by lifting the tool turret clear of a gear coupling and rotating the turret to a new index position after which it is lowered to reengage the gear coupling. A hydraulic motor raises and lowers the turret and functions as a relatively friction free hydraulic thrust bearing to support the turret in the raised position while it is indexed.

3,513,735
TOOL HOLDING CLAMP
Russell M. Roberts, 30030 W. 8 Mile Road, Farmington, Mich. 48024
Filed Aug. 5, 1968, Ser. No. 750,077
Int. Cl. B23b 29/00
U.S. Cl. 82—36 10 Claims



A clamp for a tool supporting block has a dovetail way which engages a dovetail slot in the wall of the block. The dovetail way is instantaneously released by the release of a wedge through the rotation of a nut on a small portion of a thread lead. The wall of the dovetailed body on one side of the wedge has an aperture provided therethrough to weaken the wall structure so that the one portion of the dovetail way will be deflected away from the other portion thereof when the wedge is moved downwardly in a tapered slot between the two portions to produce an instantaneously locking effect through the rotation of the nut through a small angle.

3,513,736
FLUID CONTROL SYSTEM FOR ARTICLE HANDLING EQUIPMENT
Baxter L. Thornton, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 10, 1968, Ser. No. 735,634
Int. Cl. B23b 7/00; B26d 5/28
U.S. Cl. 82—48 8 Claims



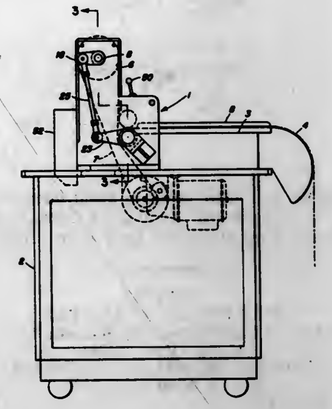
Article handling manipulations, such as cutting an intermediate length of tubing into a plurality of short sections, are controlled by a fluid control system comprising a sensing unit, a first fluid means in communication with this sensing unit for actuating article handling manipulations as a delayed response to a signal from the sensing unit, and a second fluid means in communication with the sensing unit for shutting off the means for actuating the article handling manipulations in case of a malfunction.

3,513,737
DEVICE IN CIGARMAKING MACHINES FOR REMOVING TOBACCO WASTE WHEN CUTTING WRAPPERS OR BINDERS FROM A STRIP OF TOBACCO
Thorvald August Lindstad, Oslo, Norway, assignor to Arenco Aktiebolag, Stockholm-Vallingby, Sweden
Filed June 18, 1968, Ser. No. 737,952
Claims priority, application Sweden, June 29, 1967, 9,632/67
Int. Cl. A24c 1/04
U.S. Cl. 83—100 1 Claim



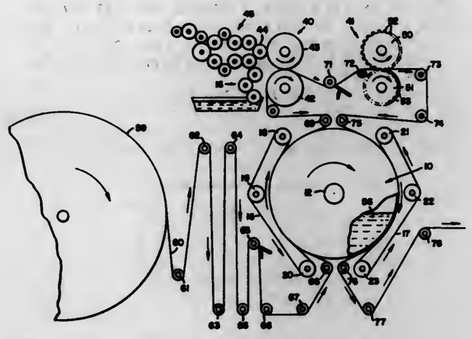
A device in cigar machines for removing tobacco waste occurring at the end portion of a strip of tobacco web material when cutting wrappers or binders from said strip, comprising a cutting die, a reciprocating strip carrier, at least one pivotable plate at the farther edge of the cutting die, which plate completely or almost completely closes an underlying stationary suction chamber and in inclined position forms a slot through which portions of the tobacco strip projecting over the cutting die are drawn by suction during the feeding motion of the strip, said plate being adapted in its inclined position to intersect the under-surface of said reciprocating strip carrier and said strip carrier being adapted in its forward turning position to be situated with its leading edge adjacent the under-surface of said plate.

3,513,738
AUTOMATIC SENSITOMETRIC FILM STRIP CUTTER
Bernard C. Sheffer, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed June 2, 1967, Ser. No. 643,103
Int. Cl. B26d 5/22
U.S. Cl. 83—105 1 Claim



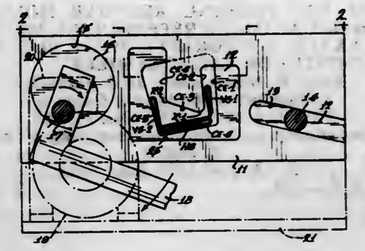
This invention relates to a novel strip cutter and punching apparatus used in cutting strips of a desired width and length from a web. In particular, it pertains to an apparatus adapted to intermittently advance a continuous web of film a predetermined distance by means of a feed roller. Concurrently therewith, the sides of the film web are trimmed to a required overall dimension through the use of rotary cutting knives. At the end of the advance cycle, the leading or advanced portion of the film web is perforated by a plurality of punches or pins and the preceding segment severed by a shearing die member, to thereby form an accurately dimensioned film strip.

3,513,739
CONTINUOUS WEB-HANDLING APPARATUS
Nello J. Petri, 111 Madux Drive, San Francisco, Calif. 94124
Filed Nov. 20, 1967, Ser. No. 684,390
Int. Cl. B65h 17/20, 17/24
U.S. Cl. 83—156 8 Claims



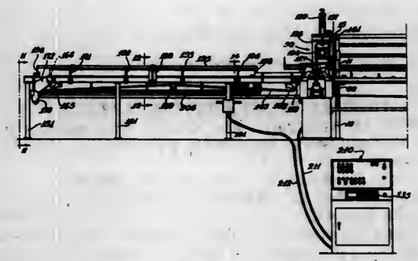
Apparatus for printing and/or punching a continuous web of paper in which the web is fed to and held against a portion of the periphery of a rotating feed cylinder and is moved at the same speed as the peripheral speed of the cylinder, in which the web is then fed from the cylinder through a pair of rollers where the web is printed or punched and in which the web is then fed back to and held against a portion of the periphery of the same feed cylinder, so that the web is fed to and taken from the pair of rollers at an equal rate in order to avoid variations in web tension.

3,513,740
CUTTING DEVICE FOR CLEATS AND OTHER SHAPED STRUCTURALS
George L. Burghart, 1578 Miner St., Des Plaines, Ill. 60016
Filed Apr. 3, 1967, Ser. No. 627,746
Int. Cl. B23d 23/00; B26d 1/00
U.S. Cl. 83—196 4 Claims



A channel iron and cleat cutting device including a first blade having an inside U-shaped cutting edge and a second blade having a sloped bottom outside U-shaped cutting edge mounted together for relative pivotal and sliding movement by a pivot pin and slot and for relative orbital movement by a manually or motor driven eccentric for driving the second blade through a compound pivotal and orbital path relative to the first blade for cutting seriatim a leg, connecting corner, the base and the other corner and leg of the channel.

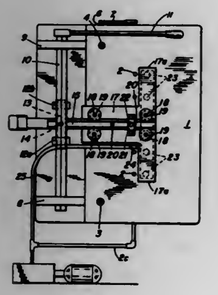
3,513,741
ELECTRONIC STOCK MEASUREMENT APPARATUS
Robert L. Shallenberg, Wheaton, Ill., assignor to Servicemaster Industrial Systems Company, a corporation of Illinois
Filed Nov. 20, 1967, Ser. No. 684,405
Int. Cl. B26d 5/26
U.S. Cl. 83—278 3 Claims



Electronic measurement apparatus for controlling the operation of a cut-off machine for workpieces in the form of pipes, rods and the like such that the workpiece is automatically cut to a desired, preselected length as it is

moved from a storage rack to a discharge conveyor. As the workpiece is pushed by a driven carriage member toward the cut-off machine, an electrical pulse generator mounted on the carriage member produces a predetermined number of electrical pulses corresponding to the amount of translational movement of the workpiece so as to provide an accurate measurement of such movement. These pulses are applied to a predetermined counter circuit which stores the pulse count and provides an output signal to initiate the cutting operation of the cut-off machine as soon as the pulse count reaches the prescribed value set into the counter. In this manner, the workpiece can automatically be cut into pieces of any desired length in accordance with the selective setting of the pulse counter.

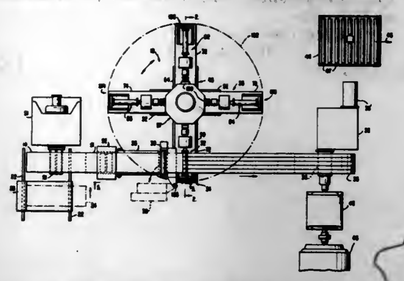
3,513,742
MEANS FOR FORMING REGISTER HOLES, IN INDIVIDUAL IMAGE REPRODUCING MEMBERS IN EXACT CONFORMITY WITH BUT INDEPENDENTLY OF A MASTER SHEET
Ernst E. Schumacher, 3113 Postfach, 6 Frankfort on the Main 1, Germany
Filed Aug. 26, 1968, Ser. No. 755,065
Claims priority, application Germany, Aug. 24, 1967, K 58,658
Int. Cl. B26f *1/02*; B26d *7/00*
U.S. Cl. 83—409 8 Claims



A device for producing register holes in an image producing member in exact conformity with preformed register holes of a master sheet including a work table having at least a pair of fixed space apart hole forming elements, a pair of removable guide pins projecting from the work table surface for positioning a pre-punched master sheet in pre-determined spaced relation with the hole forming elements, and a carrier means for engaging a member registered with the master sheet and shifting the member along a precise path to position for engagement by the hole forming elements.

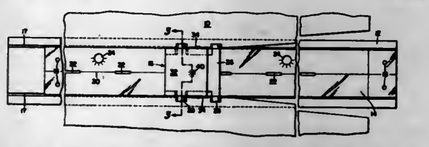
3,513,743
MULTIPLE-HEAD SLITTING APPARATUS
David M. Montguire, Elm Grove, Wis., assignor to National Steel Corporation, a corporation of Delaware
Filed Aug. 21, 1967, Ser. No. 662,061
Int. Cl. B23d *19/06*; B26d *1/16*
U.S. Cl. 83—433 12 Claims

Slitting apparatus includes a plurality of slitter heads carried by a turntable. The turntable is mounted for rotation about a stationary column which carries a drive unit. While one slitter head is operated by the drive unit to slit material at a slitting station, the other slitter heads are at servicing stations. Rotation of the turntable positions any selected slitter head at the slitting station. A feed table and an entry pinch roll assembly are provided along a pass line to the slitting station. The feed table and pinch roll assembly are movable out of the path of rotation of



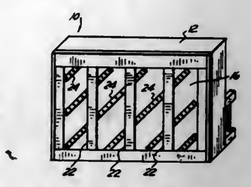
the turntable and slitter heads to avoid interference with rotation of the turntable. An aligning mechanism assures accurate alignment of a slitter head at the slitting station.

3,513,744
MAP OR CHART CUTTER
Paul R. Hershberger, 686 Barbara Ave., Akron, Ohio 44306
Filed Sept. 30, 1968, Ser. No. 763,687
Int. Cl. B26d *1/04, 7/00*
U.S. Cl. 83—520 5 Claims



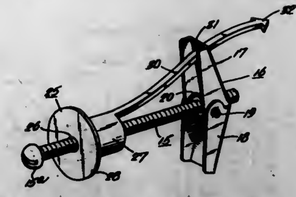
A device for cutting out a portion of a large map or navigation chart, the portion so cut out being of interest to personnel of a vehicle traveling between two locations represented by points on the map. A carriage mounted on rollers supports a pair of spaced-apart cutting edges which, as the carriage is manually moved along a guide overlying the two points of interest on the map, cuts out from the latter a strip which can be conveniently handled by personnel of the vehicle without being encumbered with the remaining map portion which contains nothing of interest insofar as this particular journey of the vehicle is concerned.

3,513,745
PIANO WITH LYRIC TIMBRE SOUND BOARD
Michael Tansky, 15 4th Place, Long Beach, Calif. 90802
Continuation-in-part of application Ser. No. 727,774, May 9, 1968. This application Sept. 30, 1968, Ser. No. 763,772
Int. Cl. G10c *3/06*
U.S. Cl. 84—195 6 Claims



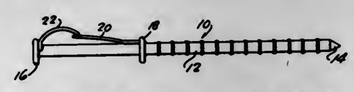
A piano is disclosed having a parallel series of ribs secured to the side of its sound board opposite to the side on which the strings are supported. Each rib has a number of spaced, conical lyric cavities formed in a series that extends substantially the full length of the rib.

3,513,746
ANCHORING FASTENERS
Raynor Morgan Forsberg, 415 S. 28th St., South Bend, Ind. 46615
Filed Sept. 9, 1968, Ser. No. 758,437
Int. Cl. F16b *37/00*
U.S. Cl. 85—3 13 Claims



A blind fastener having an anchor disposed behind a wall is provided with a collet disposed on the front of the wall and releasably connected to the anchor by a screw element passing through an aperture in the wall. The anchor and the collet engage respective sides of the the wall when the screw is rotated clockwise, and the anchor disengages the wall and the end of the screw when the screw is rotated counterclockwise; however, the anchor is prevented from falling into an inaccessible location behind the wall by a tether which passes through the aperture and which connects the collet to the anchor. An operator may then withdraw the anchor from behind the wall by pulling frontward on the collet to permit the blind fastener to be reassembled and reused.

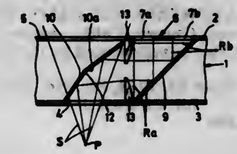
3,513,747
FENCE WIRE SECURING MEANS
Maurice E. Dirks, 1011 College, Scott City, Kans. 67871
Filed Aug. 16, 1968, Ser. No. 753,212
Int. Cl. A44b *13/02*; A16b *15/02*; F16b *35/00*
U.S. Cl. 85—9 8 Claims



A fastener having a shank to engage a fence post; an enlarged post-engaging stop intermediate the length of said fastener; a head at one end, spaced from said stop; a blade secured to said shank adjacent said stop and extending toward said head; a second blade secured to said shank adjacent said head and extending toward said stop, the free ends of said blades overlapping.

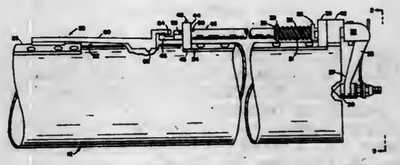
3,513,748
VIEWFINDER FOR PHOTOGRAPHIC CAMERA AND THE LIKE
Friedrich Mische, Braunschweig, Germany, assignor to Voigtlander, A.G.
Filed Mar. 21, 1967, Ser. No. 624,789
Claims priority, application Germany, Mar. 25, 1966, V 30,719
Int. Cl. G03b *13/02, 19/00, 17/50*
U.S. Cl. 88—1.5 6 Claims

A viewfinder having front and rear walls respectively formed with coaxial front and rear viewfinder windows. The front wall carries beside the front window of the viewfinder a light-permeable frame means formed by suitable openings in the front wall through which light enters to form an image of a frame for the object which is seen by the operator when looking into the viewfinder through the rear window thereof. Situated in the space between the front and rear walls behind this frame means is a first optical means for deflecting light rays which enter through the frame means toward the space between the viewfinder windows, and situated between the viewfinder windows is a second, semi-transparent optical deflecting means for deflecting the light rays which are deflected by the first optical deflecting means rearwardly through the rear viewfinder window so that the operator when looking into the latter will see an image of the frame means. This second optical deflecting means has a concave surface directed toward the first optical deflecting means and the rear window so as to provide for the image of the frame means a size larger than that which would be provided if this surface of the second optical deflecting means were flat. The frame means takes the form of angled openings situated at the corners of the frame means and forming lateral frame portions through



which light rays pass to the first optical deflecting means, and the concave surface of the second optical reflecting means is angled and provided with flat surface portions which respectively deflect light which passes through the lateral frame portions of the frame means, these flat surface portions of the angled concave surface intersecting each other along a line which is situated between the light rays which are respectively received from the lateral frame portions. A converging lens means is situated between the front and rear walls of the viewfinder and between the first and second optical deflecting means for providing a sharp image of the frame means and for parallelizing the light rays which respectively pass through the lateral frame portions after the latter light rays have been deflected by the first optical deflecting means.

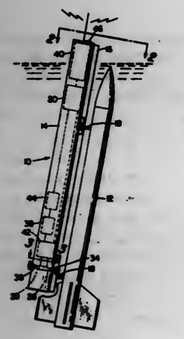
3,513,749
ROCKET LAUNCHER
Kenneth K. Magnant, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 25, 1968, Ser. No. 770,684
Int. Cl. F41f *3/04*
U.S. Cl. 89—1.807 8 Claims



A light-weight, reusable rocket launcher. The launcher includes a plurality of launch tube assemblies held and supported in a cluster. The launch tube assemblies each comprise a rocket launch tube with an easily releasable detent and an igniter. The detent includes a member extending into the tube for engagement with the rocket and retention thereof in the tube during transportation of the launcher and for release of the rocket responsive to ignition thereof. A portion of the detent member extends longitudinally and externally of the tube and is provided with a cam surface on the distal end thereof. The igniter assembly includes a rocket tail engaging member including a longitudinally extending portion having a radially inwardly extending arm at one end thereof. The tail engaging member is spring biased between the tube and the rocket. A cam surface is provided on the opposite end of the longitudinally extending member for operation

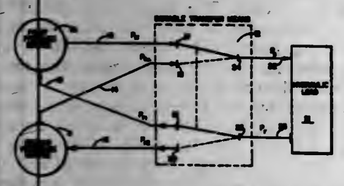
with the detent cam surface. An igniter head is carried by the tail engaging member, substantially along the longitudinal axis of the tube and is held in engagement with the socket by the spring biased assembly. The tail engaging member is disposed for rotational movement for displacement of the igniter head from a first position of engagement with the rocket to a second position which clears the launch tube to permit rearward unloading or loading. Rotational movement of the tail engaging member effects engagement of the detent cam surface and the cam surface of the tail engaging member for simultaneous displacement of the detent for release of the rocket.

3,513,750
FLOATING MISSILE LAUNCHER
Salvatore J. Penza, Oxnard, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 24, 1968, Ser. No. 739,332
Int. Cl. F41f *3/04*
U.S. Cl. 89—1.809 4 Claims



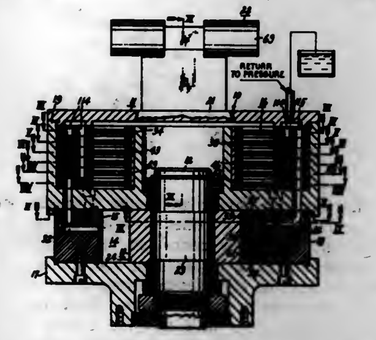
A missile launcher including an elongate buoyant keel structure adapted to float upright in a body of water with a missile launching rail located along one upright side thereof. The keel is provided with an azimuth and elevation sensing mechanism which controls a series of propulsive devices also placed on the keel and which give the launcher and an attached missile desired launch elevation and azimuth positioning.

3,513,751
BISTABLE HYDRAULIC TRANSFER MEANS
Alfonso S. Escobosa, Placentia, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Original application Apr. 1, 1964, Ser. No. 356,458, now Patent No. 3,393,693. Divided and this application Nov. 20, 1967, Ser. No. 720,417
Int. Cl. F15b *13/04*; G05d *11/00*
U.S. Cl. 91—28 3 Claims



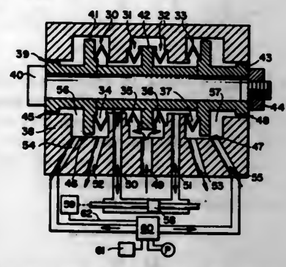
A differential pressure-responsive bistable valve for cooperation with dual pressurized fluid sources, to couple an alternative one of the fluid sources across a hydraulic load, in responsive to a pressure failure in the other of the fluid sources.

3,513,752
MOTOR
Charles B. Perry and Kendall F. Bone, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Company, Cincinnati, Ohio, a corporation
Filed Dec. 15, 1967, Ser. No. 690,948
Int. Cl. B23d *1/02*
U.S. Cl. 91—35 3 Claims



The invention relates to a motor and, more particularly, to a rotary actuator using fluid as its motivating medium and indexable to any one of a plurality of angles up to plus or minus 180 degrees in response to a binary-coded digital-input or other suitable signal.

3,513,753
SERVO ARRANGEMENT
Edward H. Phillips, Los Altos, Calif., assignor to Tydeman Machine Works, Inc., Redwood City, Calif., a corporation of California
Original application Oct. 20, 1967, Ser. No. 676,912, now Patent No. 3,442,290, dated May 6, 1969. Divided and this application Dec. 26, 1968, Ser. No. 803,508
Int. Cl. F15b *9/10*; F16k *17/00*
U.S. Cl. 91—368 4 Claims

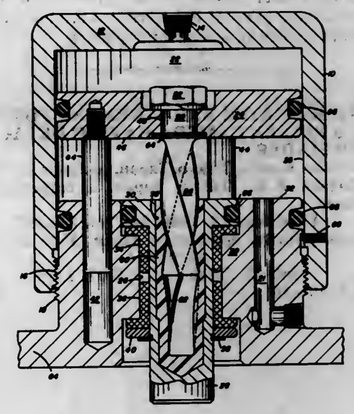


A servo valve comprises at least two valve means each comprising one pair of resilient washers arranged to have peripheral portions thereof contact each other and further arranged to form a chamber therebetween. When fluid pressure in such chamber exceeds a predetermined level, the washers expand to permit fluid to flow therethrough to selectively actuate a servo-motor means.

3,513,754
FLUID OPERATED ACTUATOR WITH ADJUSTMENT MEANS
James W. John, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 27, 1968, Ser. No. 732,374
Int. Cl. F01b *3/00*
U.S. Cl. 92—31 1 Claim

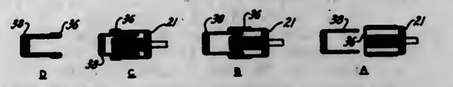
A compact, relatively simple fluid operated actuator or motor comprising a cylindrical member closed at

both ends with an output shaft rotatably extending through one end in a fluid tight manner. The output shaft has a coaxial helical bore extending from the inner end thereof toward the outer end. A piston is mounted for sliding movement in the cylinder and has a helical



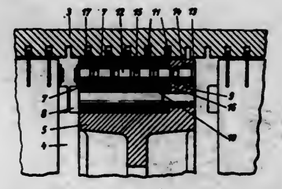
shaft fixedly connected to and extending from one face thereof which engages the helical bore in the output shaft. A guide pin prevents rotation of the piston in the cylinder so that motion of the piston and helical shaft longitudinally of the cylinder rotates the output shaft.

3,513,755
NESTED PLASTIC BAG PRODUCTION PROCESS AND APPARATUS
Richard F. Nestler, Marcus W. Dodd, and Donald B. May, Pittsburgh, Pa., assignors, by direct and mesne assignments, of fifty percent to said May, forty-three percent to said Nestler and seven percent to Mercey Firestone
Filed Oct. 9, 1967, Ser. No. 673,889
Int. Cl. B31b *23/74*, *49/04*; B65h *67/06*
U.S. Cl. 93—12 8 Claims



This invention is apparatus and process for producing nested plastic bags, wherein bags not having round bottoms but instead having a line seal bottom are nested together in groups of roughly twenty-five. In accordance with one specific embodiment, apparatus is provided for producing plastic bags by taking a strip of flat plastic film and automatically converting the flat film into plastic bags and then nesting the plastic bags one inside another in groups of roughly twenty-five to fifty bags. This is accomplished by folding the flat plastic film longitudinally and inserting a mandrel between the folds of the plastic film before the film is made into bags, so that at the time the plastic film is made into a bag the mandrel for nesting the bag is already inside of the bag. A plurality of mandrels are employed which are effectively mounted to move about a common axis and which successively enter portions of the folded plastic film which is to be made into bags. With this motion, substantially all of the reciprocating motion is eliminated from the nesting of plastic bags and high velocities and high rates of production are attainable.

3,513,756
WASTE PICKING AND EJECTING MECHANISM IN MACHINES HANDLING PAPER OR CARDBOARD
Alois Schlitz, Wurzburg, Germany, assignor to Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wurzburg, Germany
Filed May 27, 1968, Ser. No. 732,379
Claims priority, application Germany, June 1, 1967, 1,561,512
Int. Cl. B31b *1/00*
U.S. Cl. 93—36 4 Claims

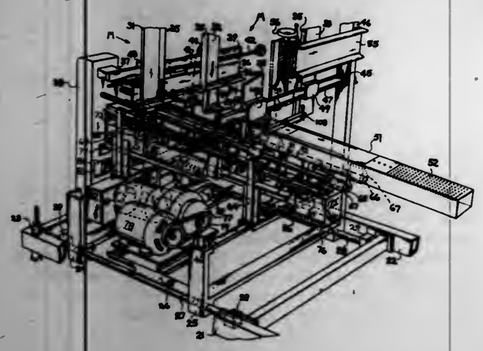


This is a machine for handling different forms of waste paper or cardboard sheets. There is a cylinder with annular axially spaced apart grooves. In running with this cylinder is another cylinder specially made up. The groved cylinder is adjustably positioned with respect to the second cylinder. This second cylinder is composed of disks axially side by side and inserted between these disks are disk segments that carry protruding spurs that are arranged in alignment with and project into the grooves of the grooved cylinder to punch into the waste sheets. The disk segments carrying the spurs are arcuate and have slots extending in from their bottom edges and these slots terminate in a circular arc. A bolt having alternate large portions corresponding to the circular arcs in the segments and smaller portions corresponding to the slots in the segments extends through the slotted segments and is spring biased for axial movement. In normal position, the bolt holds the segments with their spurs extended into the grooves on the grooved cylinder. The bolt when axially pushed against the spring brings its smaller portions into alignment with the slots in the segments and permits removal of insertion of the segments. There is a plastic transparent template that is marked with the spacing of the grooves and it is marked for the desired positioning and installation of the disk segments carrying the spurs. Thus, the selected template for the sheets to be picked is secured to the grooved cylinder with the groove markings aligned. The markings where disk segment spur penetrations are to take place indicates where on the disk cylinder the disk segments should be installed as the grooved cylinder is progressively and slowly rotated for carrying out the installation of the disk segments. The positioning of the disk segments may be tested by installing a template and rotating the groved cylinder against the rotated disk cylinder thereby causing penetration of the spurs into the template as a check of their proper positioning. The grooved cylinder is rotatably supported in bearings at each end that are mounted in an eccentric collar mounted in end frames. A lever attached to the collar is rotatable under the control of a further lever controlling the rotation of a cam that pivots the first lever to rotate the collar having the bearing eccentrically mounted therein.

3,513,757
MANUFACTURE OF OPEN-TOPPED TRAYS
Frank J. Di Frank, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed July 14, 1967, Ser. No. 653,463
Int. Cl. B31b *1/26*
U.S. Cl. 93—49 12 Claims

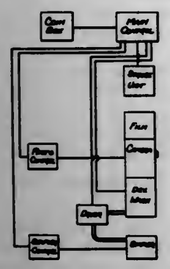
This application discloses apparatus for forming an open-topped tray from a flat blank of corrugated fibre-

board, or like material, such blank having a rectangular central panel, a perimetrical series of four wall-forming panels foldably joned to the edges of the central panel along fold lines formed by scoring, or equivalent, and a pair of corner flaps foldably attached to the free ends of each of an opposed pair of the wall-forming panels. The apparatus comprises a vertically reciprocatable forming mandrel conforming in outline to the central panel, means to fold the flap-containing wall-forming panels to upright positions, means to fold the corner flaps of the flap-



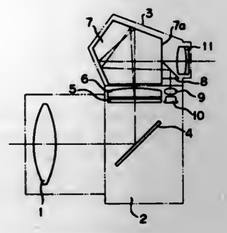
containing panels to inwardly extending positions, means to fold the other opposed pair of wall-forming panels to at least a partially upright position and a chamber located subjacent the forming station for completing any remaining folding of the other opposed pair of panels to bring them to upright positions overlying a flap from each of other opposed pair of panels and for maintaining the other opposed pair of panels in pressure contact with said flaps to allow adhesives previously applied to said flaps, or to the other pair of panels, to set up.

3,513,758
APPARATUS FOR TAKING, DEVELOPING, COMPILING, AND BINDING A SERIES OF PHOTOGRAPHS
Thomas A. Patty, Coral Gables, Fla., assignor to Leonora Mining & Milling Company, Dade County, Fla., a corporation of Utah
Filed Aug. 13, 1965, Ser. No. 479,514
Int. Cl. G03b *29/00*
U.S. Cl. 95—1 **5 Claims**



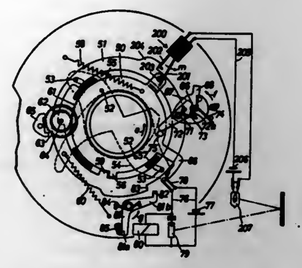
An apparatus for taking a series of pictures, finishing them, and binding them into the form of a book. The apparatus comprises a camera which will take a series of pictures in rapid sequence. Following this operation, a knife severs the exposed piece of film and it is sent through a developing and drying section, and then into a section where it is cut up into frame sections which are formed into a stack. Subsequently further apparatus places cover material on the stack and the whole is compressed and stapled by a later section of the apparatus, to form the book. All these parts of the apparatus are operated by an automatic control in a sequential pattern.

3,513,759
EXPOSURE METER ARRANGEMENT FOR SINGLE LENS REFLEX CAMERA HAVING DETACHABLE VIEWFINDER
Hidenobu Kondo, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed June 19, 1968, Ser. No. 738,197
Claims priority, application Japan, June 23, 1967, 42/53,454
Int. Cl. G03b *19/12*; G01j *1/16*
U.S. Cl. 95—10 **6 Claims**



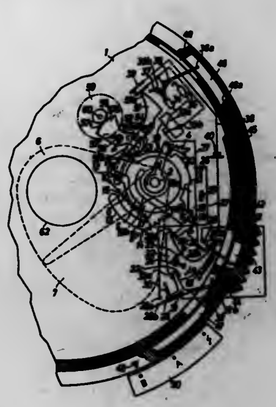
A photometric system for a single lens reflex camera in which all of the exposure meter components are mounted within the camera body. The pentaprism viewfinder is so aranged as to permit the removal thereof from the camera body when the camera is not in use. The exposure meter circuit is provided with a switch which is actuated by the film advancing mechanism.

3,513,760
CAMERA SHUTTER PARTICULARLY ADAPTED FOR USE AS DIAPHRAGM
Gerd Kiper, Unterhaching, Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Jan. 29, 1965, Ser. No. 428,938
Claims priority, application Germany, Jan. 30, 1964, A 45,116; Mar. 19, 1964, A 45,531; June 11, 1964, A 46,287
Int. Cl. G03b *7/08, 9/58*; G01j *1/46*
U.S. Cl. 95—10 **31 Claims**



A camera shutter wherein a leading ring opens the blades during movement from cocked toward rest position and wherein a trailing ring closes the blades upon completion of movement of the leading ring. The movement of the leading ring to rest position is controlled by a retard mechanism.

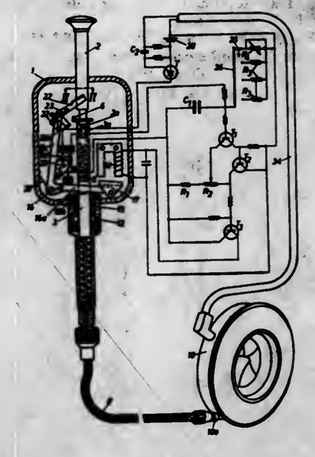
3,513,761
EXPOSURE CONTROLS FOR CAMERAS
Gerd Kiper, Carl-Duisberg-Strasse 33, Unterhaching, Munich, Germany
Original application Nov. 20, 1964, Ser. No. 412,649. Divided and this application Nov. 10, 1966, Ser. No. 593,466
Claims priority, application Germany, Nov. 23, 1963, A 44,630
Int. Cl. G03b *9/64*
U.S. Cl. 95—53 **10 Claims**



A photographic camera wherein a driving member moves the shutter blades to closed positions in response to energization of a relay which is in circuit with a fixed resistor or with a photosensitive receiver and with two switches which are connected in parallel. One of the switches is closed by the shutter release to complete the circuit of the relay, and the other switch is closed in response to movement of shutter blades to open positions and remains closed irrespective of the position of the one switch until the relay is energized and permits movement of shutter blades to closed positions.

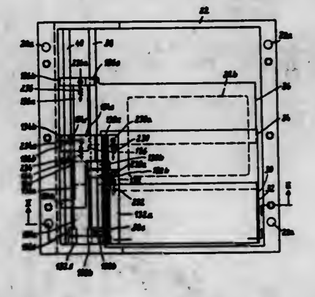
3,513,762
RELEASING DEVICE EQUIPPED WITH AN ELECTRONIC TIMING MEANS FOR RELEASING A PHOTOGRAPHIC CAMERA
Winfried Espig, Calmbach, Black Forest, Germany, assignor to Prontor-Werk Alfred Gauthier G.m.b.H., Calmbach, Black Forest, Germany
Filed Sept. 15, 1967, Ser. No. 668,071
Claims priority, application Germany, Sept. 19, 1966, P 40,414
Int. Cl. G03b *9/64*
U.S. Cl. 95—53.3 **6 Claims**

A releasing device for a photographic camera that has adjustable electronic timer for the control of exposure times of different durations in the B setting of the camera. A release tappet is provided to act on the shutter of the camera. The release tappet is connected to the wire release connection of the camera and operates in conjunction with the electronic timer. A feed line is provided between the current source and the individual components of the electronic timer. A thyristor is connected in the feed line to control the flow of current in the feed line.



The grid of the thyristor is ignited by a voltage upon the actuation of the flash contact member of the camera.

3,513,763
PHOTOGRAPHIC SHUTTER
Franz Singer, Munich, Germany, assignor to Compur-Werk Gesellschaft mit beschraenkter Haftung & Co., Munich, Germany, a German firm
Filed Nov. 6, 1967, Ser. No. 680,814
Claims priority, application Germany, Nov. 10, 1966, C 40,652; Nov. 11, 1966, C 40,672
Int. Cl. G03b *9/36*
U.S. Cl. 95—55 **12 Claims**



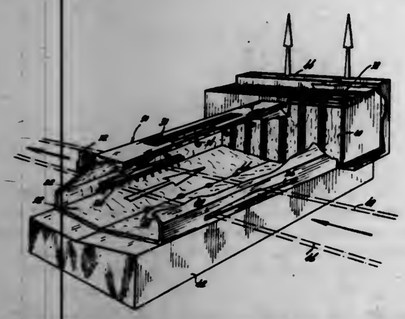
A photographic shutter of the focal plane type, has four thin slides or blades, preferably of metal, two of which participate in the opening movement and the other two participate in the closing movement. Two guide rods extend parallel to the focal plane on one side of the picture area. The two opening slides are mounted on the first guide rod, with parts engaging the second guide rod to hold the slides against rotation around the first guide rod. The two closing slides are mounted on the second guide rod, with parts engaging the first guide rod to prevent rotation of the slides. The slides are individually spring powered, the springs of the primary slides (the main opening slide and the main closing slide) being more powerful than the springs of the trailing or follow-up secondary slides.

3,513,764
INSTALLATION FOR VENTILATING VEHICLE INTERIOR SPACES
Helmut Stieber, Dedlingen, Wurttemberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Feb. 2, 1968, Ser. No. 702,712
Claims priority, application Germany, Feb. 4, 1967, D 52,280
Int. Cl. E06b 3/00
U.S. Cl. 98—2 10 Claims



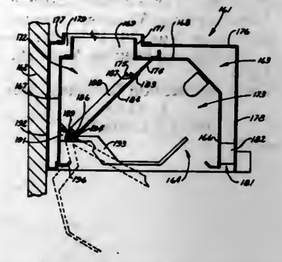
An installation for venting vehicle interior spaces in which venting apertures are provided in a structural element forming a part of the wall of the vehicle whereby the venting apertures are covered by a plate on the inside of the structural wall element so as to form a discharge channel by the spacing of the plate from the structural element while perforations are provided in the plate which are distributed over a large surface relative to the venting apertures in order to assure a draft-free ventilation.

3,513,765
WET WALL SPRAY-COATING CHAMBER
Hendrik F. Bok, 819 Tucker Road, North Dartmouth, Mass. 02747
Continuation-in-part of application Ser. No. 676,599, Oct. 19, 1967. This application Mar. 26, 1969, Ser. No. 810,773
Int. Cl. B05b 15/00
U.S. Cl. 98—115 9 Claims



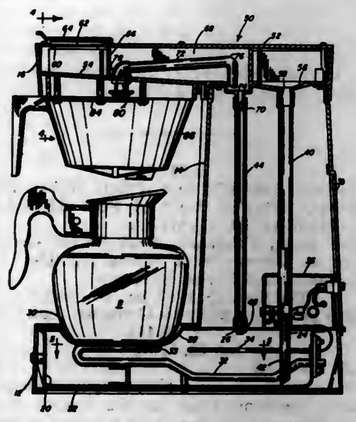
Wet wall chamber for controlling a spray coating environment so as to eliminate the effects of overspray and bounceback of spray dust particles, particularly a structure for circulating solvent for the spray coating as a pluraltiy of staggered downwardly flowing streams, defining a baffle at one end of the chamber, and simultaneously flowing solvent downwardly on the inside inclined roof of the chamber.

3,513,766
VENTILATING HOOD
Willard K. Ahlrich, 511 Hamilton Road, Parchment, Mich. 49004
Continuation-in-part of application Ser. No. 560,401, June 27, 1966. This application June 24, 1968, Ser. No. 739,518
Int. Cl. F23j 11/00
U.S. Cl. 98—115 11 Claims



A hood structure for exhausting fumes from a food-cooking device located below the hood structure. An exhaust chamber is connected to a gas-moving assembly to withdraw the fumes released from the food on the cooking device, and an air supply chamber is also connected to said gas-moving assembly for replacing with relatively fresh air most of the air and the fumes which are withdrawn. The air flow velocity and volume are maintained at levels assuring movement of the supply air and fumes in a pattern which will remove the fumes without adversely affecting the temperature or other characteristics of the food being cooked.

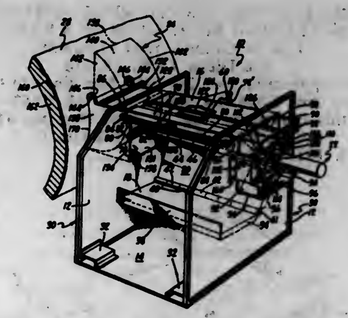
3,513,767
COLD WATER POUR-IN BEVERAGE BREWING DEVICE
Harold Bloomfield, Chicago, August C. Purpura, Melrose Park, and Melvin F. Roberts, Niles, Ill., assignors to Bloomfield Industries, Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 11, 1968, Ser. No. 758,956
Int. Cl. A23f 1/00
U.S. Cl. 99—282 10 Claims



A pour-in beverage brewing device of the conventional C-shaped configuration, but in which the water tank is horizontally oriented and positioned in the base to afford great stability to the device. The heating element and hot water in the tank perform the additional function of keeping warm brewed beverage in a beaker. Although the device operates with a most efficient siphon action, there is no direct physical connection between the discharge line and the water tank.

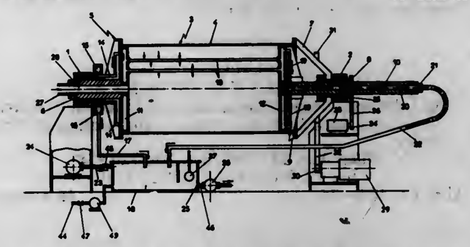
ERRATUM
For Class 99—301 see:
Patent No. 3,514,301

3,513,768
MATERIAL HANDLING APPARATUS
Berton G. Altmann, Los Gatos, and John D. Bailey, San Jose, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed June 3, 1968, Ser. No. 733,969
Int. Cl. B30b 7/00, 9/00, 15/06
U.S. Cl. 100—98 15 Claims



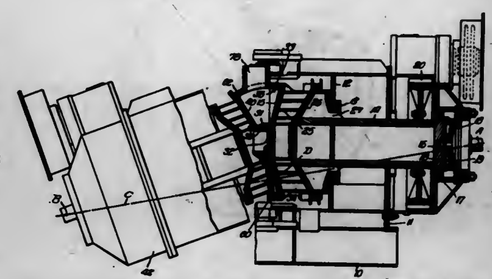
A material handling apparatus for effecting compaction of material and the transfer of compacted material wherein means including a ram is used to effect removal of the compacted material through a discharge opening in the apparatus into a combustion furnace or the like.

3,513,769
JUICE PRESS
Anton Sutter-Christ, Uzwil, Saint Gall, Switzerland, assignor to A. Sutter AG, Uzwil, Saint Gall, Switzerland
Filed Nov. 3, 1967, Ser. No. 681,063
Claims priority, application Switzerland, Nov. 7, 1966, 16,018/66
Int. Cl. B30b 9/02, 9/06
U.S. Cl. 100—107 15 Claims



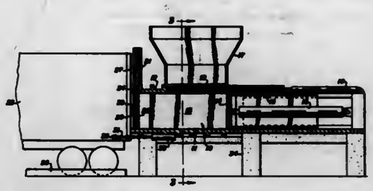
In a juice press a drum is provided with two end walls one of which is movable toward and away from the other so as to subject fruit or similar material contained in the drum to compression and to express juice therefrom. A plurality of hoses are arranged in the interior of the container and communicate with the exterior thereof. Each of the hoses is liquid-permeable and comprises at least two coextensive elongated inserts which prevent the collapse of the hose during the compression of the material so as to assure free evacuation of juice from the drum.

3,513,770
PRESS
Harold F. Silver and Frank B. Price, Denver, Colo., assignors, by mesne assignments, to CF&I Engineering, Inc., Denver, Colo., a corporation of Colorado
Original application Oct. 27, 1965, Ser. No. 505,333, now Patent No. 3,431,839, dated Mar. 11, 1969. Divided and this application May 15, 1968, Ser. No. 729,217
Int. Cl. B30b 3/04
U.S. Cl. 100—158 11 Claims



A press having an opposed pair of rotating conical discs. The apices of the discs are mounted on substantially the same center point. The discs are pivoted about the same center point to form a nipline for compression of material therebetween. The arrangement maintains uniform compression at all radial dimensions during pivotal movements of the discs.

3,513,771
CONTAINER LOADING SYSTEM
Wallace M. Felts, Fort Worth, Tex., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 6, 1968, Ser. No. 750,555
Int. Cl. B30b 15/32
U.S. Cl. 100—218 1 Claim

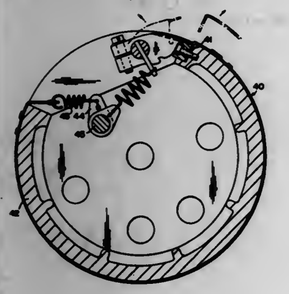


A refuse handling system including a stationary compressor having a compaction chamber, a hopper thereabove, a ram within the chamber and a movable bulkhead opposite the ram whereby the compressed refuse may be transferred to a movable container.

3,513,772
APPARATUS FOR EMBOSSING PAPER SHEETS IN AN OFFSET PRINTING PRESS
Joseph Brasty, 2197 E. 18th St., Cleveland, Ohio 44115
Filed Jan. 27, 1969, Ser. No. 794,007
Int. Cl. B44b 5/00; B41f 5/02, 27/12
U.S. Cl. 101—23 5 Claims

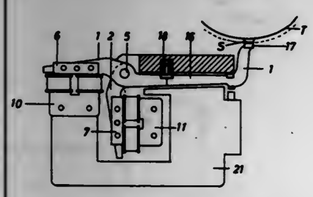
This apparatus is for use with an offset or multilith printing press and the apparatus includes an arcuate embossing plate having a dependent flange on the leading

end thereof which extends inwardly of the impression cylinder in a printing press and is secured to such impression cylinder so that the embossing plate extends over a portion of the surface of the impression cylinder. The embossing plate is relatively thin and has elevated sec-



tions thereon forming indicia to be directly embossed into a paper sheet as it is fed between the transfer cylinder and impression cylinder for printing action thereon. The present invention also relates to a method of embossing paper sheets simultaneously while printing the same.

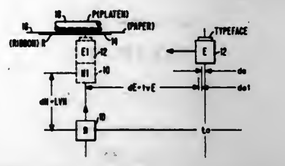
3,513,773
PRINTING MODULE FOR HIGH SPEED PRINTERS
Gianluigi Ponzano, Ivrea, Turin, Italy, assignor to Olivetti-General Electric S.p.A., Caluso, Turin, Italy, a corporation of Italy
Filed Sept. 30, 1966, Ser. No. 583,368
Claims priority, application Italy, Sept. 30, 1965, 21,735/65
Int. Cl. B41j *1/04*
U.S. Cl. 101—93 4 Claims



A high speed print hammer module including an electromagnet, an arm supporting the armature and hammer, which are at opposite ends of the arm, a pivot point intermediate the extremities of the arm, and a deformation in the arm between the armature and pivot point.

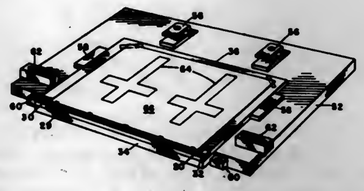
3,513,774
PRINTER HAMMER COMPENSATION
Joseph P. Pawletko, Endwell, and Charles O. Ross, Endicott, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 1, 1968, Ser. No. 741,560
Int. Cl. B41j *9/30*; H01h *47/32*
U.S. Cl. 101—93 10 Claims

In a high speed printer having electromagnetically controlled print hammers which are activated to print by an enabling signal in timed relation with the movement of a moving type character bearing element, corrections in the timing of the enabling signal are made to compensate for variations in parameters such as the source



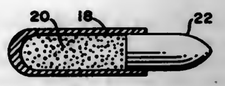
voltage and the velocity of the character bearing element, and thus produce more uniform print quality.

3,513,775
PROCESS FOR REGISTERING AND SILK SCREENING BOTH SIDES OF A SHEET
Lyle D. Guthrie, 1801 Moore St., San Diego, Calif. 92110
Original application Oct. 28, 1963, Ser. No. 319,112, now Patent No. 3,336,864, dated Aug. 22, 1967. Divided and this application Aug. 21, 1967, Ser. No. 677,813
Int. Cl. B41f *15/00, 1/20*; B41m *1/12*
U.S. Cl. 101—129 2 Claims



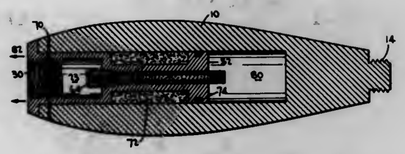
This method achieves great accuracy in the placement of the master design on a smooth printing surface and the placement of the material to be dyed or inked. Registration bars are very accurately located relative to the printing surface and silk screen equipment used. The sheet material to be printed remains attached at one edge thereof to a registration bar for printing first on one side and then on the other. The material is progressively laid onto the printing surface by gradually withdrawing a support from the underside of the material.

3,513,776
CONSUMABLE CARTRIDGE CASE
John J. Driscoll, Paris, France, assignor to Allied Research Associates, Inc., Concord, Mass., a corporation of Delaware
Filed Apr. 11, 1968, Ser. No. 720,558
Int. Cl. F42b *9/14, 39/02, 5/30*
U.S. Cl. 102—38 16 Claims



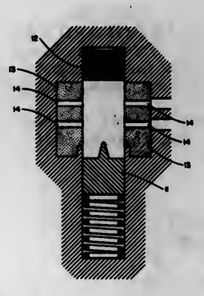
A consumable cartridge case fabricated from consumable materials reinforced by consumable filaments so that a high strength case of a combustible or consumable nature is provided.

3,513,777
PARACHUTE RECOVERY SYSTEM FOR FUZE TESTING
Thomas I. Hannold, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 5, 1968, Ser. No. 710,535
Int. Cl. F42b *13/02*
U.S. Cl. 102—56 5 Claims



A testing and recovery system to test an unmodified fuze with a standard projectile and to recover the fuze after operation but before destruction of the projectile by impact with the ground. The system additionally gives an indication of the point on the projectile trajectory at which the fuze operated.

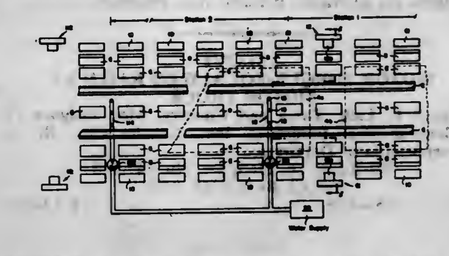
3,513,778
SELF-STERILIZING FUZE
Robert W. Heinemann, Dover, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 9, 1968, Ser. No. 707,376
Int. Cl. F42c *3/00, 9/00, 9/08*
U.S. Cl. 102—70 6 Claims



An annular ring of deliquescent material circumscribing the cavital area between a firing pin and an initiator, said ring adapted for use in the deposition of a stone-like mass in said cavital area as a result of having dispersed therein an oxide or hydroxide of either magnesium or calcium.

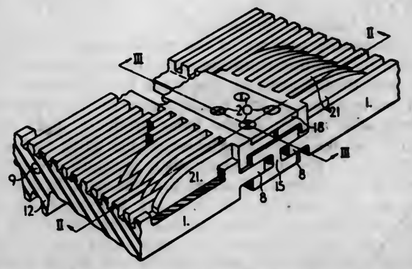
3,513,779
RAILWAY CAR THAWING SYSTEM
Calvin M. Aitken, Mayfield Heights, Ohio, assignor to Aitken Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 5, 1968, Ser. No. 757,597
Int. Cl. B61b *1/00*
U.S. Cl. 104—1 9 Claims

A railway ore car thawing system of the type including roadbed mounted electric heater means for heating the lower discharge portions of the cars, characterized by the provision of normally deactivated spray means for spraying cooling water on the brake hose connections between each pair of cars, and stationary sensor means



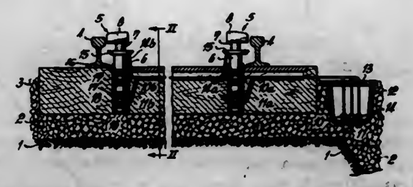
responsive to the opening between a pair of cars for actuating said spray means.

3,513,780
CONVEYORS
Peter J. Jenkins, Sandbach, England, assignor to The Dunlop Company Limited, London, England, a British company
Filed July 24, 1968, Ser. No. 747,329
Claims priority, application Great Britain, Aug. 9, 1967, 36,488/67
Int. Cl. B65g *15/24*; B61k *1/00*
U.S. Cl. 104—25 17 Claims



Belt-type conveyor capable of following a nonlinear path in a single plane, comprising a train of load-carrying panels pivotally connected together and toothed bridging means cooperating with ribs formed on the panels, to close the gap between successive panels.

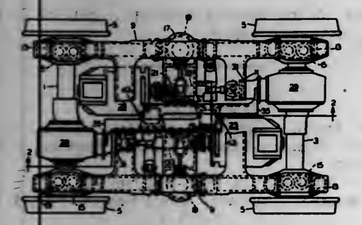
3,513,781
OIL LEAKAGE COLLECTING MEANS FOR RAILWAY SPEED CONTROL MEANS
Heinrich Schulte, 8 Markenstr., 5812 Herbede-Kampen, Germany, and Gunter Meschonat, Holsteiner Str. 10, Dortmund, Germany
Filed Feb. 19, 1968, Ser. No. 706,288
Claims priority, application Germany, Feb. 28, 1967, K 61,543
Int. Cl. B61b *13/00*
U.S. Cl. 104—162 5 Claims



The specification describes hydraulically and hydraulically-pneumatically controlled units for regulating the speed of rolling stock so as to accelerate slowly moving

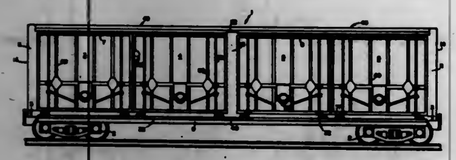
rolling stock and decelerate rolling stock which is moving too fast. Means are provided for collecting the leakage oil from the hydraulic parts of the apparatus.

3,513,782
MOTOR TORQUE-EQUALIZED RAILWAY MOTOR TRUCK
Richard L. Lich, Town and Country, Mo., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware
Filed July 26, 1968, Ser. No. 747,910
Int. Cl. B61c 9/48, 9/50
U.S. Cl. 105—135 9 Claims



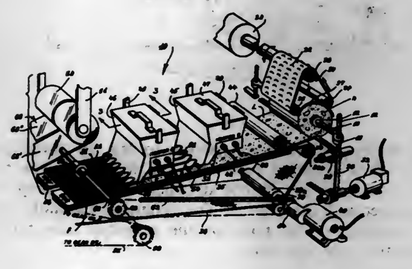
In a railway two axle motor truck of the type in which the truck frame is spring-supported on the axles, means for eliminating spalling of the rail-engaging surfaces of the wheels resulting from the conventional support of the gear box torque arms on the truck frame whereby vertical movements of the truck frame on its supporting springs with respect to the axles produces slight reciprocation of the axles lengthwise of the truck and slight oscillation of the axles about their axes. In the present construction, instead of supporting the gear box torque arms on the truck frame, they are supported on each other, preferably at points spaced longitudinally of the truck, and their connections to each other are such that relative movement longitudinally of the truck between them is permitted to accommodate changes in the distance between axle centers resulting from different vertical movements of the axles with respect to the truck frame.

3,513,783
RAILWAY FREIGHT CARS AND DOOR MEANS THEREFOR
William H. Mayfield and George A. Sably, Cottage Grove, Oreg., assignors to Georgia-Pacific, Portland, Oreg., a corporation of Georgia
Filed June 5, 1967, Ser. No. 643,448
Int. Cl. B61d 19/00
U.S. Cl. 105—378 10 Claims



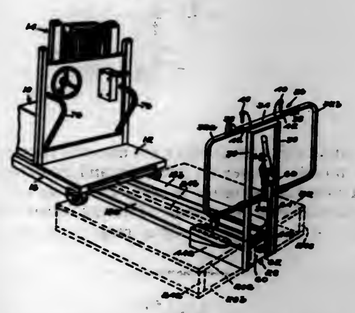
Railway freight car construction providing extended doorway openings along its sides to permit unencumbered and expeditious loading oeprations by reason of direct access from either side to any part of the car interior. Doors of the plug-sliding type are carried by track means permitting same to be longitudinally relocated permitting access to either half of the car's interior, such relocation including moving the doors outwardly and alongside like doors positioned within the closed half of the car.

3,513,784
MACHINE FOR CONTINUOUSLY MAKING FILLINGS FOR SANDWICHES
Samuel A. Kesselman, 175—25 139th Road, Jamaica, N.Y. 11434
Filed June 7, 1967, Ser. No. 644,323
Int. Cl. A23p 1/00
U.S. Cl. 107—1 7 Claims



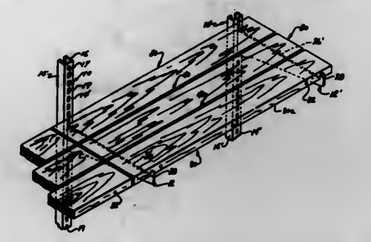
A machine is described in which a roll of processed meat is rotated continuously while a continuous sheet or layer is sliced from the roll. The layer of meat passes under one or more containers of heated cheese. The cheese is extruded in strips on the moving meat layer. The strips may be of different types of cheese. The layer bearing continuous strips of cheese is cut into individual slices which are separately wrapped.

3,513,785
PALLET GUARD RAIL
Harold C. Bennett, Watertown, Mass., and Gerald F. Russes, La Canada, Calif., assignors to Lewis-Shepard Company, Watertown, Mass., a corporation of Massachusetts
Filed June 13, 1968, Ser. No. 736,620
Int. Cl. B65d 19/44
U.S. Cl. 108—55 4 Claims



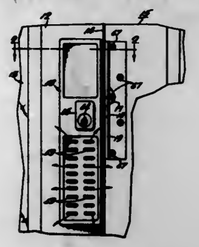
A guard and load stabilizing rail for a conventional material handling pallet of the type having upper and lower load bearing surfaces separated by intermediate stringers. The guard rail is supported by uprights which extend vertically from a base section, the latter being adapted for insertion between the pallet load bearing surfaces. The base section includes spaced legs which straddle the center pallet stringer, with a clamp mechanism being provided to lock the base section in place.

3,513,786
MULTISECTION SHELF AND BRACKET ASSEMBLY
Harlan F. Kellogg, Rockford, Ill., assignor to Rockware, Inc., Rockford, Ill., a corporation of Illinois
Filed July 3, 1967, Ser. No. 650,992
Int. Cl. A47b 45/00, 96/06; E04c 2/40
U.S. Cl. 108—64 3 Claims



A plurality of support members having brackets supported thereon. A plurality of shelf segments having devices secured thereto and joining the segments in spaced side-by-side and end-to-end relationship.

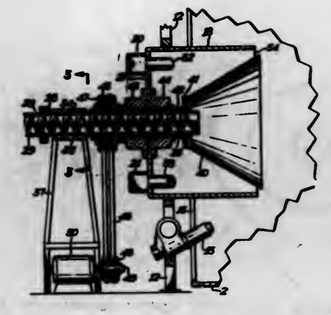
3,513,787
PROTECTIVE DEVICE
Lester J. Wolf, Westmont, N.J., assignor to Gas-Guard Corporation of America, Haddon Heights, N.J., a corporation of New Jersey
Filed Dec. 10, 1968, Ser. No. 782,581
Int. Cl. E05g 3/00; G08b 13/06
U.S. Cl. 109—32 13 Claims



A protective device for doors, windows and similar closures including a latch cooperable with a strike to lock the closure. The latch is mounted in a lock casing for key-operated displacement between an operative and inoperative position relative to the strike. The lock casing is mounted on the closure for resilient movement away from a home position to an offset position in any one of three modes, respectively in response to forcible displacement of the closure in three directions and a sear is mounted on the lock casing to trigger an alarm when said lock casing is displaced to any one of its offset positions.

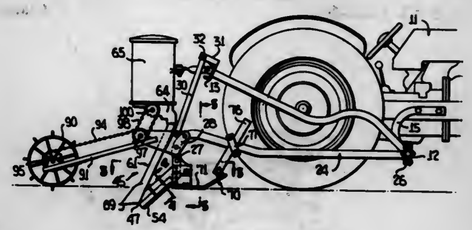
3,513,788
ROTARY INCINERATOR WITH SPINNING CUP BURNER
Albert Ostrin, 4516 Highway 7, Minneapolis, Minn. 55416
Filed Oct. 8, 1968, Ser. No. 765,933
Int. Cl. F23g 5/06; F23b 1/32
U.S. Cl. 110—8 7 Claims

An incinerator of the rotary kiln type is provided with a conically shaped, rotating cup projecting into the inlet side of the kiln, the cup being rotatably supported within a surrounding air chamber into which combustion air is directed at such an angle as to rotate in the opposite direction from that in which the cup is spinning. Material to be processed by the incinerator, including both



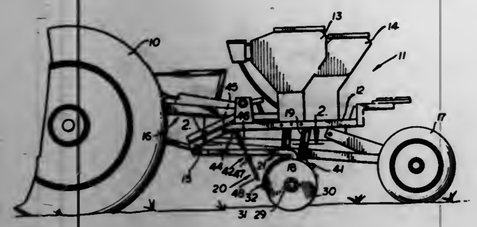
combustible and non-combustible solids, liquids and semi-solids, is fed into the rotating burner cup by an auger, and the scrap material will be injected into the kiln in a conical curtain where it will thoroughly mix with and be exposed to the combustion air flowing thereover in an opposite direction.

3,513,789
SEED PLANTING MECHANISM
Samuel J. Foose, Jr., Tchula, Miss. 39169
Filed Nov. 14, 1967, Ser. No. 682,875
Int. Cl. A01b 39/22; A01c 7/18
U.S. Cl. 111—86 3 Claims



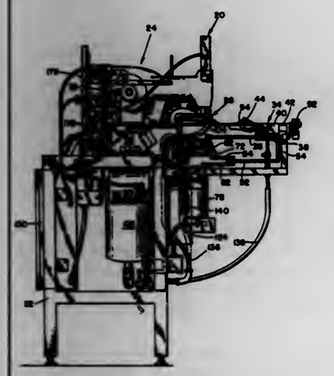
This invention is directed to a seed planting mechanism which in its simplest form consists solely of a blade having a cutting edge for creating a furrow in the soil and a spout for directing seeds into the furrow from an associated hopper. The cutting edge of the blade is an independent element releasably secured to the blade whereby cutting edge elements of different widths can be secured to the blade for varying the width of the furrows dependent upon the size seeds being planted as well as to facilitate the sharpening and replacement of worn or dulled cutting edge elements. A discharge end portion of the spout is flattened to a thickness approximately the maximum thickness of the cutting edge and the discharge opening is disposed immediately rearwardly of a terminal end of the cutting edge to conjunctively prevent the closure of the discharge opening by vegetation, soil or other extraneous matter. Means are also provided for adjustably regulating the depth of penetration of the cutting edge into the soil.

3,513,790
FURROW OPENER ASSEMBLY
Nils O. Clason, Ancaster, Ontario, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed July 12, 1968, Ser. No. 746,702
Int. Cl. A01c 5/06
U.S. Cl. 111—88 5 Claims



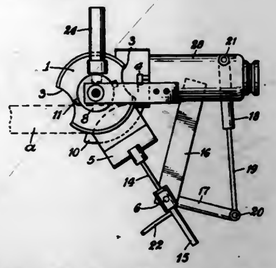
A double disk furrow opener assemby for grain drills and the like wherein the conventional cast boot and connected drawbar have been replaced by a drawbar the rear end of which is bent downwardly to form the disk support, and a sheet metal cover for the upper portion of the disks has openings to receive the flexible seed and fertilizer tubes, the lower ends of which extend downwardly between the disks and take the place of the cast iron tubes forming part of the conventional cost boot.

3,513,791
LABEL SEWING APPARATUS
James B. Fulp, Summerfield, N.C., assignor to Blue Bell, Inc., Greensboro, N.C., a corporation of Delaware
Filed Apr. 27, 1967, Ser. No. 634,356
Int. Cl. D05b 3/12
U.S. Cl. 112—104 8 Claims



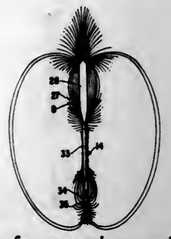
This invention relates to material handling devices and their application and particularly relates to an apparatus for securing labels and the like to other material segments which embodies in its preferred form a linkage assembly moving in one cycle intervals to select labels and fabric segments simultaneously from separate and independent sources, position those selections at a common sewing site, seam the two together and remove the sewn members to a remote location for further handling.

3,513,792
DEVICE FOR AUTOMATICALLY SEWING THE TOES OF SEAMLESS STOCKINGS
Kurt Rösler, Talweg 3, Sonthofen, Germany
Filed Mar. 27, 1968, Ser. No. 716,492
Claims priority, application Germany, Apr. 1, 1967, R 45,653; Nov. 22, 1967, R 47,416
Int. Cl. D05b 21/00
U.S. Cl. 112—121.15 3 Claims



The open toe of a seamless stocking is automatically closed by a sewing operation in which the stocking toe is drawn onto a template which is moved with the stocking toe thereon into a rotatable clamping device. After the template has been withdrawn from the stocking toe, the latter is moved by the rotatable clamping device to a sewing mechanism which closes the open toe by means of an elastic seam.

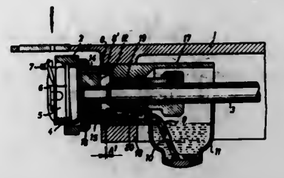
3,513,793
MAGNETIZED SEWING NEEDLES
Donald R. Dohr, Bloomfield, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 10, 1968, Ser. No. 758,906
Int. Cl. D05b 85/00
U.S. Cl. 112—222 5 Claims



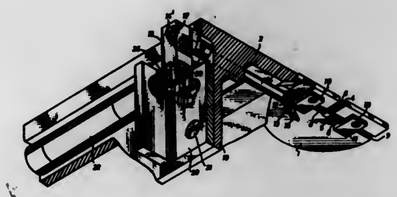
A sewing needle for a sewing machine, which materially reduces the operator dexterity required in inserting and removing a needle or needles from the needle bar of the sewing machine, and which reduces the possibility of the needle dropping through the throat plate hole into the internal mechanisms of the machine. In addition, the needle comprises a permanently magnetized needle, preferably of the type plated with a material for substantially increasing the withdrawal force required to remove the needle from the needle bar.

3,513,794
LUBRICATING DEVICE FOR LOCKSTITCH SEWING MACHINE LOOPERS
Horst Bernewasser, Steinhagen, near Bielefeld, Germany, assignor to Kochs Adlernahmaschinen Werke AG, Bielefeld, Germany
Filed Aug. 27, 1968, Ser. No. 755,620
Claims priority, application Germany, Mar. 29, 1968, K 59,614
Int. Cl. D05b 71/00
U.S. Cl. 112—256 3 Claims

A lubricating device for lockstitch sewing machine loopers wherein the raceway receiving the bobbin case holder is supplied with an adjustable quantity of lubricant as a function of the speed of the looper. A projection within an oil chamber and rotating with the looper causes a vacuum for the suction adsorption of lubricant from an oil reservoir and its transfer to the raceway.



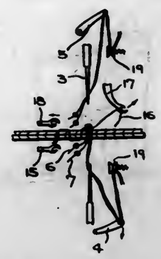
3,513,795
THROAT PLATE FOR SEWING MACHINES
Gunther Hagemeyer, Lemgo, Germany, assignor to Kochs Adlernahmaschinen Werke AG, Bielefeld, Germany
Filed Oct. 1, 1968, Ser. No. 764,285
Claims priority, application Germany, Mar. 12, 1968, 1,660,928
Int. Cl. D05b 51/00
U.S. Cl. 112—260 6 Claims



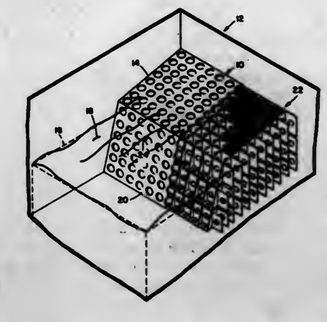
A throat plate for sewing machines having an inset surmounting the upper face of the throat plate and a stitch hole for the needle. The inset is tiltably arranged within the throat plate. This throat plate especially suitable for pattern-controlled sewing devices in which the workpieces to be sewn are clamped between stitching templates having slots of a predetermined contour, formed in the upper and the lower plates for receiving the throat plate inset in the lower plate, and a liftable workpiece press pad in the upper plate. This movable throat plate inset makes it possible to avoid lifting of the templates above the throat plate inset for the purpose of removing the templates out of the area of stitch-forming after sewing.

3,513,796
METHOD OF MECHANICALLY FORMING STITCHES RESEMBLING MANUALLY FORMED STITCHES IN APPEARANCE
Masato Sugahara, Tokyo, Japan, assignor to Sugawara Sewing Machine Co., Ltd., Tokyo, Japan
Filed Dec. 27, 1968, Ser. No. 787,326
Claims priority, application Japan, Dec. 30, 1967, 43/84,756
Int. Cl. D05b 1/02
U.S. Cl. 112—262 3 Claims

A method of mechanically forming stitches comprising the steps of inserting two operation threads into a hole formed in a sewing needle, extending said sewing needle through cloths or other materials to be sewed, withdrawing said sewing needle from said cloths or other materials to be sewed while leaving a loop of said operation threads, inserting a sewing thread by loopers into said loop, and causing said sewing thread to extend through said cloths or other materials to be sewed by pulling said operation threads out of said cloths or other materials to be sewed.



3,513,797
ENERGY-ABSORBING BEACH FOR SHIP'S WELLS AND TANKS
Ernst G. Frankel, Boston, Mass., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Aug. 21, 1968, Ser. No. 754,214
Int. Cl. B63b 43/06
U.S. Cl. 114—125 1 Claim

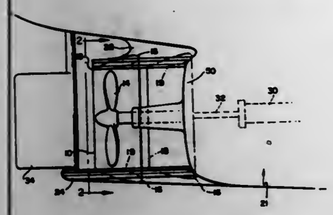


A beach device which traps and absorbs the energy produced by a moving liquid disposed in a container, tank or well structure. The device includes a perforated material for guiding the moving liquid onto a ramp surface and into engagement with a structure disposed underneath the ramp, which structure has resilient properties and a multitude of surfaces for substantially deflecting, dissipating and absorbing the energy.

3,513,798
STEERING DEVICE FOR VESSELS
Edwin A. Dow, 51 Eastern Point Road, East Gloucester, Mass.
Filed Aug. 9, 1968, Ser. No. 751,480
Int. Cl. B63h 25/06
U.S. Cl. 114—166 8 Claims

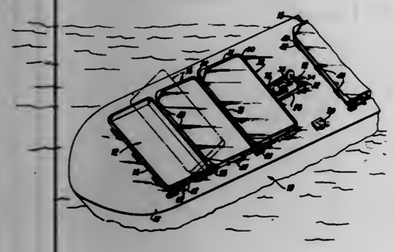
My disclosure includes a segmented Kort-type nozzle which is separable into two arcuate halves, each of which defines one side of the nozzle. The nozzle sements are moveable forwardly in unison or independently of each other from a normal, propeller embracing position to a

forward, remote position which, depending on the position of the segments, increases appreciably the efficiency



of the propeller while backing and particularly when backing and turning.

3,513,799
COVER SYSTEM FOR VESSELS
Urban J. Benz, Scotch Plains, N.J., assignor to MacGregor-Comarain, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 24, 1968, Ser. No. 786,724
Int. Cl. B63b *19/18*
U.S. Cl. 114—202 7 Claims



A hatch cover system for vessels such as cargo ships, barges or the like. A single panel hatch cover is provided to cover each hatchway of the vessel. The hatch cover is provided with wheels mounted on its front corners and a linkage system pivotally connected to its rear edge for facilitating the opening and closing thereof. Rails are provided along the sides of the hatchway upon which the wheels ride and a hydraulic actuator is connected to the linkage system automatically open and close the hatch cover. Dogs are provided along the edges of the hatchway and are adapted to mate with dog brackets provided on the hatch cover to clamp the hatch cover in a closed watertight position. The dogs are operated automatically by means of a hydraulic actuator. Hydraulically actuated movable rails are provided at the front of the rails to raise and lower the hatch cover to bring hatch cover wheels in alignment with the rails when the hatch cover is initially open.

3,513,800
INERTIA SIGNAL FOR VEHICLES
Thomas H. Rodgers, 7340 Bingham, Dearborn, Mich. 48126
Filed Aug. 22, 1969, Ser. No. 852,415
Int. Cl. B60g *1/54*
U.S. Cl. 116—37 5 Claims

An inertia signal for vehicles having a housing with an elongated lens and containing a drum pivoted for rotation between two fixed limits of travel. An inertia member is movably engaged with the drum so as to rotate it to one limit of travel when the car is decelerating and to the other limit of travel when the car is being accelerated. Colored



inserts are mountable on the pivoted drum so as automatically to indicate any appreciable changes in vehicular speed to the surrounding vehicular and pedestrian traffic.

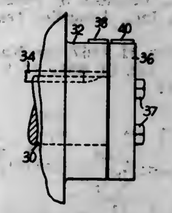
3,513,801
ANTI-TAMPERING DEVICE
George Osorio, 518 Peoples Ave., New Orleans, La. 70122
Filed Mar. 13, 1968, Ser. No. 717,068
Int. Cl. G01d *21/60*
U.S. Cl. 116—114 3 Claims



Anti-tampering device in which a flexible cable forms a bight around a closed part of the protected apparatus, the cable ends then being passed through a hole defined in a breakable part of an openable hollow three dimensional structure and are fastened together through said opening by means too large to pass back through said hole without breaking said breakable part, said three dimensional structure locking together after said cable end fastening to enclose said cable ends and said structure being secured to an immovable object adjacent to said protected apparatus.

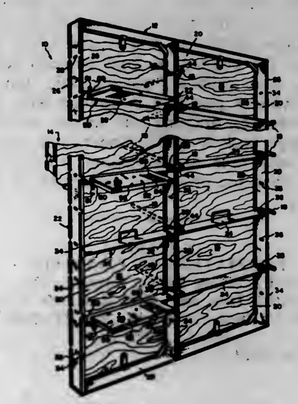
3,513,802
APPARATUS FOR AND METHOD OF INDICATING PROGRESSIVE FAILURE OF KEYED CONNECTION
Roderick B. Potter, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 20, 1967, Ser. No. 684,170
Int. Cl. G01d *21/00*
U.S. Cl. 116—114 4 Claims

In a keyed shaft and hub, a first slot is provided in the end face of the hub and a second slot of the same circumferential dimension as the first slot is carried by a keeper plate secured to the end face of the shaft. Upon initial installation of the key, the two slots are in registry and receive a feeler gauge of a predetermined dimension. Relative angular movement of the shaft and hub during operation due to progressive failure of the keyed connection causes an angular shifting of one slot relative to the other whereby a different thickness feeler gauge is insertible in the overlapped slots, the difference in thickness between the initial and subsequent feeler gauges being a measure of the relative angular movement between the shaft and the hub. In a modified embodiment, the keeper plate on the shaft and the hub are each provided with protrusions which move out of alignment with each other upon relative angular movement of the shaft and hub, whereby the relative angular



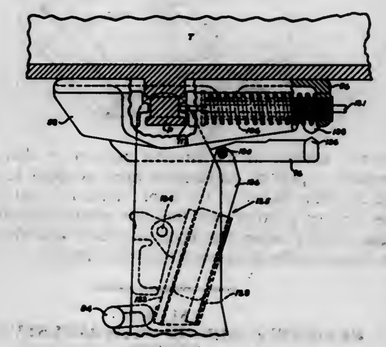
movement of the shaft and hub can be measured. In a still further embodiment, particularly suited for but not restricted to a shaft and hub having a pinned connection therebetween and without a keeper plate, the shaft and hub are provided with radial index slots which are initially in registry but which move out of registration upon relative angular movement of the shaft and hub. A feeler gauge is used to measure the relative angular movement.

3,513,803
TIE ROD LOAD INDICATOR
George F. Bowden, Northbrook, and David L. Cody, Hoffman Estates, Ill., assignors to Symons Mfg. Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 25, 1968, Ser. No. 778,410
Int. Cl. G01d *21/00*
U.S. Cl. 116—114 6 Claims



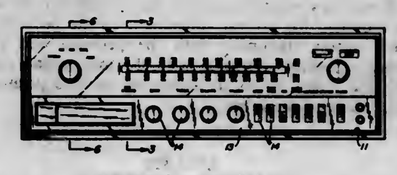
A tie rod load indicator which is designed for attachment to one of the crossbars of a wall form panel and measures the deflection of such crossbar under the influence of the pressure of the wet concrete which is poured against the facing of the panel, crossbar deflection being a direct function of the tension attained in the adjacent tie rods. A novel linkage mechanism magnifies the crossbar deflection and renders a visual indication of such deflection by means of a scale-and-pointer assembly which is visible through a window opening provided in a box-like housing which encloses the working parts of the indicator.

3,513,804
KINGPIN LOCATION INDICATOR FOR A COLLAPSIBLE TRAILER HITCH
Richard P. Yeates, Bridgeton, and Boris S. Terlecky, St. Louis, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Oct. 8, 1968, Ser. No. 765,813
Int. Cl. G01d *21/00*
U.S. Cl. 116—114 6 Claims



A trailer supporting hitch on a railway car, adapted to be raised and knocked down by a tractor, has an indicator which shows whether the kingpin engaging jaws are open or closed. Another indicator is provided to show that the kingpin is, in fact, within the closed jaws.

3,513,805
PANEL CONSTRUCTION FOR RADIO RECEIVER OR THE LIKE
Stuart W. Sizer, Harbert, Mich., assignor to Heath Company, St. Joseph, Mich., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,348
Int. Cl. H03j *1/04*
U.S. Cl. 116—124.4 4 Claims

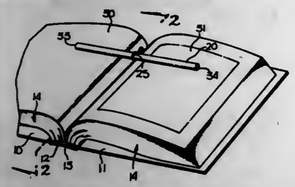


A front panel construction for a radio receiver having a transparent front portion spaced from a transparent back portion which is coated with an opaque material except for windows thereof which form the indicia which are visible when suitably illuminated by lamps, said front panel giving the illusion of overall blackness with the receiver in an off condition.

3,513,806
PAGE HOLDER AND BOOK MARKER DEVICE
Joseph G. Ferrick, 707 Stephen Road, Burbank, Calif. 91504
Filed May 21, 1969, Ser. No. 826,581
Int. Cl. B42d *9/00*
U.S. Cl. 116—119 11 Claims

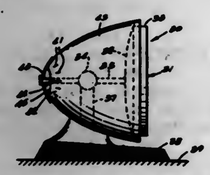
A book page holder and marker is disclosed having a length of wire formed into continuous segments or portions to provide an elongated support portion terminating at its free end in a bead and at its opposite end in a self-biasing arcuate portion coupled to an inwardly extending clip portion which is then formed with

a partially closed loop in spaced relationship to the support portion. The loop is adapted to removably couple about the mid-section of an elongated page separator rod. The clip portion is insertably installed over the book binding so that the loop portion is disposed between selected pages of the book. The rod



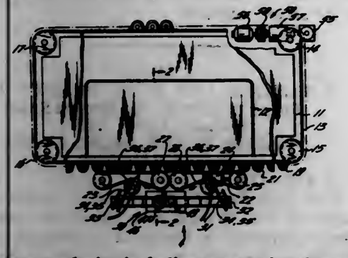
extends normal to the support portion so that the rod provides a pair of coextensive arms adapted to separate the opposite pages of the book. With the rod removed, the support portion and the clip portion function as a page marker when the book is closed and the support portion provides a mount for storing the rod.

3,513,807
REAR VIEW MIRROR WITH ADJUSTMENT GUIDES
Robert J. Helle, 371 De Leon Vista, Crystal Lake, Ill. 60014
Original application May 25, 1965, Ser. No. 458,543, now Patent No. 3,439,646, dated Apr. 22, 1969. Divided and this application Jan. 27, 1969, Ser. No. 796,305
Int. Cl. G09f 9/00
U.S. Cl. 116—124 8 Claims



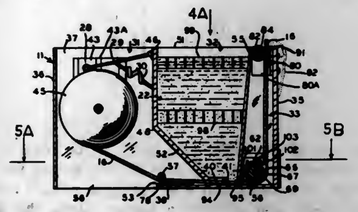
A rearview mirror assembly has a pedestal and a mirror mounted for pivotal adjustment on the pedestal, with index means stationary with the pedestal and pointer means adjustably movable with the mirror and coactive with the index means to determine relative positions of adjustment of the mirror.

3,513,808
PAINT SPRAY DEVICE
Peter Mertlmeier, North Haledon, and Thomas W. Olsen, Wayne, N.J., assignors to Modern Decorating Company, Passaic, N.J.
Filed Oct. 30, 1967, Ser. No. 679,022
Int. Cl. B05c 5/00
U.S. Cl. 118—9 8 Claims



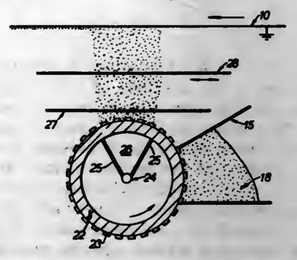
A paint spray device including a spray booth, mounted on a base around which a periodically indexed double-chain conveyor with article carrying fixtures is arranged, so that the articles to be sprayed are moved along the front of the booth, and chain drives in front of the booth for rotating the article carrying fixtures in opposite directions consecutively during the spraying period.

3,513,809
TAPE DISPENSING APPARATUS
Medford Floyd Abbott and Clifford June Abbott, Canyon, Tex., assignors, by mesne assignments, to Taper Tools, Inc., Amarillo, Tex., a corporation of Texas
Filed Mar. 31, 1967, Ser. No. 627,426
Int. Cl. B05c 3/18
U.S. Cl. 118—415 4 Claims

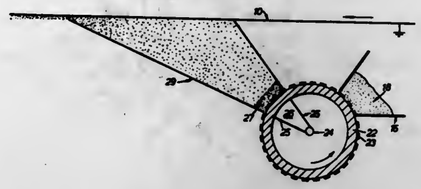


Apparatus for applying adhesive fluid onto a tape and dispensing and applying such tape in drywall construction. The steps of the process provided comprise the steps of passing the upper surface of a strip of tape into contact with the bottom surface of a body of adhesive fluid through a first orifice, holding an upwardly directed surface of said tape against the bottom of said orifice to render it substantially fluid tight, applying said adhesive to the upwardly directed surface of said tape, passing tape and adhesive adherent thereto through a second orifice rectangular in vertical cross-section out of said body of adhesive fluid, passing the upper surface of said tape and adhesive adherent thereto below a cylinder with a horizontal longitudinal axis, said cylinder being rotatable about said axis, to apply said adhesive to said tape, while adjusting the height of said cylinder relative to said second orifice and keeping constant the amount of fluid between said second orifice and said cylinder, passing said tape upward from said cylinder past and in contact with guide elements thereabove, draining off excess adhesive fluid from said tape back to said cylinder, and applying said adhesive coated tape to the ceiling. This is especially convenient when the process is performed by an operator on stilts.

3,513,810
FORMATION OF COATINGS
Albert Edward Jackson, Killay, Swansea, Wales, assignor to The British Iron and Steel Research Association
Filed June 8, 1964, Ser. No. 373,282
Int. Cl. B05b 5/00
U.S. Cl. 118—629 6 Claims

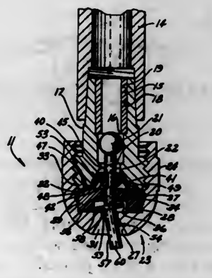


Apparatus for depositing a coating of a powder onto a moving metal strip comprising a metering roll, a powder container for supplying powder to the metering roll, a pressurized gas outlet in the interior of the roll for blowing gas through the roll to remove powder from the de-



pression in the roll and direct it towards the strip to be coated and a screen which can be electrically charged with respect to the strip positioned in the path of the powder passing from the metering roll to the strip.

3,513,811
ANIMAL DRINKING VALVE WITH TWO-PIECE STEM
Walter R. Graham, Kalamazoo Township, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 692,837
Int. Cl. A01k 7/00
U.S. Cl. 119—72.5 8 Claims



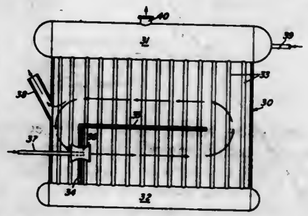
A valve assembly comprising first and second separable body parts having a coaxial passageway therethrough and a valve mechanism disposed within said passageway. The valve mechanism includes a check valve within the first body part and a control valve held between the body parts. The control valve has a two-piece valve stem, the free end of which extends through the open end of the second body part.

3,513,812
SELF-LOCKING LIVESTOCK HEAD GATE STRUCTURE
David H. Iverson, Bristol, S. Dak. 57219; Dayton A. Krueger, Stratford, S. Dak. 57474; and James R. Krueger, Verdon, S. Dak. 57478
Filed Aug. 1, 1968, Ser. No. 749,487
Int. Cl. A61d 3/00
U.S. Cl. 119—98 7 Claims

A self-locking livestock head gate consisting of a stanchion having closely spaced head locking members pivoted for forward tilting converging movement caused by movement of an animal, overhead rails guiding said locking members and an overhead ratchet member releasably securing said locking members in converged condition against the withdrawal of an animal therefrom.

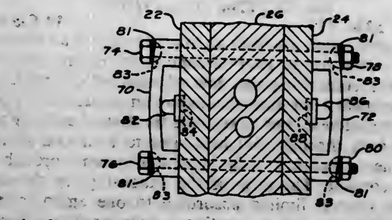


3,513,813
DILUTE PHASE PARTICULATE MATTER REACTOR-HEAT EXCHANGER
Paul H. Towson, Braddock Heights, Md., and John W. Bishop, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Interior
Filed Dec. 31, 1968, Ser. No. 789,046
Int. Cl. F22b 1/00; F23j 5/02
U.S. Cl. 122—4 15 Claims



Heat is extracted from circulating gases and particulate matter by dilute phase contact with heat exchange surfaces. In a specific embodiment, particulate coal is burned as a recirculating dilute phase gas suspension in a boiler-heat exchange chamber.

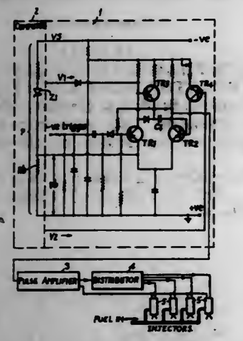
3,513,814
CLAMPING MEANS FOR ROTARY COMBUSTION ENGINE
Charles Jones, Hilldale, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed July 29, 1968, Ser. No. 748,488
Int. Cl. B65d 45/00; F02b 53/00
U.S. Cl. 123—8.31 9 Claims



A clamping member provided at each of the two end walls of a rotary combustion engine is used to help clamp the end wall housing sections of the engine to an

intermediate peripheral wall housing section. The clamping members which are secured to the engine at opposite ends or at some intermediate point span those portions of the end walls where it is inconvenient or undesirable to provide through bolts for the purpose of securing the housing sections, one to the other, and such clamping members apply clamping forces to said engine housings through buttons, one or more buttons being interposed between each clamping member and the adjacent end wall.

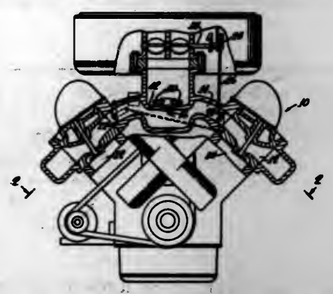
3,513,815
FUEL INJECTION SYSTEMS FOR INTERNAL COMBUSTION ENGINES
Joseph Mair, Leamington Spa, England, assignor to Associated Engineering Limited, Leamington Spa, England, a British company
Filed Jan. 31, 1968, Ser. No. 702,032
Claims priority, application Great Britain, Feb. 7, 1967, 5,876/67
Int. Cl. F02b *3/00*
U.S. Cl. 123—32 11 Claims



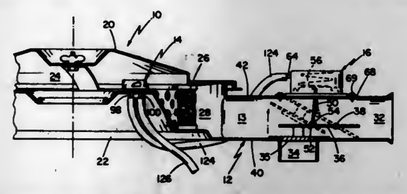
This invention relates to a fuel injection system for internal combustion engines comprising at least one electromagnetically operated fuel injector and a control pulse generator producing pulses for energising said at least one injector, so that the injector or a injector is opened for a period depending on the duration of each of the pulses to pass fuel to the engine, wherein means are provided for compensating for the effect of supply voltage variations on the time that an injector is open in response to a pulse from the control pulse generator, whereby the fuel delivery from the or each injector is substantially independent of variations in said supply voltage.

3,513,816
EXHAUST RECYCLE SYSTEM FOR AN INTERNAL COMBUSTION ENGINE
Harold D. Daigh, Rolling Hills Estate, Calif., assignor to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 20, 1968, Ser. No. 730,568
Int. Cl. F02m *25/06, 31/08*
U.S. Cl. 123—119 14 Claims

This application discloses an improvement in an exhaust recycle system for an internal combustion engine wherein means for controlling the flow of exhaust gas recycled from the heat riser into the induction system are positioned in said heat riser to regulate the flow of exhaust gas flowing both through said heat riser to heat said induction system, and into said induction system through a recycle conduit. The flow of the exhaust gases through the heat riser is limited according to one embodiment, by a restrictive orifice positioned between the exhaust manifold and the heat riser passageway, thereby controlling the temperature of the intake manifold. In a second embodiment valve means which may be employed to regulate the amount of exhaust gas recycled, are operatively positioned in the heat riser passageway. The present disclosure also includes a method for operating an internal combustion engine employing exhaust gas recycle, by enrichening the air-fuel mixture in the carburetor to compensate for the oxygen content of the exhaust gas recycled into the induction manifold.

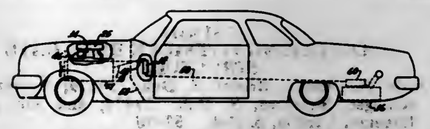


3,513,817
THERMALLY MODULATING AIR SUPPLIES
Walter Hugh Kearsley, Chatham, Ontario, Canada, assignor to Fram Corporation, Providence, R.I., a corporation of Delaware
Filed July 23, 1968, Ser. No. 746,840
Int. Cl. B01d *39/10*; F02m *31/02*
U.S. Cl. 123—122 4 Claims



An automotive air cleaner having warm and cold air conduits, a damper door for proportioning cold and warm air delivered to the air cleaner, the damper door being responsive to temperature and vacuum, and controlled by a housing provided with a diaphragm including a central aperture, a shaft pivotably connected at one end to the damper door and at the other end sandwiched between a piston and washer at the diaphragm central aperture to provide a second pivotal connection.

3,513,818
FUEL VAPOR RECOVERY SYSTEM
Oscar W. Wallin, Jr., La Canada, Calif., assignor to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1968, Ser. No. 712,281
Int. Cl. F02m *25/08, 27/02*
U.S. Cl. 123—136 11 Claims



An automobile vapor recovery system employing a condenser positioned below the carburetor and above the fuel tank is provided with vent lines between the condenser and the carburetor float bowl, the crankcase, and the gas tank. The vent line between the condenser and the crankcase is a direct line and its position and relative size as compared with the vent line from the condenser to the float bowl, is such that the majority of the fuel vapors from the condenser will flow into the crankcase.

3,513,819
STRAW PROJECTILE SHOOTER
Ralph L. Phillips, Salt Lake City, Utah, assignor to Specialty Ideas, Inc., Salt Lake City, Utah
Filed May 31, 1966, Ser. No. 558,541
Int. Cl. A63b *65/02*; F41b *11/00*
U.S. Cl. 124—11 1 Claim



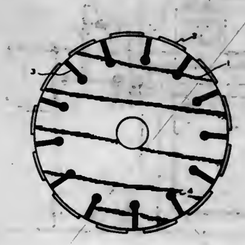
An amusement device for propelling projectiles from a flexible plastic bottle. A cork is provided which fits with the mouth of the bottle and which has an axial bore in which a projection tube is mounted. A projectile in the form of a straw sealed at one end with a cork makes a press fit with the end of the projection tube. Compression of the plastic bottle will release the press fit between the projectile and the projectile tube and propel the projectile from the projection tube.

3,513,820
SHOCK ABSORBING HANDLE FOR AN ARCHER'S BOW
George D. Thompson, 9100 Cincinnati-Dayton Road, West Chester, Ohio 45069
Original application Sept. 9, 1966, Ser. No. 578,188. Divided and this application Aug. 12, 1968, Ser. No. 751,841
Int. Cl. F41b *5/00*
U.S. Cl. 124—23 1 Claim



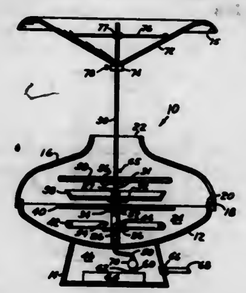
An archer's bow includes a shock absorbing handle positioned in front of the back of the bow. A headed stud connects the handle to the bow and permits the bow to move rearwardly and forwardly with respect to the handle during the drawing and releasing of the string while shooting an arrow.

3,513,821
ABRASIVE CUT-OFF WHEEL
Jean J. Bouvier, Tonawanda, N.Y., assignor to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 5, 1968, Ser. No. 702,846
Int. Cl. B24d *5/00*
U.S. Cl. 125—15 6 Claims



An abrasive wheel consisting of abrasive-carrying segments spaced around the periphery of a metallic disk in which peripheral slots extend inward between the segments, said slots filled with a yieldable, flexible web whereby objectionable noise during operation is greatly reduced and in-use peripheral distortion is minimized.

3,513,822
SPACE HEATERS
Otto Korngold, 61 E. Arthur, Arcadia, Calif. 90052
Filed Sept. 10, 1969, Ser. No. 856,669
Int. Cl. A47j *37/00*; F24b *3/00*
U.S. Cl. 126—4 20 Claims



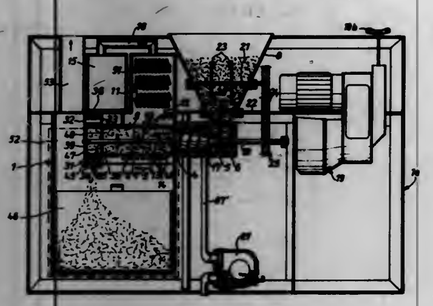
A heater according to this disclosure includes an open-topped basin. Supply means disposed within the basin is adapted to supply radiant heat from a source of combustible material such as charcoal, combustible gas, or rocks, pumice, or the like, heated by another source such as a gas burner. A reflector is supported above the basin to reflect heat to the surrounding area. The supply means may include a segmented perforated cast iron rack for supporting rocks or the like. A barbeque grill is provided in the vessel for cooking food and the like.

3,513,823

SMOKE PRODUCING APPARATUS AND PROCESS OF PRODUCING SMOKE

Gerhard Fesmann, Stuttgart, Germany, assignor to Technical Research Co., Seattle, Wash., a corporation of Washington

Filed Oct. 17, 1968, Ser. No. 768,238
Int. Cl. A01g 13/06.
U.S. Cl. 126—59.5 42 Claims



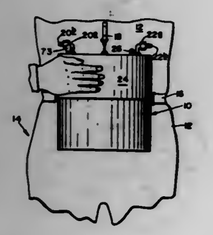
The reaction material is fed through a reaction chamber of increasing height while superheated steam is passed downwardly through the reaction chamber to form a smoking medium. The steam presses the reaction material against the floor of the reaction chamber to prevent any stirring up of the reaction material.

3,513,824

UNDERWATER PORTABLE HEATING SYSTEM

Joseph J. Fitzgerald, 7 Squire Road, Winchester, Mass. 01890, and Kenneth E. Mayo, 96 Wellington St., Nashua, N.H. 03060

Filed June 27, 1966, Ser. No. 560,511
Int. Cl. A61f 7/06
U.S. Cl. 126—204 32 Claims



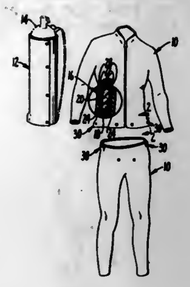
A portable heating system is herein disclosed. The apparatus includes a radioactive heat source which is employed in conjunction with a fluid to heat, for example, a diver's garment. The heat source is also used to heat the hot junctions of a thermoelectric generator which supplies an electrical output to power a motor that drives a circulating pump for the fluid, as well as providing electrical power for other functions. The heat source preferably uses fuel having appropriate radioisotope decay characteristics to provide long-time operation in conjunction with minimal shielding requirements.

3,513,825

PROTECTIVE DIVING SUIT

Francis H. Clum, 3140 Waialae Ave., Honolulu, Hawaii 96816

Continuation-in-part of application Ser. No. 630,674, Apr. 13, 1967. This application Dec. 26, 1968, Ser. No. 787,030
Int. Cl. A61f 7/06; B63c 11/04
U.S. Cl. 126—204 8 Claims



A diving suit formed of a protective laminate having a flexible foam core provided with intercommunicating cells, an elastomer foam skin at each side of the core in secured relation thereto, and a liquid filling the core.

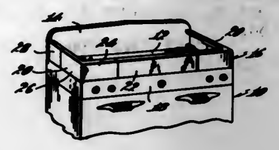
3,513,826

GUARD FOR STOVE

Charles F. Hollmuth, P.O. Box 213, West Bridgewater, Mass. 02379

Filed Aug. 21, 1968, Ser. No. 754,364
Int. Cl. F24c 15/36
U.S. Cl. 126—211 4 Claims

A guard rail for a stove comprising telescoping front and side rails arranged rectangularly to rest on the top of



a stove across the front and along the sides, and magnets attached to the rails for holding the guard rail on the stove.

3,513,827

PROCESS AND COMBUSTIBLE BODY FOR HEATING AND/OR IGNITING OBJECTS

Hanns Egger, Haus Nr. 44, Hagen, Murnau, Germany

Continuation-in-part of application Ser. No. 539,347, Apr. 1, 1966. This application Oct. 12, 1967, Ser. No. 674,776
Claims priority, application Germany, Apr. 3, 1965, E 29,032
Int. Cl. A47g 23/04
U.S. Cl. 126—262 14 Claims

Means for rapidly heating various objects, like machines, instruments, cans containing food, containers filled with fat or oil, or for igniting explosives, comprising a combustible carrier, preferably in the form of an organic foam, impregnated or coated with a high energy self-combustion-sustaining combustible fuel mixture, or with

two such fuels of different rates of combustion. Said means can be in the form of ropes, spaced rods alternating with non-combustible rods, or continuous mats and



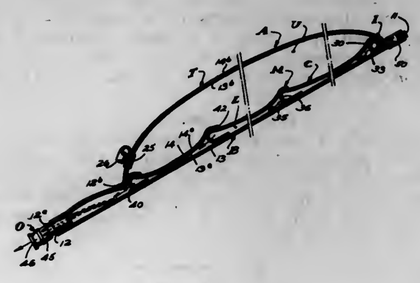
cylinders provided with spaced projections or protuberances on their sides facing the object to be heated, and spacing the main body of the carrier from such object.

3,513,828

SOLAR WATER HEATER

Walter F. Masters, 3217 Lakeshore Court, Orlando, Fla. 32803

Filed Nov. 4, 1968, Ser. No. 772,927
Int. Cl. F24j 3/02
U.S. Cl. 126—271 10 Claims



A solar water heater to be engaged on an inclined roof structure and comprising three superimposed sheets, there being an elongate base sheet with a heat reflecting top surface and having upper and lower ends, a black, flexible heat absorbing central sheet, and a transparent solar radiation conducting top sheet, the space between the central and the top sheets being filled with air so the top sheet is spaced from the central sheet, water inlet means connected with a water supply and conducting water between the base and central sheets at the upper end of the structure, irrigating means spaced longitudinally of the structure to maintain water dispersed laterally between the bottom and central sheets as it flows longitudinally therebetween and water discharge means at the lower end of the structure.

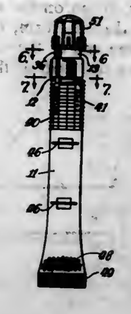
3,513,829

FLUID COLLECTING STRUCTURE

Fritz Deuschle, St. Augustine, Fla., Reynolds B. Redd, Austin, Tex., and Paul R. Ewalt, Hazelwood, Mo., assignors to Brunswick Corporation, a corporation of Delaware

Filed Aug. 11, 1967, Ser. No. 659,997
Int. Cl. A61b 5/14
U.S. Cl. 128—2 13 Claims

A fluid collecting structure such as for collecting blood samples and the like having a container for receiving the fluid and valved means for selectively closing the container. The container is resiliently constrictible to provide a vacuum condition therein when desired as for facilitated transfer thereinto of blood from a patient. The container is provided with one or more crease lines for facilitating folding thereof to effect a desired constriction. The valving means is associated with a cap which closes an open end of the container. Means are



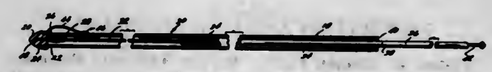
provided for tactually indicating the disposition of the valve means as a function of the position of the cap on the container. Gradient beads are provided in the container and may be coated with anticoagulant material.

3,513,830

INSTRUMENT FOR OBTAINING BODY CULTURES

Wayne C. Kalayjian, 6850 Appian Way, Long Beach, Calif. 90803

Filed Oct. 10, 1967, Ser. No. 674,138
Int. Cl. A61b 10/00
U.S. Cl. 128—2 5 Claims



An instrument is disclosed for obtaining uncontaminated cultures from interior body organs that are located such that they may be reached through various contaminate-laden body passages. The structure is housed in a sterile package and includes an elongate tube adapted to be inserted through the body passage so that one end is contiguous to the organ of interest. The interior of the tube is shielded by a friction-fitted cap that is attached to the tube. A culture-swab rod bearing an absorbent tip is telescopically received within the tube so that the tip can force the cap off the tube providing the tip access to the organ of interest. After the desired culture is obtained (by direct contact), the culture-swab rod is withdrawn back into the tube for shielded withdrawal through the contaminated passage. The tube and the cap are made of flexible plastic in the illustrative embodiment while the culture-swab rod comprises a tubular handle of styrene, for example, fitted with a wooden stick, bearing an absorbent tip.

3,513,831

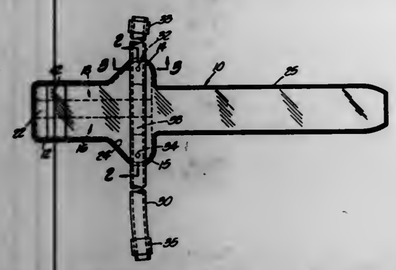
INFLATABLE MEDICAL CUFF

Georg Hirsch, 3616 Corinth Ave., Los Angeles, Calif. 90066

Filed July 5, 1967, Ser. No. 651,183
Int. Cl. A61b 5/02
U.S. Cl. 128—2.05 9 Claims

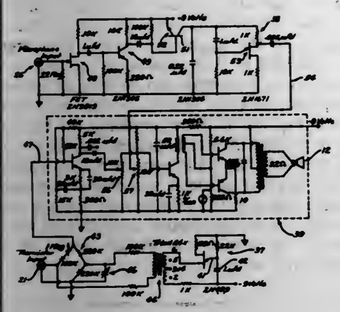
The device is an improved inflatable blood pressure cuff made of light, thin, inexpensive plastic materials. It comprises a plastic strip that can be wrapped around the arm.

On the inside of the plastic strip are one or two thin walled plastic inflatable bags which are flat when not inflated. At least one edge of the bag or bags are attached to the plastic strip to provide a semi-floating arrangement for the inflatable member. Attached transversely to the plastic strip at two points is a tube means having communication with the bag or bags. When on the arm, end parts of the plastic strip overlap. In one form, the cuff may be held taut by pulling the free end of the plastic strip through a transverse loop across the strip so that it is held thereby



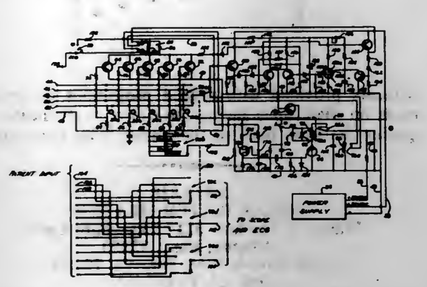
when the bag or bags are inflated. In another form, the end of the plastic strip may be passed between the tube means and the strip between the two points of attachment of the tube means to the strip, and the plastic strip may have spaced transverse slits through which the wrapped end of the strip may pass so that the end part is in a position between the strip and the inflatable bag. In another simplified form of the invention, the cuff is made of sticky or tacky plastic so that it may be held in position simply by being wrapped on itself.

3,513,832
RESPIRATION AND CARDIOVASCULAR MONITORING APPARATUS
William R. Kleuss, College Station, Tex., and Frederick B. Hembrough, Ames, Iowa, assignors to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed Jan. 30, 1967, Ser. No. 612,624
Int. Cl. A61b *5/02*
U.S. Cl. 128—2.05 2 Claims



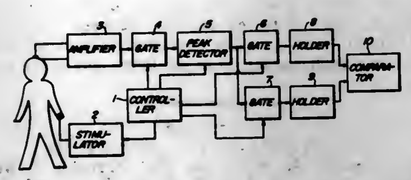
The disclosure relates to a monitoring apparatus comprising a thermistor probe for insertion into the nostril of a small animal, a skin contact microphone, and with both electrically connected to an amplifier arranged to simultaneously and selectively, to the listener, audibly indicate respiratory and the cardiovascular functions of the animal. Using a cuff and gauge, systolic and diastolic blood pressure can also be monitored.

3,513,833
MEDICAL MONITORING SYSTEM
Horace T. Finch, Arcadia, and Donald L. Emmons, Roland Heights, Calif., assignors to The Birtcher Corporation, Los Angeles, Calif., a corporation of California
Filed Mar. 17, 1967, Ser. No. 624,007
Int. Cl. A67b *5/04*
U.S. Cl. 128—2.06 5 Claims



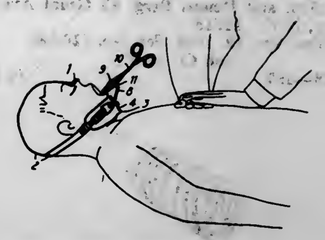
A bedside station continuously conveys a plurality of patients' electrocardiographic (ECG) signals to a central station and, in the event of increase or decrease in heart beat rate, transmits an "alert" signal to the central station. Monitoring instruments at the central station have facilities for manual and automatic selection of a patient from a predetermined number of patients to display the selected patient's ECG trace, activate an audible alert signal if any of the patients are in distress and an alert signal is received from the bedside station, illuminate an alert lamp that identifies the distressed patient, and render a recorded ECG trace automatically of the patient that has transmitted the alert signal.

3,513,834
ANESTHETIC DEPTH MEASURING SYSTEM
Takuji Suzuki and Zenmon Abe, Kokubunji-shi, Sadao Horiguchi, Yokohama, and Kazuhiko Asano, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Nov. 21, 1967, Ser. No. 684,777
Claims priority, application Japan, Nov. 21, 1966, 41/76,120
Int. Cl. A61b *5/05*
U.S. Cl. 128—2.1 5 Claims



An electrical impulse is imparted to a distal portion of a human body to obtain a first and a second peaks in a brain wave which is originated by an evoked encephalo-electrical activity in response to the impartation of the electrical impulse, such that the peak value as obtained by measurement in an anesthetic state in question is then compared with the peak value in a non-anesthetic state to determine the anesthetic depth of the questioned anesthetic state.

3,513,835
APPARATUS FOR PROMOTING ARTIFICIAL BREATHING
Joseph De Coster, Nederij 41, Herentals, Belgium
Filed Feb. 27, 1968, Ser. No. 708,543
Claims priority, application Belgium, Mar. 9, 1967, 46,610, Patent 695,223
Int. Cl. A61b *1/00, 1/24*
U.S. Cl. 128—12 5 Claims



The disclosure provides an apparatus for providing artificial breathing comprising a chin-piece, a nose hooking element and a pair of pliers for fixedly engaging the tongue of a patient. The chin-piece and nose hooking element are interconnected with elastic head straps which are adjustably arranged in such a manner as to force the patient's mouth to an open position. Removably attached to the chin-piece is a rigid support upon which the pliers rest during use.

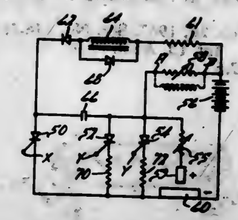
3,513,836
PROSTHESIS FOR CARDIAC ASSISTANCE
André Satuse, 26 Rue du Rocher, Paris 8, France
Filed Sept. 5, 1967, Ser. No. 665,412
Claims priority, application France, Sept. 5, 1966, 75,260; July 18, 1967, 116,158
Int. Cl. A61h *31/00*
U.S. Cl. 128—64 5 Claims



A device for cardiac assistance, the device taking the form of a flexible open topped double-walled pocket, the inner wall being flexible and elastic and having the form of a human heart in diastole, the outer wall being flexible and substantially inextensible, the space between the two walls being divided into bladders adapted to be filled with fluid and placed in communication with a pulsation generator.

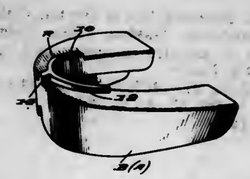
3,513,837
ELECTRICAL DISCHARGE MACHINING POWER SUPPLY CIRCUIT
Kurt H. Sennowitz, Royal Oak, Mich., assignor, by mesne assignments, to Elox Inc., Troy, Mich., a corporation of Delaware
Filed Mar. 28, 1967, Ser. No. 626,570
Int. Cl. B23p *1/08*
U.S. Cl. 219—69 12 Claims

A circuit for providing machining power pulses from a DC source to an EDM gap and employing a controlled rectifier supplying periodic gap-shunting turn-off spikes to the gap. A second controlled rectifier is used for turn-off of the first controlled rectifier. Turn-on and turn-off



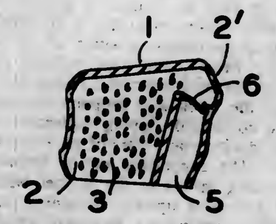
are precisely controlled by a multivibrator pulse source alternately triggering-on each controlled rectifier.

3,513,838
TEETH PROTECTOR
John W. Foderick, Rte. 1, Box 187, Hastings, Minn. 55033, and Arnold B. Dammermann, 4829 Minnetonka Blvd., Minneapolis, Minn. 55416
Filed Oct. 11, 1967, Ser. No. 674,412
Int. Cl. A61b *19/00*
U.S. Cl. 128—136 2 Claims



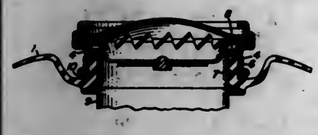
A teeth protector for patients undergoing treatment requiring intubation, administering of anesthesia, etc. It comprises a pair of plastic sheath-like protector sections to be applied to the patient's upper and lower teeth. The opposing surfaces of the sections are provided with rib-like formations adapted to withstand the pressure applied to the patient's teeth by instruments inserted in his or her mouth during the course of the treatment and similarly to prevent any damage to the teeth should the patient bite down hard on the tube used in intubation, etc. The ribs are specially formed and/or shaped to prevent full meshing of upper and lower teeth by the patient.

3,513,839
VALVED NOSE FILTER
Matthew Vacante, One Pasture Lane, Old Bethpage, N.Y. 11804
Filed Jan. 2, 1968, Ser. No. 695,001
Int. Cl. A62b *23/06*; A61m *15/08*
U.S. Cl. 128—140 1 Claim



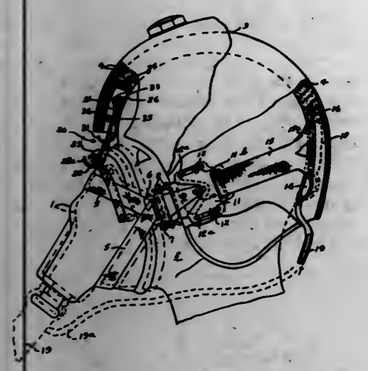
A hollow formed member adapted to be inserted in a nostril and filter material in said member. The member may be made with an exhaust by-pass controlled by a flipper check valve.

3,513,840
MASK INLET VALVE CAP ASSEMBLY
Norman Potash, Baltimore, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 20, 1967, Ser. No. 618,286
Int. Cl. A62b 7/10
U.S. Cl. 128—142.6 1 Claims



An improved cap-inlet valve structure for protective masks; the improvement being a bead integrally molded on the outside diameter of the annular wall of the valve.

3,513,841
MECHANISM FOR ALTITUDE CONTROLLED MASK HARNESS TENSION COMPENSATING DEVICE AND FRONT HARNESS ADJUSTMENT
Henry W. Seeler, deceased, late of Dayton, Ohio, by Gerda A. Seeler, executrix, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 27, 1967, Ser. No. 671,925
Int. Cl. A62b 18/08
U.S. Cl. 128—146.7 7 Claims



An oxygen mask tensioning means which varies the tension of the mask against the face of the wearer in predetermined relation to changes in pressure altitudes, which is operable within an aviator's or pilot's helmet without disturbing the relative position of the helmet on the head of the wearer, and also includes detachable mask supporting means connected between the front of the helmet and the mask and supports the mask comfortably against downward slipping movement, especially against g forces during maneuvers of an aircraft containing the wearer. The supporting means includes spring actuated connecting means in the helmet which exerts predetermined adjustable upward sustaining pull on the mask, and locking means are provided which is conveniently releasable, engages the supporting means to lock or retain the supporting means immobilized with the mask in any desired vertically supported relation on the wearer's face. The supporting means is flexible, like a strap member and a detachable connection is employed between the same and the mask which will disconnect the supporting means from the mask so that the mask can be removed from in front of the face of the wearer when desired.

3,513,842
PROTECTIVE DEVICE
George Keenan, 382 N. Forest Ave., Rockville Centre, N.Y. 11570, and Dennis Berg, 83 Grant Ave., East Rockaway, N.Y. 11518
Filed Apr. 10, 1968, Ser. No. 720,080
Int. Cl. A61f
U.S. Cl. 128—157 10 Claims



A flexible protective guard for the protection of body members which employs a helical spring which is rigid in a radial direction but which can flex longitudinally to provide protection without immobilizing joints. The wire spring is cushioned to protect the member from the spring.

3,513,843
RESPIRATORY DEVICE FOR REBREATHING CARBON DIOXIDE
Gertrude Exler, 45 Haney Ave., Toronto 9, Ontario, Canada
Filed July 7, 1967, Ser. No. 651,834
Int. Cl. A61m 15/00
U.S. Cl. 128—202 3 Claims



A respiratory device for self administration to regulate the carbon dioxide level of inhalation consisting of a nose-mouth mask connected to an inflatable sack, of readily variable size to adjust the same to the breathing capacity of the user, said sack having an adjustable two-way flow breather valve and a one-way outlet valve.

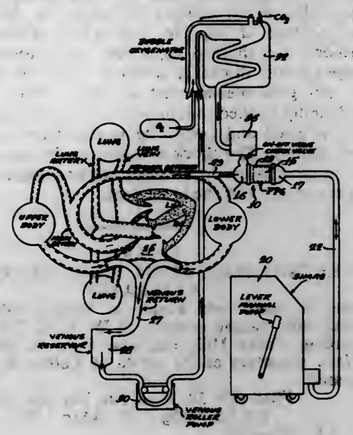
3,513,844
ADJUSTABLE NONRESTRICTIVE NASAL CANNULA
William H. Smith, Rahway, N.J., assignor to Metro Hospital Supply Co., Inc., Brooklyn, N.Y.
Filed Apr. 30, 1968, Ser. No. 725,364
Int. Cl. A61m 15/08
U.S. Cl. 128—206 2 Claims

A nasal cannula made of a flexible material having a formable insert in the connecting cross-tube between the nostril conduits permitting manual shaping and contouring of the cross-tube to the contour of the upper lip of the patient. The insert, which may be a flat piece



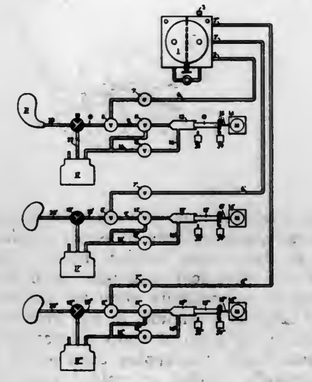
of metal, may be provided with non-restricting notches to prevent constriction of the gas flow.

3,513,845
BYPASS HEART PUMP AND OXYGENATOR SYSTEM
Merrill G. Chesnut, Arvada, Phillip B. Callaghan, Westminster, and Sven Gafvert, Boulder, Colo., assignors, by mesne assignments, to United Aircraft Corporation, a corporation of Delaware
Filed Sept. 15, 1966, Ser. No. 579,565
Int. Cl. A61m 1/03
U.S. Cl. 128—214 5 Claims



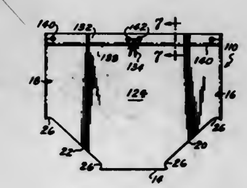
A cardiopulmonary bypass includes a reciprocating pump to deliver blood from a reservoir fed by an oxygenator to the femoral arteries. The oxygenator receives blood from either a venous roller pump or a reciprocable pump which draws the blood from a venous reservoir that in turn is fed by catheters placed into the superior and inferior vena cavae. The pumps are controlled by computer circuitry which provides the rate, the volume and the speed of blood flow under various controls. The system includes controls to permit utilization of an arterio-arterial assist device rather than as a complete cardiopulmonary bypass device. This includes the elimination of a check valve by utilizing differential flow cross-sections. In one embodiment, a second roller pump delivers blood from a reservoir of the oxygenator to a bubble trap, the output of which is returned to the patient through a reciprocating pump.

3,513,846
URINARY TRACT IRRIGATOR
George T. Gallo, 15 Cataldo Drive, Revere, Mass. 02151
Filed Mar. 29, 1967, Ser. No. 626,854
Int. Cl. A61m 1/00, 7/00
U.S. Cl. 128—234 7 Claims



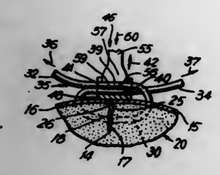
An apparatus for treating a body element with a substance, such as an apparatus for irrigating the urinary tract, wherein a predetermined volume of such substance is withdrawn from a storage means, the same predetermined volume is transferred to the body element at a constant flow and at a constant pressure, and the same predetermined volume is removed therefrom. An escape means is also provided to allow the removed substance to be passed out of the apparatus and the overall operation is performed automatically in sequence in a cyclic fashion.

3,513,847
WATERPROOF PANTIES FOR INFANTS
William Walter Artzt, 116 E. 68th St., New York, N.Y. 10021
Filed Mar. 22, 1967, Ser. No. 625,046
Int. Cl. A61f 13/16
U.S. Cl. 128—288 2 Claims



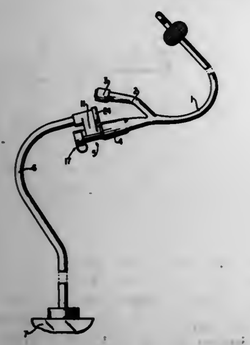
Waterproof panties for infants are formed of a single sheet of relatively thin, flexible thermoplastic material which is moisture impervious and folded upon itself to provide two superposed plies constituting front and back portions joined at the fold and at their side edges, as by heat seals therealong, the superposed plies being cut along lines diverging from the fold to the side edges and each having arcuate extremities to define leg openings with cusps at the fold and heat seals for resisting tearing of the leg openings. The leg openings and waist opening may have unfinished edges, or the edges of the sheet which define the waist opening may be folded over and heat sealed to define a hem for receiving a draw string.

3,513,848
ULTRASONIC SUTURING
Ronald H. Winston, Stephen Schultz, and Thomas Q. Garvey III, New York, N.Y., assignors to Ultrasonic Systems, Inc., Plainview, N.Y., a corporation of Delaware
Filed Dec. 11, 1967, Ser. No. 689,634
Int. Cl. A61b 17/04
U.S. Cl. 128—335 23 Claims



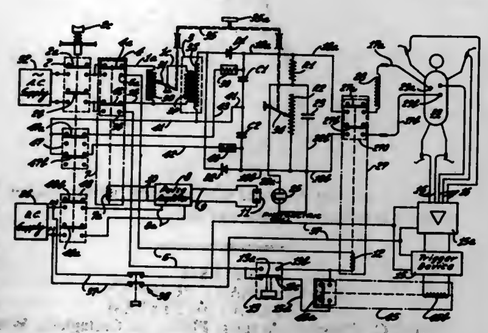
The invention deals with the method and apparatus for forming sutures utilizing utrasonic vibrational energy as well as the sutures formed thereby. The sutures are formed in biological organisms, such as humans, in a manner to substantially eliminate the loosening of the suture after its formation. In one form of the invention, tie offs in the form of knots as presently practiced are eliminated and overlapping portions of the suture are ultrasonically bonded or welded together without first forming a knot. In another form of the invention the ultrasonic vibrational energy is applied to the knot portion of the suture to prevent slippage and loosening thereof as stresses are applied thereto by normal body movement or in particular by the muscular system. The ultrasonic mechanical vibrations are applied to thermoplastic suture materials that are in either the plastic or metallic family, or of a natural or synthetic polymeric material.

3,513,849
IRRIGATION ADAPTER FOR CLOSED URINARY DRAINAGE SYSTEM
Vincent L. Vaillancourt, Livingston, and George A. Walck III, Somerville, N.J., assignors to C. R. Bard Inc., Murray Hill, N.J., a corporation of New York
Filed May 14, 1968, Ser. No. 728,979
Int. Cl. A61m 27/00
U.S. Cl. 128—349 7 Claims



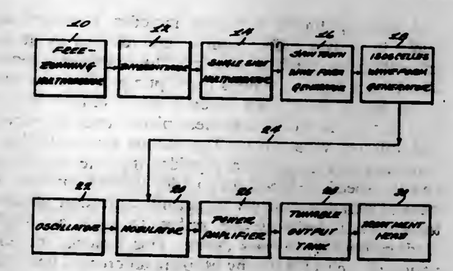
An adapter for interposition between a catheter and a drainage tube, formed with a closable opening in axial alinement with the inlet end of the adapter and an offset opening to receive the end of the drainage tube, the closable opening being designed to receive the tip of a syringe, for irrigation or the like, and means being provided for sealingly engaging the syringe tip to prevent leakage.

3,513,850
DIRECT CURRENT DEFIBRILLATOR WITH VOLTAGE-CONTROLLING MEANS
Paul Weber, Freiburg im Breisgau, Germany, assignor to Fritz Hellige & Co., G.m.b.H., Freiburg im Breisgau, Germany
Filed July 25, 1967, Ser. No. 655,908
Claims priority, application Germany, July 28, 1966, H 60,085
Int. Cl. A61n 1/00
U.S. Cl. 128—421 6 Claims



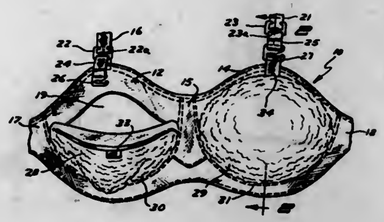
A defibrillator that is useful for the treatment of certain heart disorders by the application of an electric shock voltage to the heart comprising circuitry which ensures that, while a shock voltage is being applied to the patient, the storage capacitors, whose discharge provides the shock voltage, are not simultaneously being charged. A control is provided which enables increasing or decreasing the shock voltage, if required, just before releasing it. Furthermore, the charged capacitors are automatically discharged across discharge resistors when the equipment is shut off, guaranteeing that a shock voltage cannot be accidentally applied to a patient, as soon as the equipment is reenergized and before he is ready for receiving the shock voltage. The shock voltages can be applied, by further improvements in circuitry, either asynchronously or synchronously with the heart beat.

3,513,851
ELECTROTHERAPEUTIC PULSE GENERATING APPARATUS
Luther B. Smith and Frank A. Yarger, Miami Beach, Fla.; said Yarger assignor to W. F. L. Try and R. E. Jordan, Camp Hill, Pa., and Vera R. Smith, Reno, Nev., executors of the estate of Luther B. Smith, deceased
Filed July 19, 1966, Ser. No. 566,346
Int. Cl. H05g 1/10; A61n 1/02
U.S. Cl. 128—422 15 Claims



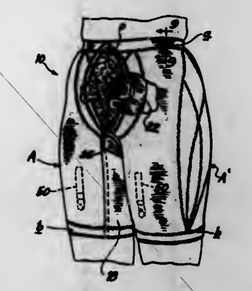
Electrotherapeutic pulse generating apparatus is disclosed wherein pulses of radio frequency energy are applied to a patient. The pulses are developed by modulating a radio frequency signal with triangularly-shaped pulses. These pulses, in turn, are generated by integrating the leading and trailing edges of the output of a monostable multivibrator. The monostable multivibrator is triggered from either the leading or trailing edges of a free-running multivibrator.

3,513,852
NURSING BRASSIERE STRUCTURE
Sharon A. Seidl, 149 Garbe Ave., St. Paul, Minn. 55119
Filed Apr. 8, 1968, Ser. No. 719,623
Int. Cl. A41c 3/04
U.S. Cl. 128—460 9 Claims



A nursing brassiere comprising a body portion having spaced openings therein and cup portions carried by said body portion hinged thereto to removably overlie said openings, and means for securing said cup portions, each of said cup portions embodying a substantially cone-shaped form-retaining guard member disposed to have forward projection and to provide relief from pressure for an underlying sensitive area of the wearer.

3,513,853
PANTY GIRDLE
Nicholas A. Marino, Chicago, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York
Filed Feb. 27, 1967, Ser. No. 618,654
Int. Cl. A41c 1/00
U.S. Cl. 128—528 6 Claims



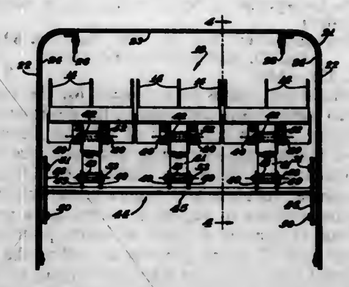
An article of intimate wearing apparel for females of the panty girdle type, wherein a special two-way-stretch fabric and novel structure combine to result in greatly increased versatility, whereby a garment of a given size will properly fit a variety of figures of substantially different sizes, shapes and proportions, with improved comfort and appearance, one feature being an improved crotch piece of such stretchability as to permit a rise (i.e., dimension from crotch to waist) for considerably varying height.

3,513,854
PANTY GIRDLE HAVING MEANS TO ADJUSTABLY LIFT AND FLATTEN A SAGGING ABDOMEN
Harry Meyer, Milwaukee, Wis., assignor to Sli-O-Ette Sales Corp., Jamaica, N.Y., a corporation of New York
Filed July 18, 1968, Ser. No. 745,881
Int. Cl. A41c 1/00
U.S. Cl. 128—528 11 Claims



The inside surface of the front of the panty girdle is covered by an inverted, substantially triangular-shaped, horizontally stretchable panel extending from side to side along the waistline region of the garment to crotch region. Said panel is stitched only along its vertical center line to the garment's front vertical center line. Flat elastic belt members extend in opposite directions from the upper extremities of the panel, through side openings in the garment, then around the back through guide loops, between which they overlap and are releasably engaged by cooperative means offering adjustment of belt size.

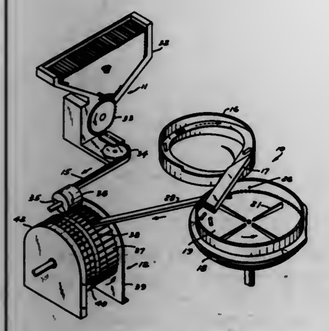
3,513,855
STRAW RACK DRIVE
William A. Blewitt, Hamilton, Ontario, and Donald A. McCallum, Burlington, Ontario, Canada, assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 30, 1967, Ser. No. 664,470
Int. Cl. A01f 12/30
U.S. Cl. 130—26 1 Claim



A grain separating apparatus that is driven at its front end about an orbital path and is supported by free swinging links located adjacent the rear end. The links extend downwardly from the grain separating apparatus and are pivotally connected to adjustable mounting means. The mounting means is adjustable to vary the pivot point with-

in a specific range. The orbital drive and the link support causes the rear end of the grain separating apparatus to be oscillated about an arc.

3,513,856
MACHINE FOR INSERTING FILTER PLUG SECTIONS INTO PLASTIC CIGAR MOUTHPIECES
John H. Sexstone and Michael B. Hagan, Louisville, Ky., assignors to Brown & Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
Filed May 6, 1968, Ser. No. 726,742
Int. Cl. A24c *5/48, 5/50*
U.S. Cl. 131—94 4 Claims

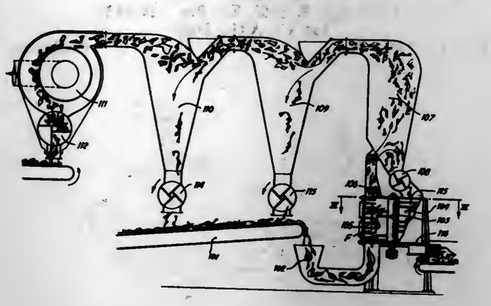


A machine having a fluted rotatable assembly drum upon which filter plug sections are inserted into plastic mouthpieces. The mouthpieces are fed to the assembly drum from an orientation mechanism which receives the mouthpieces in random fashion and aligns them for proper positioning in the flutes of the assembly means. The filter plug sections are fed to the assembly drum from a storage hopper, such that the mouthpieces and plug sections are in coaxial alignment on the assembly drum prior to the insertion of the plug sections into the respective mouthpieces. Means for inserting the filter plug sections into the open end of the mouth pieces are carried by the assembly drum.

3,513,857
PROCESS FOR THE TREATMENT OF TOBACCO STEMS
Henri C. Silberman, Richmond, Va., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,122
Int. Cl. A24b *9/00, 3/14, 15/04*
U.S. Cl. 131—140 7 Claims

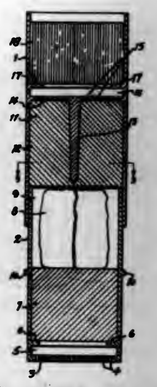
This disclosure relates to a process for the treatment of tobacco stems. More particularly, the disclosure relates to a process for the treatment of tobacco stems which comprises soaking tobacco stems in an aqueous solution of polysaccharide-hydrolyzing enzymes exhibiting catalytic pectinase, cellulase and hemicellulase activity, permitting the enzymes to act on the stems for a period of from about 15 minutes to about 48 hours, preferably between one and 12 hours, pressing or rolling the treated and softened stems to flatten them, and drying and cutting for use in tobacco products. The aqueous solution contains an amount of enzyme equivalent to an enzyme to stem weight ratio of between about 1 to 10,000 and 1 to 10, preferably between 1 to 5,000 and 1 to 250. The pH of the aqueous solution will generally be from about 3.5 to about 5.5 and the concentration of water should be from about 50 to about 1,000%, preferably from about 100 to about 400% of the weight of the dry stems.

3,513,858
PROCESS FOR STEMMING TOBACCO LEAVES
Andre Pietrucci, Fleury-les-Aubrais, France, assignor to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French public establishment
Filed Nov. 2, 1966, Ser. No. 591,606
Claims priority, application France, Nov. 3, 1965, 37,153; Nov. 17, 1965, 38,785; Aug. 26, 1966, 74,210; Sept. 20, 1966, 76,911
Int. Cl. A24b *5/10*
U.S. Cl. 131—146 6 Claims



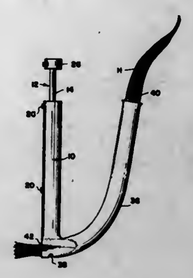
A process for stemming tobacco leaves and separating the products into lighter, intermediate-weight, and heavier parts. The leaves are introduced into an air stream exteriorly of the stemming chamber and circulated upwardly into and through the chamber. The air stream is evacuated from the chamber in a direction which is substantially opposite of the discharge direction of the heavier parts.

3,513,859
FILTER FOR SMOKING DEVICES
Margaret F. Carty, Plainfield, Vt., assignors to The H_2O Filter Corporation, New York, N.Y.
Filed Nov. 6, 1967, Ser. No. 680,837
Int. Cl. A24d *1/04;* A24f *25/00, 7/04*
U.S. Cl. 131—267 3 Claims



A filter for smoking devices such as cigarettes, cigars and pipes, comprising multiple interlocking telescoping cartridges of impervious material, and within the assembly of said cartridges a sealed, rupturable container partially filled with water. The container is positioned between bodies of porous, absorbent material located in each cartridge. One of the cartridges has means for rupturing said sealed container for release of the water contained therein into said adjacent porous absorbent bodies when the cartridges are telescopically compressed.

3,513,860
HAIR INSERTION DEVICE AND METHOD OF IMPLANTING HAIR IN HAIRPIECES
Gilbert Kost, 7112 Marston Road, Baltimore, Md. 21207
Filed Dec. 8, 1967, Ser. No. 689,096
Int. Cl. A41g *3/00*
U.S. Cl. 132—5 9 Claims

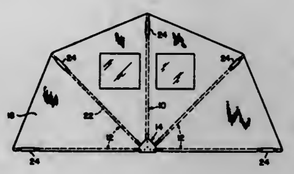


The disclosed hair insertion device and method employ a curved hopper in conjunction with a reciprocating plunger having one or more needles which engage hairs in the hopper and form hair loops which are pressed into a base.

ERRATA

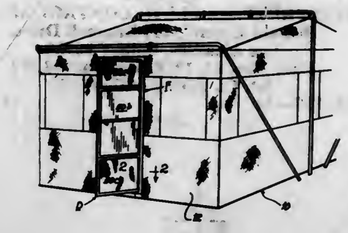
For Classes 134—58 and 134—115 see:
Patent Nos. 3,514,329 and 3,514,330

3,513,861
COLLAPSIBLE TENT
William L. Johnson, Ardmore, Okla., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed Oct. 17, 1968, Ser. No. 768,420
Int. Cl. A41f *1/00, 1/16*
U.S. Cl. 135—1 5 Claims



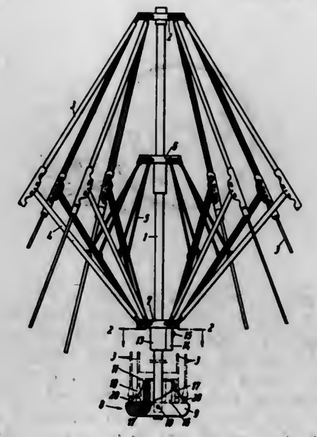
A collapsible tent structure including five stiff supporting bows attached to common footing members. The center bow is fixed to the footing members, and the other bows are pivoted to them. The bows are formed with straight legs that form obtuse angles with their center bight portions so that when the tent is erected, its floor is hexagonal, and its side walls converge upwardly. The legs of the bows are hinged near the bight portions to permit folding the legs inwardly when the tent is collapsed. The tapered form of the bows holds the legs straight without need for braces or latching devices at the hinges.

3,513,862
TENT SCREEN DOOR
Harold J. Pohl, Washington, and Norman J. Diederich, New Haven, Mo., assignors to Kellwood Company, St. Louis, Mo., a corporation of Delaware
Filed Feb. 27, 1969, Ser. No. 802,877
Int. Cl. A45f *1/08*
U.S. Cl. 135—14 8 Claims



A knockdown rigid hinged door for a wall tent, comprising a stationary frame detachably connectable to a fabric wall of a tent and hingedly connected to a swingable door, both frame and door being of knockdown construction. The swingable door is formed in a plurality of separable sections each of which comprises a frame which may be provided with detachable screening and detachable weather-impermeable panels, as desired. The entire door assembly is designed to be set up and taken down quickly and, when knocked down, may be stored in a minimum of space.

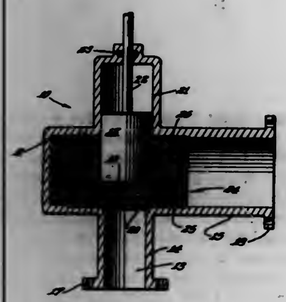
3,513,863
UMBRELLA, ESPECIALLY OF THE COLLAPSIBLE TYPE, HAVING A FLAT CROSS-SECTIONAL SHAPE IN CLOSED CONDITION THEREOF
Heinz Weber, Hilden, Germany, assignor to Telesco Brophey Limited, Montreal, Quebec, Canada
Filed July 26, 1968, Ser. No. 747,984
Claims priority, application Germany, July 29, 1967, B 72,079
Int. Cl. A45b *19/04, 19/06, 25/00*
U.S. Cl. 135—25 4 Claims



Umbrella, especially of the collapsible type, having a relatively flat cross-sectional shape in closed condition thereof includes a correspondingly flat handle formed

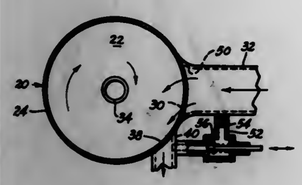
with a pair of diametrically opposed pockets for receiving therein tips of roof-supporting ribs of the umbrella, the handle being open at an end thereof facing the roof-supporting ribs and at opposite sides thereof, and being bounded by a flange at an end thereof facing away from the roof-supporting ribs and by flank-like walls at opposite sides thereof intermediate the first-mentioned opposite sides.

3,513,864
HIGH PRESSURE FLUID CONTROL MEANS
Richard E. Self, 3221 Brimhall Drive, Los Alamitos, Calif. 90720
Filed Nov. 22, 1968, Ser. No. 778,281
Int. Cl. F16k *11/07, 47/00*
U.S. Cl. 137—14 14 Claims



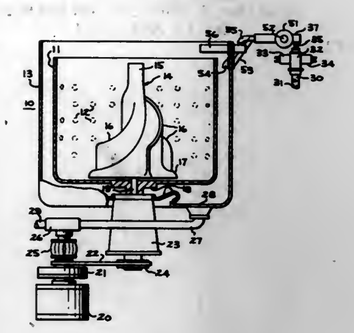
Energy of a flowing high pressure fluid is dissipated by subdivision in a skeletal disk baffle grid assembly into a plurality of tortuous courses in which there are repeated changes of direction in divergent planes.

3,513,865
FLUID VORTEX VALVE
Jacq Van Der Heyden, Orlando, Fla., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,408
Int. Cl. F15c *1/16*
U.S. Cl. 137—81.5 6 Claims



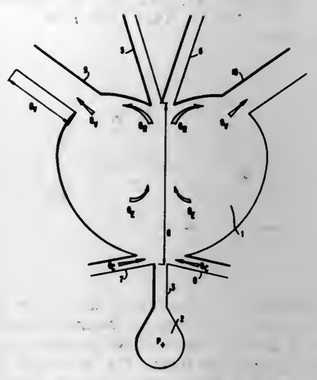
The present invention concerns a fluid vortex valve having a circular vortex chamber provided with a circumferentially located relatively high pressure, large flow, fluid inlet adapted to inject fluid radially inwardly, a centrally located outlet port adapted to pass the injected fluid outwardly from the chamber and a relatively low pressure fluid drain control port positioned adjacent the fluid inlet port which may be opened to establish a fluid pressure unbalance transverse to the inlet port thereby causing the fluid flow to deviate toward the arcuate chamber wall and assume a vortex path thereby impeding fluid flow through the chamber.

3,513,866
WASHING MACHINE WITH IMPROVED LIQUID AND ADDITIVE DISPENSING MEANS
Willis A. Boothe, Scotia, and John R. M. Alger, Fayetteville, N.Y., assignors to General Electric Company, a corporation of New York
Filed Mar. 27, 1967, Ser. No. 625,995
Int. Cl. F15c *1/08, 1/14*
U.S. Cl. 137—81.5 5 Claims



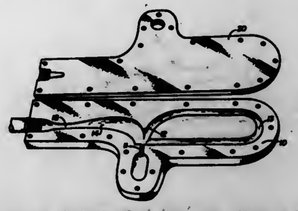
A washing machine provided with a liquid supply mechanism having a fluid amplifier for controlling the liquid supply mechanism outlets to the washing container. An additive dispenser is connected to at least one outlet and the amplifier is controllable to selectively cause dispensing of the additive.

3,513,867
TUNED AND REGENERATIVE FLUERIC AMPLIFIERS
Francis M. Manion, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 12, 1967, Ser. No. 690,030
Int. Cl. F15c *1/06*
U.S. Cl. 137—81.5 5 Claims



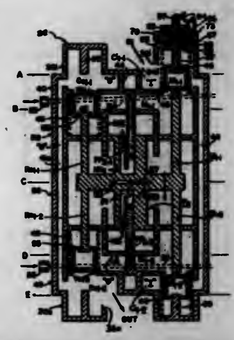
A flueric amplifier using controllable intrinsic inductance and capacitance effects at the vent for tuning a vent "tank circuit" to tune the amplifier. Transport phase lag of the fluid jet is used to provide regenerative feedback for a regenerative amplifier.

3,513,868
FLUIDIC OSCILLATOR
Carl R. Halbach, Van Nuys, and Lewis D. Bickerton, Reseda, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed May 7, 1968, Ser. No. 727,170
Int. Cl. F15c *1/08*
U.S. Cl. 137—81.5 4 Claims



A fluidic oscillator having a single output channel. Frequency is made substantially independent of pressure by the use of inlet and output nozzles in a pressure divider arrangement.

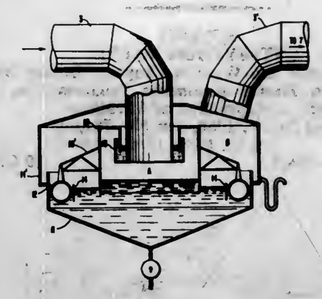
3,513,869
FLOW CONTROL OF FLUID PROPORTIONING DEVICE
Valentine Hechler IV, 26 Meadow View Lane, Northfield, Ill. 60093
Continuation-in-part of application Ser. No. 520,568, Jan. 14, 1966. This application Mar. 22, 1967, Ser. No. 625,086
Int. Cl. G05d *11/03*; G01f *11/04*
U.S. Cl. 137—99 14 Claims



A flow control valve arrangement in a fluid proportioning device in which a liquid pressure intake valve is positively restrained in open position to hold a liquid driven piston in a stationary position and stop the pumping of a chemical concentrate for mixture therewith, and to open its exhaust valve for the flow of pressure directly from the inlet to the outlet through a manifold interconnecting the valves whereby unrestricted flow from inlet to outlet without injection of concentrate thereto may be had at will.

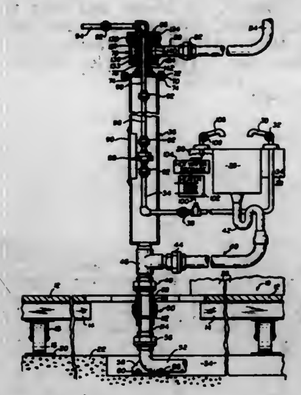
3,513,870
APPARATUS OF HYDRAULIC BACKWARD STOP SYSTEM FOR GAS DUCT LINE
Motoaki Hirao, Kobe-shi, Japan, assignor to Kawasaki Jukogyo Kabushiki Kaisha, Kobe, Japan
Filed May 13, 1968, Ser. No. 728,550
Int. Cl. F16k *9/00*
U.S. Cl. 137—251 2 Claims

A hydraulic backward flow stop device arranged in a gas delivery duct and includes a gas blast tube movably supported within the device by float members. The gas blast tube forms a gas tight seal with the delivery duct by having its upper top immersed in a water filled sleeve arranged about the discharge end of the delivery duct. The float members cause the gas blast tube to ascend and descend in relation to the level of water in one of the



chambers in the device. The lower end of the gas blast tube is thereby maintained beneath the level of water in both chambers in the device due to the ascending and descending motion of the tube and the pressure differential between the chambers.

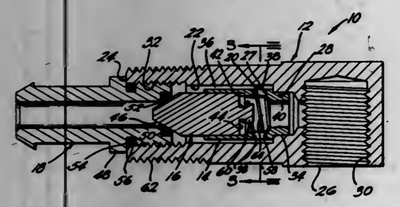
3,513,871
TRIPLE SWIVEL JOINT
David Bruce Johnston, 132 Skyline Lane, Stamford, Conn. 06903
Filed Oct. 10, 1967, Ser. No. 676,994
Int. Cl. F16l *27/08, 53/00*
U.S. Cl. 137—334 12 Claims



This specification discloses a swivel-joint system for connecting pipes on a turntable with stationary pipes. There are at least three swivel pipe joints in axial alignment and the system is constructed with a drain outlet from plumbing on the turntable communicating with stationary piping by means of one of the swivel pipe joints located at the bottom of the system. This drain outlet communicates with a ventilating stack through another swivel pipe outlet located at the top of the system and in axial alignment with the drain outlet. The system also includes a water supply pipe which is led along the center axis of the stack swivel joint and which has its own swivel joint in alignment with the other swivel joints of

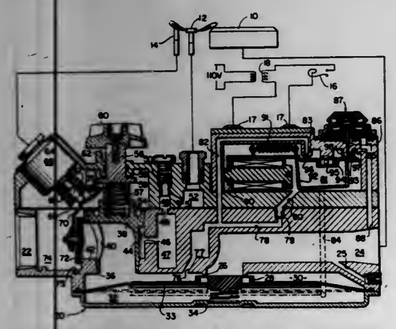
the system. The construction requires that the ventilating passage to the stack be of generally annular cross section where it surrounds the water supply pipe, and the same principle can be employed to introduce additional pipes into the system, as where it might be necessary to have both hot and cold water supplies.

3,513,872
ANTI-SYPHON VALVE
Willis E. Tupper and Ward A. Tupper, Dexter, Mich., assignors to Dexter Automatic Products Co., Inc., Dexter, Mich., a corporation of Michigan
Filed Dec. 6, 1968, Ser. No. 781,945
Int. Cl. F16k 15/02
U.S. Cl. 137—484.2 10 Claims



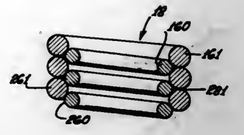
A check valve for use in a liquid fuel system in the supply line between a tank and an internal combustion engine. The valve will hold a desired pressure head on the suction side and will prevent syphoning of fuel from the tank in the event of a rupture or a leak in the line between the check valve and the engine. The flow passageway through the valve is such that aeration of the fuel is avoided.

3,513,873
UNITARY CONTROL DEVICE
Marvin M. Graham, San Pedro, and John W. Wright, Long Beach, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 2, 1967, Ser. No. 658,000
Int. Cl. F16k 31/14
U.S. Cl. 137—495 4 Claims



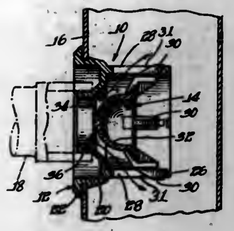
An unitary control device for main and pilot burner apparatus having a differential pressure operated diaphragm valve operated by an internal bleed line which is subject to pressure regulation and to on-off control by a dual valve permitting a bypass bleed flow to assure closure of the main diaphragm valve. The control device casing houses conventional manual and safety valves adjacent its inlet port and includes an impurity collector in its inlet chamber as being arranged so that all the connections for operating components of the control device are located on the same wall of the casing.

3,513,874
VALVE DEVICE HAVING RESILIENT RESPONSE ELEMENTS
James W. Welsh, 1642 Mockingbird Place, Orange, Calif. 92667, and James F. Davis, Jr., 11002 Fuerte Drive, La Mesa, Calif. 92041
Filed July 6, 1967, Ser. No. 651,504
Int. Cl. F16k 15/14, 17/02
U.S. Cl. 137—525 8 Claims



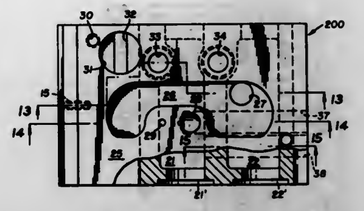
A device for control of fluid flow which in combination with a fluid passing duct includes a helically extending element, such as a coil spring, defining a generally tubular body the interior of which is in communication with the duct. The element has helical turn extents which are relatively bodily separable to vary the spacing therebetween, and accordingly fluid flow, through the spacing between the interior and exterior of the body.

3,513,875
CLOSURE DEVICE
John F. Nelson, Des Plaines, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Mar. 14, 1968, Ser. No. 713,194
Int. Cl. F16k 15/06
U.S. Cl. 137—528 9 Claims



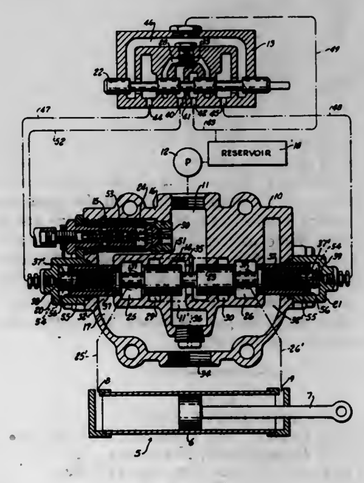
The present invention relates generally to aperture closure devices and more particularly to improvements in closure devices which may be snapped within the aperture of a panel, and in this position permit the flow therethrough of filler material such as foam insulation material commonly employed for insulating refrigerators. To this end the present invention contemplates a fitting which will only permit the free-flow of insulating material in one direction, and will also prevent unauthorized reverse flow of the filler material. The embodiment disclosed herein consists of a two part assembly, a first part or fitting in the nature of an annulus being adapted for telescopic assembly and interlocking association within the aperture of a panel, as for example, within an aperture of the outer shell of a refrigerator. A second part, in the form of a valve member is carried by and axially shiftable within said fitting. The valve member is shiftable in response to the flow of material in the fitting, and in one shifted position said valve member is adapted to sealingly engage a valve seat in the fitting, and in another shifted position to be disengaged from said valve seat so as to permit free flow of the material to said fitting.

3,513,876
VALVE MANIFOLD MODULE AND SYSTEM
Robert K. Tarbox, Akron, Ohio, assignor to Akro-Tec Incorporated, Akron, Ohio, a corporation of Ohio
Filed Apr. 9, 1968, Ser. No. 719,964
Int. Cl. F16k 11/20, 11/24
U.S. Cl. 137—596 16 Claims



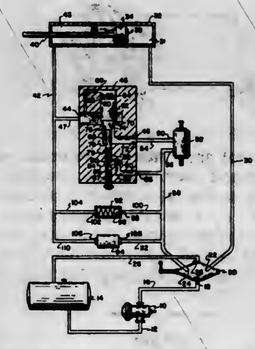
A fluid valve manifold system consisting of modular block components connectable in abutting relation in selective interchangeable combinations and arrangements, certain faces of said blocks being selectively connectable to various valve and accessory components to suit various pressure and control requirements, said modular blocks being modifications of one basic module and adapted for conducting pressure fluid and electrical conductors throughout the system, whereby a multiplicity of component arrangements may be accomplished without changing the component construction and without external piping or wiring.

3,513,877
CONTROL VALVE WITH COUNTER-BALANCING AND DIRECTION CONTROLLING VALVE ELEMENT
Francis H. Tennis, Oconomowoc, Wis., assignor, by mesne assignments, to Koehring Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 27, 1968, Ser. No. 716,410
Int. Cl. F16k 31/12, 31/14, 31/36
U.S. Cl. 137—596.13 13 Claims



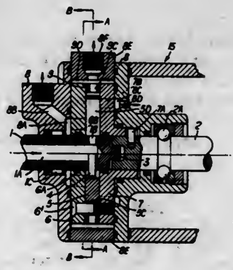
The inlets of a main valve and a pilot valve therefor are supplied with pressure fluid from the same pump. The main valve element is movable under return bias from a normal operating position toward a metering position throttling return flow from the governed cylinder in consequence of load induced drop in pressure in the expanding end of the cylinder. A dash pot limits the rate at which the main valve element can be moved toward metering position.

3,513,878
POWER TRANSMISSION
Robert H. Smith, Warren, Mich., assignor to Sperry Rand Corporation, Troy, Mich., a corporation of Delaware
Filed Nov. 17, 1967, Ser. No. 683,998
Int. Cl. F16k 17/30; F15b 15/22
U.S. Cl. 137—613 3 Claims



A hydraulic power transmission system having in combination a deceleration valve, a flow control valve, and a zero leakage valve, wherein the zero leakage valve will prevent fluid leakage through the deceleration valve when the same is completely closed, thus enabling accurate flow control through the flow control valve at very low volumetric ranges.

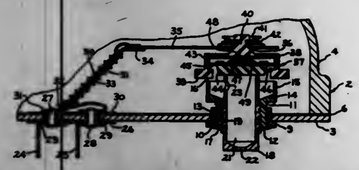
3,513,879
PORTED DISC VALVE
Frederick J. Adams, Campton, near Shefford, England, assignor, by mesne assignments, to Cam Gears, Ltd., Hitchin, England, a British company
Filed Aug. 16, 1968, Ser. No. 753,097
Claims priority, application Great Britain, Aug. 16, 1967, 37,602
Int. Cl. F15b 9/10; F16k 11/08
U.S. Cl. 137—625.21 13 Claims



A fluid flow valve including a valve housing in which the flow of fluid is controlled between a fluid inlet, a fluid outlet and a pair of servo-motor ports by means of disc-shaped valve members having cooperating radial faces

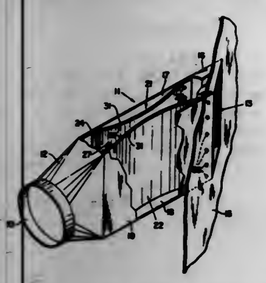
with apertures formed therein movable into and out of fluid communication with one another in response to relative rotation of the valve members and an input and an output shaft journalled in the valve housing and connected respectively to said valve members for joint rotation therewith.

3,513,880
DUAL STAGE VALVE
Frederick M. White, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 12, 1968, Ser. No. 759,451
Int. Cl. F11c 1/04; F16k 11/14
U.S. Cl. 137—636.22 15 Claims



A fluid flow control apparatus having outlet means including first and second openings to two fluid flow paths, and a valve having a first portion and a second portion. The valve is carried by a movable support so that a first movement of the support exposes the first opening for a first flow rate and a second, additional, movement of the support exposes the second opening for a second flow rate.

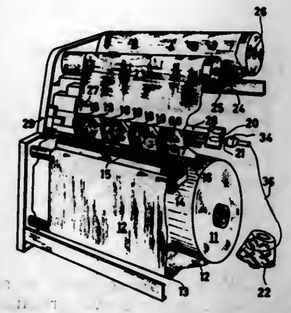
3,513,881
FLOW REGULATOR HAVING THRUST RECOVERY
Robert C. Kissell, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed July 24, 1967, Ser. No. 655,636
Int. Cl. F15d 1/02; G05d 7/01, 23/08
U.S. Cl. 138—45 1 Claim



A flow regulator having thrust recovery which utilizes thermal expansion of dissimilar metals to change the curvature in bimetallic sheets to vary the throat in relation to temperature at the same time a streamlined passageway is maintained so that the flowing fluid is maintained within a fixed temperature range and the friction losses are minimal.

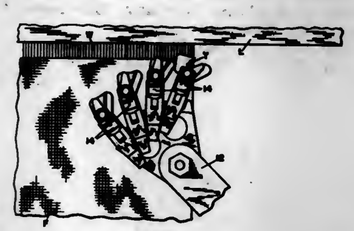
3,513,882
ARRANGEMENT FOR PRODUCING THREAD WINDINGS ON A LOOM
Edgar H. Strasser, Rüti, Zurich, Switzerland, assignor to Rüti Machinery Works Ltd., Rüti, Zurich, Switzerland, a corporation of Switzerland
Filed June 3, 1968, Ser. No. 734,155
Int. Cl. D03d 47/26
U.S. Cl. 139—12 16 Claims

An apparatus on a wave-type loom for producing thread windings of a predetermined length which comprises a winding element, winding means for winding individual turns of a thread on said winding element, means for shifting, successively, a predetermined number of the turns of the thread in the form of a winding along the winding element without cutting the thread between each



winding, and retaining means actuable in rhythm with the displacements of the windings along the winding element for holding the turns of the thread windings on the winding element in prescribed positions whereby windings of predetermined length are consistently obtained.

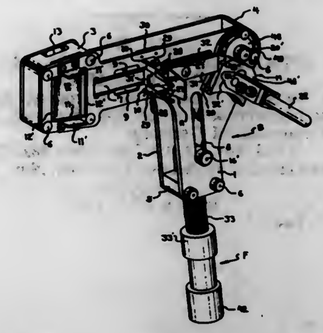
3,513,883
YARN CLAMP AND CUTTER
Charles Russell Kingdon, Leicester, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Dec. 10, 1968, Ser. No. 782,542
Int. Cl. D03d 45/50
U.S. Cl. 139—122 7 Claims



A yarn clamping and cutting device which has a fixed cutting blade, a movable clamping blade and a movable combination clamping and cutting blade interposed between the cutting and clamping blade. In the open position, the clamping blade is slightly spaced from and lies over the cutting blade to form one side of a V-opening, the combination blade forming the other side. The combination blade and clamping blade move towards each other to clamp a yarn placed in the V opening and continue on past each other until the combination blade and cutter blade cooperate to cut the yarn.

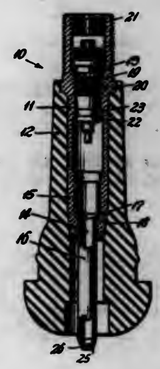
3,513,884
EXPLOSIVE TOOL
Henry William Demler, Sr., Lebanon, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 17, 1964, Ser. No. 338,480
Int. Cl. B21f 15/06
U.S. Cl. 140—113 19 Claims

A device for connecting a tap line to a main energized electrical power line comprises frame means having holding means for holding a connector means in which a section of the tap line is disposed, other holding means mounted on the frame means and spaced from the connector holding means for holding a wedge means, driving means for engaging the wedge means for driving the wedge means into the connector means, explosive means



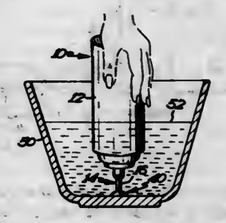
operatively connected to the driving means to drive same and pole means connected to the explosive means for raising the frame means to the level of the main power line so that the electrical connector means engages same and to actuate the explosive means.

3,513,885
TIRE VALVE ASSEMBLY FOR COLLAPSIBLE TIRES AND METHOD OF INFLATING THE SAME
Lawrence G. Horwitt, New Haven, and Frederick E. Allen, Short Beach, Conn., assignors to Casco Products Corporation, Bridgeport, Conn., a corporation of Connecticut
Filed Aug. 24, 1967, Ser. No. 663,141
Int. Cl. F16k 15/20; B60c 29/00
U.S. Cl. 141—4 13 Claims



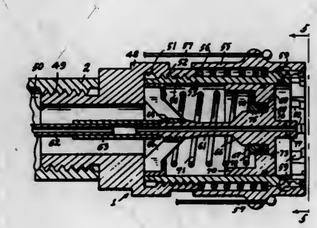
A tire valve assembly and method for the inflation of tires, particularly collapsible tires for emergency use, through said valve with a condensed vaporizable gas, whereby distribution and vaporization of said condensed gas throughout the space within the tire is expedited and inflation of the tire is rendered substantially instantaneous by atomizing said condensed gas within the tire.

3,513,886
DISPENSING PACKAGE WITH REACTABLE PROPELLANT GAS GENERATING MATERIALS
Ross A. Easter, David E. Cunningham, and Gary F. Klingl, Minneapolis, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed May 6, 1968, Ser. No. 726,965
Int. Cl. B65b 31/02
U.S. Cl. 141—20 13 Claims



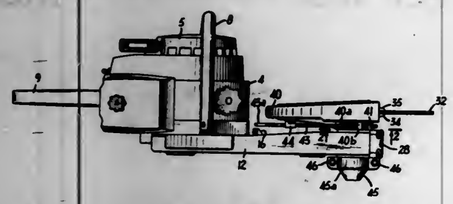
A package for dispensing a fluid which is prepared just before use by adding water to a dry, water reconstitutable material (e. g. cake mix or medicinal product). The fluid is expelled by a propellant gas generated just prior to dispensing the contents of the container. The package consists of a pressure retaining container having a dispensing nozzle. In one form of the invention, water is introduced by the consumer and mixed with a dry reactable gas generating material and dry food product within a container. The reactable material can be an acid and a base in dry powdered form which react chemically to produce a propellant gas that becomes mixed with the freshly reconstituted material in the container thereby forcing the fluid out of the container when the nozzle is opened.

3,513,887
AUTOMATIC SHUT-OFF CLOSED CIRCUIT COUPLING
Francis V. Limandri, Hampton, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 24, 1967, Ser. No. 663,177
Int. Cl. B65b 1/30; B67d 5/37
U.S. Cl. 141—287 1 Claim



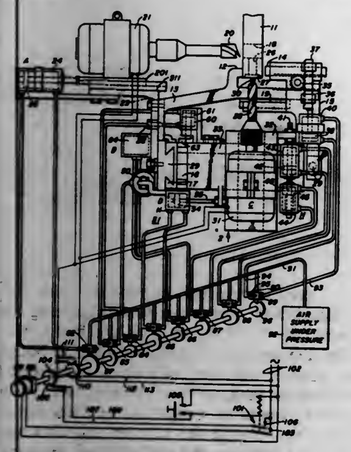
A closed circuit fuel coupling in which fluid connection in established between a fuel dispensing nozzle and an adapter in the filling neck of the fuel tank of a vehicle. When the connection is made, valves in both the dispenser and adapter automatically open to permit free flow of fuel into the tank, while another valve in the adapter automatically opens to complete a vent line from the dispensing nozzle through the adapter and into the tank. When the tank is filled to the desired level, vacuum is destroyed in the vent line causing shut-off of the fuel flow. Separation of the nozzle from the adapter will close all valves.

3,513,888
PORTABLE POWER DRIVEN CIRCULAR SAW
David M. Townsend, Byram, Conn., and William H. Welsh, White Plains, N.Y., assignors to Textron Inc., Providence, R.I. a corporation of Delaware
Filed July 10, 1967, Ser. No. 652,299
Int. Cl. B27b *9/00*
U.S. Cl. 143—43 8 Claims



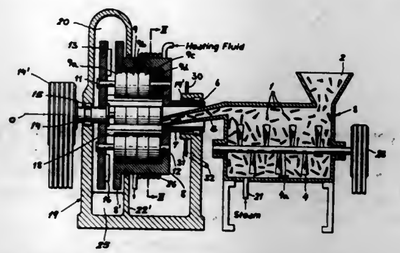
A portable power driven circular saw comprises a motor assembly including a motor having chassis, a drive shaft projecting at one side of the chassis and handles having portions located approximately in a vertical plane passing through the center of gravity of the motor assembly. The handles include a top handle and a rear handle. An arm extending forwardly from the same side of the chassis rotatably supports a saw blade shaft having inboard and outboard ends extending respectively to opposite sides of the arm. The saw blade shaft is parallel to the drive shaft and is suitably driven from the drive shaft, e.g., by a belt and pulleys. A cutting disc which may be an abrasive wheel or a toothed blade is selectively mounted on either end of the saw blade shaft. When mounted on the inboard end of the shaft, the cutting disc is approximately in a vertical plane passing through the center of gravity of the motor assembly. When mounted on the outboard end of the shaft, the cutting disc is on the outboard side of the supporting arm and in position for cutting close to an obstruction.

3,513,889
DOOR FINISHING MACHINE
George L. Mayo, Fort Worth, Tex., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed July 1, 1968, Ser. No. 741,746
Int. Cl. B27m *3/00*
U.S. Cl. 144—3 15 Claims



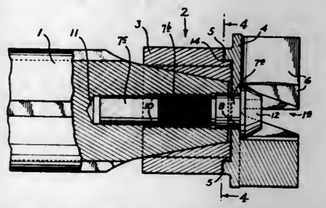
A machine for drilling and routing a door to receive a door lock in which a rotating cutting tool having a drilling portion and a routing tip is first caused to enter the door by an amount equal to the depth of the lock face recess, whereupon the tool is moved laterally in coordinate directions to form the recess. Thereafter, the tool is centered and advanced, causing the drill portion thereof to drill the lock bolt hole. Pneumatically operable devices operate in timed sequence to clamp the door in position and to operate the cutting tool in various directions.

3,513,890
APPARATUS FOR PRODUCING FLAT WOOD FRAGMENTS
Peter Voelskow, Hildesheim, Germany, assignor to Maschinenfabrik Hombak KG, Sandweg, Germany, a corporation of Germany
Filed Nov. 13, 1967, Ser. No. 682,020
Claims priority, application Germany, Nov. 11, 1966, 1,653,333
Int. Cl. D21b *1/02*
U.S. Cl. 144—3 10 Claims



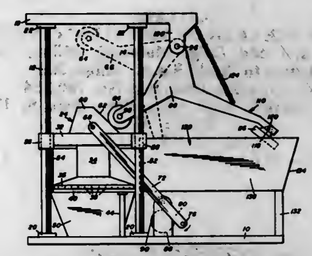
A cellulosic pulp cooked and saturated with water is continuously fed into a rotating cage comprising a set of rollers which turn about an axis of rotation parallel to their own axes and which entrain the mass outwardly and squeeze it against the inner wall of a stationary and heated cylindrical housing toward which they are centrifugally urged. A set of blades fixedly mounted on the revolving cage between adjoining rollers help drive the pulp axially forward toward an end plate rotating with the rollers, this plate having radially extending ribs directing the flattened cellulose fragments into a discharge channel. The rollers are preferably axially subdivided into sections which are independently displaceable in radial direction.

3,513,891
CHUCK FOR VENEER LATHE INNER SPINDLE
Edwin M. Heth, Portland, Oreg., assignor to Production Machines, Inc., Portland, Oreg., a corporation of Oregon
Filed June 16, 1967, Ser. No. 646,531
Int. Cl. B27l *5/02, 7/04*
U.S. Cl. 144—209 5 Claims



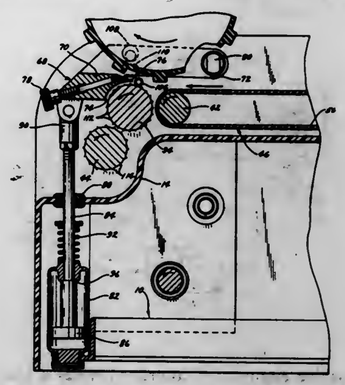
This development concerns the construction of a veneer lathe for an inner and outer spindle in which the inner spindle has a detachable chuck plate and collar bonded together to permit their separation under certain conditions, to enable the chuck plate to be replaced if it becomes unduly worn, or damaged, the parts being easily separable to permit said replacement.

3,513,892
AUTOMATIC FOOD DICER
Stanley V. Genetti, 100 S. Vine St., Hazleton, Pa. 18201
Filed June 21, 1968, Ser. No. 738,974
Int. Cl. B26d *3/26*
U.S. Cl. 146—78 9 Claims



A food dicer is disclosed which comprises two sets of stationary cutters, the blades or cutting wires of one set being perpendicular to the blades of the other set, and two reciprocating plungers arranged to force the food to be diced first through one set of blades then through the second set. The first set is arranged vertically to form the end wall of a feed bin, and its corresponding plunger swings through the bin to force the food horizontally through this first set of blades. The food passing through the first blades falls onto a horizontally arranged second set of blades and the second plunger, traveling vertically, thereafter forces the material down through the second blades into a collecting bin, completing the dicing operation. The second plunger is driven reciprocally in its vertical path by an electric motor and crank linkage, while the first plunger is driven by the motion of the second plunger through the medium of a cam arm which rides on the second plunger.

3,513,893
MEAT SKINNING APPARATUS WITH STRIPPER ROLL
Ray T. Townsend, Des Moines, Iowa, assignor to Townsend Engineering Company, Des Moines, Iowa, a corporation of Iowa
Continuation-in-part of application Ser. No. 616,692, Feb. 16, 1967. This application Feb. 20, 1968, Ser. No. 706,939
Int. Cl. A22c *17/12, 25/02*
U.S. Cl. 146—130 6 Claims



A meat skinning machine of the type having a skin gripping roll and a concave shoe cooperating with a skinning blade and the gripping roll to pull the skin through the machine and part the skin from a piece of meat. A stripper roll is mounted adjacent the gripper roll to strip the skin from the gripper roll after the skin has been removed from the meat. The shoe and skinning blade are held concentrically with the gripping roll by air piston means. The air piston means are controlled by a photo-electric cell means which functions to instantaneously move the shoe and blade to the skinning position as soon as the meat approaches the close proximity of the blade. The instantaneous initial bite of the blade into the meat is enhanced and accelerated by pivoting the shoe above and forwardly of the point of engagement of the blade with the oncoming meat to be skinned. The method involves the holding of the shoe adjacent the gripping roll concentrically with sufficient force to grip the removed skin but with insufficient force to prevent puncture of the skin by the gripping roll. The method further holds the skin uniformly against the gripper roll, and then strips the skin from the gripper roll by a remotely located stripper roll to insure that a uniform thickness of skin is removed.

3,513,894
PROCESS FOR THE REMOVAL OF THE PEEL OF POTATOES OR OTHER TUBERS, BULBS, ROOTS, FRUITS OR SIMILAR VEGETABLE PRODUCTS
Cornelis van Gorkom, Wageningen, Netherlands, assignor to Instituut voor Bewaring en Verwerking van Landbouwprodukten, Wageningen, Netherlands, a Dutch society of the Netherlands
No Drawing. Filed Mar. 18, 1968, Ser. No. 714,042
Claims priority, application Netherlands, Mar. 28, 1967, 6704420
Int. Cl. A23n *7/02*
U.S. Cl. 146—226 6 Claims

Peel-carrying vegetable products such as tubers, roots, bulbs and fruit, are peeled by being first treated with lye, or steam and then with previously prepared powdered dried peel followed by screening and washing. The added dried peel removes the softened peel or skin from the vegetable and finely divides it so that it is carried through the screen to leave the peeled or skinned fruit etc., behind.

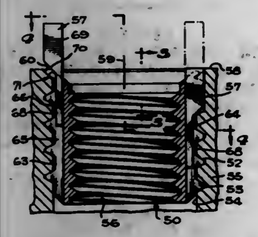
3,513,895
PLASTIC BASKET
Sam Lattuca, 218 Atlantic Ave., Hempstead, N.Y. 11550
Filed July 17, 1968, Ser. No. 745,426
Int. Cl. B65d *25/28*
U.S. Cl. 150—48 5 Claims



Plastic baskets are made in accordance with this invention by blow-molding a basket having a bottom, side walls and an inwardly extending top lip with contours that simulate a woven basket. Openings are punched through the lip at diametrically opposite locations in the lip radially spaced from both the inner and outer edges of the lip; and a stifly flexible plastic tube is bent to a generally horseshoe shape with its opposite end portions of a cross section to fit snugly through the openings.

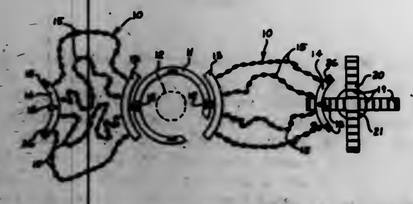
Unclinched staples driven through the side walls from the outside, intersecting the wall of the plastic handle, hold it against upward and downward movement and to cooperate with the top lip in holding the handle against sidewise movement. The preferred method molds two baskets simultaneously and cuts them apart after molding. The product obtained has a firmly upstanding handle that cooperates with a plastic wrapping to hold confections and decorative novelties in an assembled display in a space circumscribed by the horse-shoe-shaped handle.

3,513,896
THREADED FASTENERS HAVING FLANGES
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210
Continuation-in-part of application Ser. No. 648,598, June 26, 1967. This application Aug. 5, 1968, Ser. No. 750,972
Int. Cl. F16b 39/06
U.S. Cl. 151—23 14 Claims



A threaded fastener having external threads to be screwed into a carrier part, and having a second set of threads for connection to another member, with the fastener having a laterally projecting flange at the axially outer end of the external threads receivable within and located by a flaring countersink surface formed in the carrier part. The countersink surface may act as a stop for limiting threaded advancement of the fastener into the carrier part, at a position in which the entire flange is for best results located axially inwardly of the plane of an outer surface of the carrier part. The fastener may be made from stock having an outer surface which is initially non-cylindrical and shaped to at least partially define the configuration of the external threads, with the flange preferably being first machined in a generally axially projecting condition, and then deformed radially outwardly to extend radially beyond the minor diameter of the external threads.

3,513,897
ANTISKID DEVICE
Virginia B. Morris, 2716 Wayland Drive, Raleigh, N.C. 27608
Filed July 13, 1967, Ser. No. 653,079
Int. Cl. B60c 27/06
U.S. Cl. 152—233 2 Claims



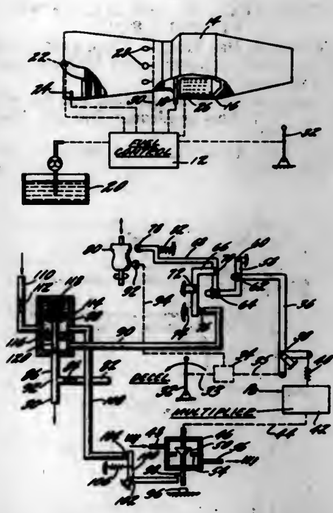
In abstract, a preferred embodiment of this invention is an antiskid set of tire chains having a split O-ring on the backside of the tire to encompass the vehicle axle with at least two independent rear brackets mounting road engaging chains which are secured to a front bracket on the exterior side of the tire which in turn is supported by a crossmember.

3,513,898
TIRE BREAKER OF METALLIC CORDS
Giuseppe Lugli and Luigi Maiocchi, Milan, Italy, assignors to Pirelli S.p.A., Milan, Italy
Filed Jan. 24, 1968, Ser. No. 700,254
Claims priority, application Italy, Feb. 8, 1967, 12,401/67
Int. Cl. B60c 9/20
U.S. Cl. 152—361 4 Claims



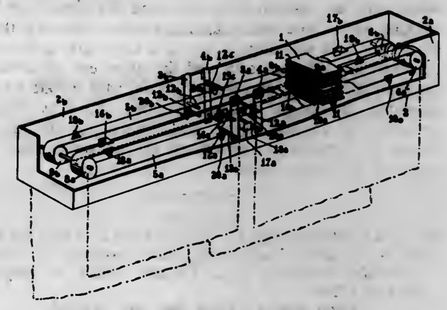
A pneumatic tire having a metallic breaker formed by a plurality of strips of rubberized fabric, each strip including a plurality of metallic cords parallel to one another and inclined with respect to the circumferential midline of the breaker.

3,513,899
FUEL CONTROL DECELERATION MODE
Stanley R. Paduch, Somers, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 29, 1968, Ser. No. 717,135
Int. Cl. F02c 9/14, 9/08, 3/06
U.S. Cl. 60—39.27 1 Claim



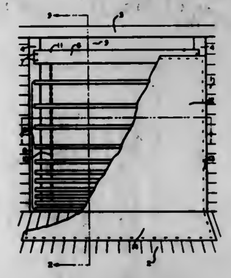
A gas turbine engine fuel control provides a hydraulic signal to the engine intercompressor bleeds when the engine is operating on the deceleration schedule in addition to the normal function of scheduling deceleration fuel flow.

3,513,900
CURTAIN DRAWING MECHANISM
Rosolino Rontola, Boulevard de Libye, Casablanca, Morocco
Filed June 29, 1967, Ser. No. 650,021
Claims priority, application France, Feb. 28, 1967, 96,714; Morocco, Dec. 8, 1966, 13,997
Int. Cl. A47h 5/02, 5/08
U.S. Cl. 160—126 5 Claims



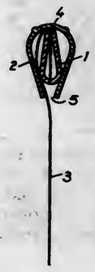
A device for supporting and driving the sides or pieces of curtains and draperies hanging from movable runners adapted to travel along horizontal guideways, said device comprising driving tapes or the like actuated by an electric motor or mechanical means, is characterised in that it further comprises a pair of endless driving tapes disposed side by side along the guideways receiving said supporting runners and adapted to be driven constantly in the same direction by a single motor or a single mechanical device, both tapes having secured thereto spaced lugs adapted to engage and drive the supporting runners, the assembly further comprising cam members disposed at the ends of the permissible strokes of said curtains and drapery sides and adapted to engage said driving lugs as they move past in order to cause said lugs to release the runners carried along to said ends.

3,513,901
INNER DOOR FOR RAILWAY BOXCARS
Maynard M. Bakken, P.O. Box 14, Chisholm Crescent NW., Calgary, Alberta, Canada
Filed Sept. 16, 1968, Ser. No. 767,560
Claims priority, application Canada, Sept. 22, 1967, 750
Int. Cl. E06b 3/00
U.S. Cl. 160—368 11 Claims



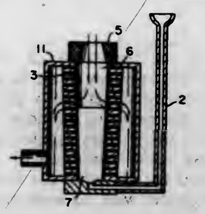
An inner door for railway boxcars used for the carriage of grain and other finely divided bulk materials, consisting of a flexible supporting framework of rigid slats suspended inside the boxcar doorway, and a diaphragm adapted to cover the said framework on the inside of the doorway and thereby seal in the materials to be carried in the boxcar.

3,513,902
BEADING DEVICE FOR FLEXIBLE SHEETS
Marcel A. Merillet, Viry-Chatillon, France, assignor to Hatier Editions S.A., Fribourg, Switzerland
Filed Dec. 30, 1966, Ser. No. 606,101
Claims priority, application France, Jan. 7, 1966, 45,246
Int. Cl. A47h 21/00
U.S. Cl. 160—392 1 Claim



The edge portion of a document or flexible sheet inserted in the beading device is wedged between the curved crown portion of the inner horseshoe shaped beading and the opposed surface of the leg of the outer horseshoe shaped beading and simultaneously frictionally gripped between the free ends of the inner beading as a result of downward pull exerted on the documents.

3,513,903
APPARATUS FOR CASTING INGOTS
Kazuro Suzuki and Hiroshi Yamaoka, Osaka-fu, Japan, assignors to Sumitomo Metal Industries, Ltd., Osaka, Japan
Filed July 19, 1966, Ser. No. 566,296
Claims priority, application Japan, July 21, 1965, 40/43,693
Int. Cl. B22d 27/16
U.S. Cl. 164—255 2 Claims



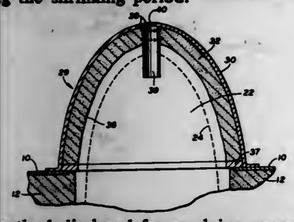
Ingots are cast into the cavity of an open top metallic mold. The upright mold wall has perforations and is lined by a thin permeable sand lining covering the perforations. An evacuated jacket surrounds the mold and molten metal is supplied to the bottom of the mold cavity.

3,513,904
SELF-PRESSURIZING FEEDER HEAD DEVICE
Wyman Curtis Lane, 4131 Edgehill Drive, Columbus, Ohio 43220
Filed Oct. 26, 1967, Ser. No. 678,231
Int. Cl. B22c 9/02; B22d 27/14
U.S. Cl. 164—356 28 Claims

A self-pressurizing feeder head vessel for pressure feeding molten metal into a casting mold is described. The feeder head vessel shown is a dome-shaped, fluid impervious shell with an open bottom, the shell being lined with green sand to define a feeder head cavity.

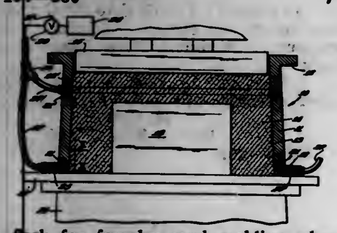
A porous cylinder or an apertured tube is provided at the top of the vessel so that steam formed by heat in

the green sand may flow through the cylinder or tube and downward into the feeder head cavity and thus apply pressure on the molten metal in the feeder head cavity to force additional molten metal into the casting mold during the shrinking period.



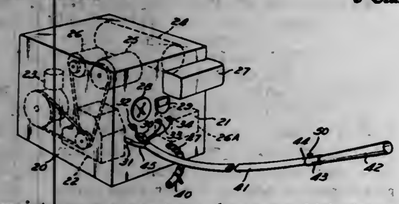
Thus a method disclosed for applying pressure to the molten metal in the feeder head cavity is to vaporize the water in the green sand and apply the fluid pressure thereby generated to the molten metal, and thereby force the molten metal under pressure into the casting mold during shrinkage.

3,513,905
FLASK WITH RESILIENTLY YIELDABLE MOLD RETAINING MEMBER
Richard L. Olson, Hickory Hills, Ill., assignor to Dike-O-Seal, Incorporated, Chicago, Ill., a corporation of Illinois
Original application June 8, 1966, Ser. No. 556,193, now Patent No. 3,429,360, dated Feb. 25, 1969. Divided and this application Sept. 3, 1968, Ser. No. 777,532
Int. Cl. B22c *21/14*
U.S. Cl. 164—380 7 Claims



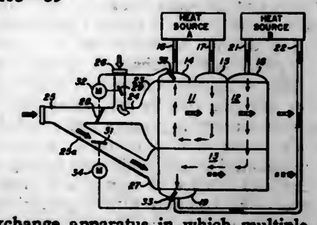
A slip flask for foundry sand molding wherein the smooth inner wall surfaces of the flask are provided with recess areas containing resiliently yieldable mold retaining members. The retaining members are bonded directly and inseparably to the sides defining the recess to thereby seal the recess against entrance of sand therein. Fluid pressure is used for thrusting the retainer members into gripping engagement with the sand mold body.

3,513,906
SNOW MAKING MACHINE FOR SKI TRAILS AND THE LIKE
Dexter Richards, Fernwood Point, Sunapee, N.H. 03782
Filed Dec. 19, 1968, Ser. No. 785,187
Int. Cl. F25b *29/00*
U.S. Cl. 165—30 5 Claims



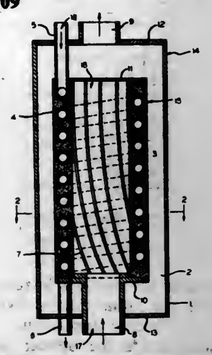
A maintenance apparatus and motor vehicle for transporting liquid and for processing said liquid into snow for use in replenishing the snow covering for bare spots or worn areas found on a ski slope or other winter sports area, said motor vehicle having a track type chassis with a driver's cab mounted thereon, said maintenance apparatus being mounted on said vehicle chassis and comprising power means for compressor and pump means and electric generator, electric heating means for the prevention of freezing of the snow making liquid prior to ejection; electric control means for operation of said apparatus; an insulated storage tank for liquid used in making snow; hose means having separate channels therein for air and said liquid; the said hose having one end attached to said apparatus and the other end attached to an aspirating snow gun spray nozzle, said nozzle having mounted thereon a mixing chamber and flow control switches for air and liquid, said hose being of sufficient length to permit the operator of the nozzle to reach all parts of the repair area.

3,513,907
PLURAL MODE HEAT EXCHANGE APPARATUS
Paul R. Hughes, Englewood, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed Apr. 17, 1968, Ser. No. 722,085
Int. Cl. F28b *27/00*
U.S. Cl. 165—39 9 Claims



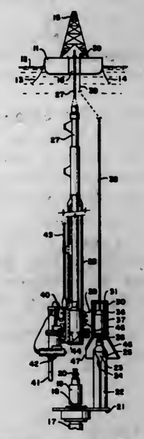
Heat exchange apparatus in which multiple liquid to air heat exchange components are in unitary assembly providing for alternative heating and cooling of a first circulating liquid and cooling of a second circulating liquid, at least a portion of one component being placed in series relation to another component so that air used to heat or to cool the first liquid will serve a secondary function in cooling the second liquid, valves being provided in advance of the heat exchange components to control in-flow of the cooling and heating air.

3,513,908
EMBEDDED TUBE HEAT EXCHANGER
Guru B. Singh, 6329 31st Ave., Kenosha, Wis. 53140
Filed Aug. 18, 1967, Ser. No. 661,572
Int. Cl. F15d *1/02*; F28f *13/06*
U.S. Cl. 165—109 1 Claim



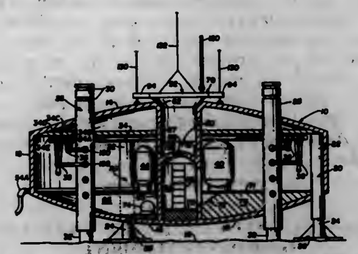
A device for transferring heat between a portion of the exterior walls and adjacent conductor surfaces of a first circuit enclosed within a second circuit. Increased contact of fluid in the second circuit with the exterior walls and adjacent conductor surfaces of said first circuit results from surrounding the enclosed portion of the first circuit with a porous substance consisting of a layer of finely divided metallic particles. To overcome the tendency of fluid thus restricted to establish fixed passages when flowing between such metallic particles, a core having helically arranged radial ribs is inserted to interrupt the laminar fluid flow just prior to entry of such fluid into such particles.

3,513,909
WELLHEAD RE-ENTRY APPARATUS
Charles P. Peterman, Houston, Tex., and Paul L. Dodd, Metairie, La., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 31, 1968, Ser. No. 749,171
Int. Cl. E21b *7/12*; E21c *19/00*
U.S. Cl. 166—.5 5 Claims



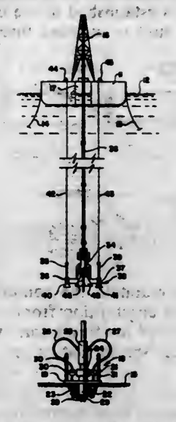
Apparatus lowerable from a floating vessel onto an underwater wellhead structure, the apparatus being operative to (1) attach a mono-guideline to the structure and (2) remove a wellhead closure means from the structure.

3,513,910
SUBSEA PRODUCTION SATELLITE
Robert D. Townsend, Jr., Esher, Surrey, England, assignor to Mobil Oil Corporation, a corporation of New York
Original application Jan. 19, 1966, Ser. No. 521,745, now Patent No. 3,391,734, dated July 9, 1968. Divided and this application Sept. 25, 1967, Ser. No. 681,946
Int. Cl. E21b *33/035*
U.S. Cl. 166—.5 9 Claims



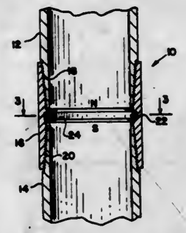
This specification discloses a subsea production satellite having a watertight shell adapted to be secured to a marine bottom whereby production from submerged wells can flow into the shell. The satellite includes means for transporting personnel from the surface of the water to the satellite.

3,513,911
OFFSHORE WELL WORKOVER METHOD
William H. Petersen, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 24, 1968, Ser. No. 731,993
Int. Cl. E21b *7/12*; E21c *19/00*
U.S. Cl. 166—.6 2 Claims



A method of lowering apparatus to an underwater wellhead assembly from a floating vessel, attaching the apparatus to the wellhead assembly, establishing guidelines between the vessel and a structure on the ocean floor, and retrieving at least a portion of the attached wellhead assembly to the vessel along the guidelines by said apparatus.

3,513,912
MAGNETIC DEPTH INDEXING MEANS
Gene T. Boop, 3509 Clearmont, Odessa, Tex. 79760
Filed Aug. 3, 1967, Ser. No. 658,215
Int. Cl. E21b *43/119*; H01f *7/02*
U.S. Cl. 166—65 3 Claims

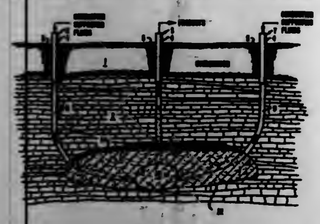


A magnetic device associated with a casing, liner, or tubing of an oil well which enables a magnetic sensing device, such as a collar locator, to position various tools with exactness with respect to a predetermined location downhole of the well head. The magnetic device may consist of a number of magnets arranged in an internal annular groove in the casing, liner, or tubing, and spaced apart by plastic material.

3,513,913
OIL RECOVERY FROM OIL SHALES BY TRANSVERSE COMBUSTION
Edmond H. Bruist, Bakersfield, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Apr. 19, 1966, Ser. No. 543,698
Int. Cl. E21b *43/24*
U.S. Cl. 166—245 7 Claims

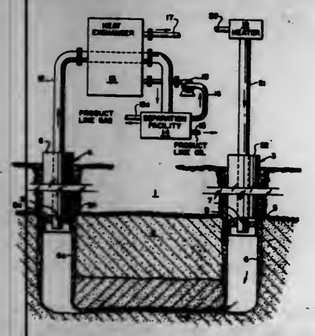
A process of recovering hydrocarbon products from subterranean oil shale formations by drilling at least two

spaced boreholes into the formation in a manner such that the lower terminal ends of the boreholes approach convergence adjacent to the bottom of the formation. Sufficient oil shale is removed in the area of convergence to form a shale expansion chamber communicating at all times with the lower terminal ends of the boreholes and in situ combustion is established in the chamber. A combustion-supporting fluid is supplied through at least one



of the boreholes to maintain the combustion within the chamber and cause a combustion front generally parallel to the bedding planes of the formation to move vertically and upwardly through the formation generally perpendicular to the bedding planes of the formation and between the converging boreholes. Finally, vaporous effluent produced in the combustion is recovered from the formation through at least one of the boreholes.

3,513,914
METHOD FOR PRODUCING SHALE OIL FROM AN OIL SHALE FORMATION
John V. Vogel, Bakersfield, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 30, 1968, Ser. No. 763,704
Int. Cl. E21b 43/24
U.S. Cl. 166—271 7 Claims



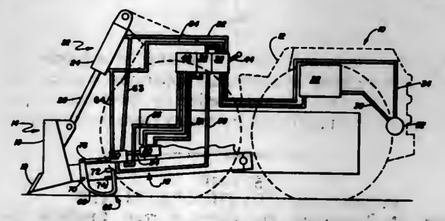
Shale oil is produced from a subterranean oil shale formation by extending at least a pair of well boreholes into the formation only to a depth corresponding with the oil shale formation. A generally horizontal fracture is formed in the oil shale formation extending between the boreholes so that a fluid having a gaseous component therein may be circulated from one borehole through the fracture and out the other borehole while maintaining a pressure on the fluid sufficient to maintain a permeable channel through which fluid can flow. The permeability of the channel is maintained by lifting the weight of the earth overburden above the channel and permitting expansion of the solid mineral residue left after retorting the kerogen and removing the products from the oil shale formation. The gaseous component of the circulating fluid is heated to a temperature sufficient to retort and mobilize any organic components in the oil shale formation. The depths of the boreholes through which the heated circulated fluid is flowing are adjusted to correspond with the uppermost depth along which the fluid is circulating through the permeable channel.

3,513,915
RESILIENTLY FLEXIBLE HORSESHOE
Harvey George Sherman, 923 Southern Ave., Kalamazoo, Mich. 49001
Filed Aug. 13, 1968, Ser. No. 752,343
Int. Cl. A01l 5/00
U.S. Cl. 168—4 7 Claims



An elastomeric horseshoe impregnated with small metal fragments and comprising a sheet means having a central opening and an arcuate gripping member integral with and extending approximately three-quarters of the way around said sheet means adjacent the outer edge thereof.

3,513,916
ELEVATION CONTROL FOR EXCAVATOR
John H. Hyler, Peoria, Ill., assignor to Westinghouse Air Brake Company, Peoria, Ill., a corporation of Pennsylvania
Filed Aug. 14, 1967, Ser. No. 660,397
Int. Cl. A01b 63/111
U.S. Cl. 172—4 22 Claims



A control for reducing gouging of a hydraulically actuated bulldozer into a surface being excavated, the control including a non-load supporting gage arm pivotally mounted on the bulldozer push arm or moldboard. The gage arm is adapted to contact the surface being excavated and is connected to a servo means for directing fluid to the bulldozer lift cylinder means to rapidly vertically adjust the bulldozer in response to gage arm movement to maintain constant relative longitudinal alignment of the bulldozer and the gage arm. In this manner gouging is circumvented by maintaining a constant depth of cut. A manually operated valve for actuating a piston is provided to vertically adjust the gage arm and simultaneously override the action of the gage arm to vertically adjust the bulldozer.

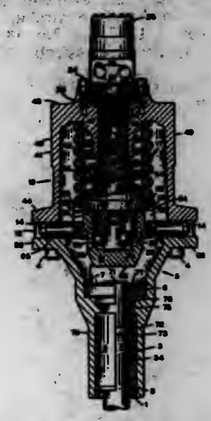
3,513,917
HYDRAULICALLY OPERATED YARD AND GARDEN IMPLEMENT
Harley E. Stober, 5011 N. Greenwood, Spokane, Wash. 99208
Filed Apr. 13, 1967, Ser. No. 630,691
Int. Cl. A01b 33/04, 39/10
U.S. Cl. 172—101 4 Claims

The disclosure describes a hydraulically operated yard and garden implement that has a platform 21 mounted on a shaft that is supported by wheels 23. A handle 24 extends upward from the platform. A hydraulic reciprocating motor 27 is mounted on the platform with a piston rod 45 extending forward therefrom. A tool attachment 28 is mounted to the forward part of the motor housing



29. The tool attachment 28 has an extension arm 92 for pivotally supporting a tool such as a cultivator tool 94 on the end thereof. A connecting rod 98 interconnects the piston rod 45 with the tool 94 to transmit the movement thereto.

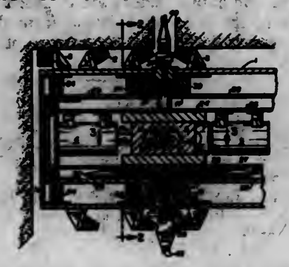
3,513,918
SAFETY IMPROVEMENTS IN CAM-AND-SPRING OPERATED IMPACT TOOL
Kenneth W. Coffman, John W. Stevens, and Rupert D. Jones, Houston, Tex., assignors to Hughes Tool Company, Houston, Tex., a corporation of Delaware
Filed Aug. 15, 1968, Ser. No. 752,901
Int. Cl. B25d 11/04
U.S. Cl. 173—119 4 Claims



A construction to reduce the hazard inherent in a power spring which is always at least partially compressed during every phase of operation of an assembled impact tool of the type wherein a rotating shaft which supports a pair of cam rollers causes such rollers to roll over an annular cam. The cam is thereby caused to reciprocate axially, alternately compressing the spring and suddenly releasing it as the rollers pass over the high shoulder of the cam surface. The released power spring propels the cam member and depending striker into forceful contact with a working tool.

The safety construction takes the form of a guide ring secured to the bottom end of the upper part of the split housing of the tool, this upper housing part having a closure at the top in contact with the upper end of the power spring. A pair of guide bearings are supported on studs secured to the guide ring and project radially inwardly into vertical slots in the striker which register with blind slots or pockets in the cam member. The slots serve to restrain the cam-striker from twisting, and the pockets define a stop to downward movement. Before assembling the lower housing to the upper, the guide ring is secured to the upper housing with a pair of extra long safety bolts which are threaded through tapped openings in the upper housing and project above its lowermost, flanged end. The extra length is chosen so that the power spring can be compressed from its free length in assembly without the use of a press or vise.

3,513,919
POWER TRANSFER UNIT FOR CONVERTING RECIPROCATING MOTION TO ROTARY MOTION
James R. Pennington, Basking Ridge, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 728,827, May 9, 1968. This application Apr. 22, 1969, Ser. No. 826,761
Int. Cl. E21d 1/06
U.S. Cl. 175—53 7 Claims



This application relates to a power transfer unit for transferring reciprocating motion to continuous rotary motion. The unit comprises a plurality of reciprocating drive means, such as two or more cylinders, the pistons or cylinders of which are operably connected to a corresponding slidable plate. Each plate has an elongated opening therein having a rack of gear teeth on opposite sides of the opening, such as at the top and bottom thereof. Extending through the opening of each plate is an output shaft having a plurality of partial pinion gears, one for each plate, mounted thereon so as to drive the shaft. The pinions are mounted out of phase, preferably about 90°, of each other. As the pistons or the cylinders move back and forth the racks on the sliding plates actuate the pinions in such a manner as to impart to the shaft constant speed rotary motion.

This application also relates to the combination of such a power transfer unit with a boring machine.

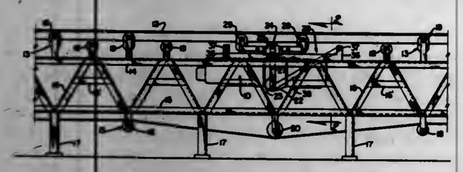
3,513,920
UNDERREAMER
John V. Watson, Fort Worth, Tex., assignor to Watson Manufacturing Company, Fort Worth, Tex.
Filed June 8, 1967, Ser. No. 644,685
Int. Cl. E21b 9/26
U.S. Cl. 175—285 9 Claims



Following is disclosed an underreamer having an elongated tubular housing with opposed openings in its cylindrical side wall. Guide slots extend longitudinally along opposed sides of the housing interior to receive the ends of

a reciprocal cross bar, which supports a tool joint box for attachment with a kelly depending from a drilling machine. Rotatably secured to opposite ends of the cross bar are two blade holders, each of which has cutting blades secured to its exterior and leading edge. Two operating arms, each having its upper end pivotally secured to a respective blade holder and its lower end pivotally secured to the bottom surface of the housing, are utilized. The cutting edges of the blades on opposite sides of the housing are disposed on the center line of the underreamer, and as seen in plan view, have a cutting surface disposed in a range from 15 to 25 degrees relative to a plane containing the center line and the edge of the cutting surface. Superior cutting action is obtained by disposing such cutting surface at about 20 degrees relative to the above described plane. Additional blades are disposed on the bottom surface of the housing to extend from the edges of associated apertures to clean the bottom of the drilled hole.

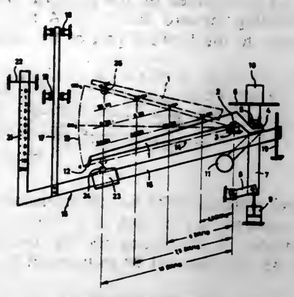
3,513,921
CONVEYOR BELT SCALE
Duane K. Refer, 2360 S. Jersey, Denver, Colo. 80222, and Carl W. Johnson, Neenah, Wis.; said Johnson assignor to said Refer
Filed Jan. 8, 1968, Ser. No. 696,287
Int. Cl. G01g 11/14
U.S. Cl. 177—16 16 Claims



In the present invention, a compact scale unit is suspended beneath a load-carrying conveyor belt and includes a dynamic pivot bearing assembly capable of transmitting the weight of the belt and material directly to a balance beam assembly without the use of knife-edge pivots, linkages or joints, fluid or electrical components. The unit is capable of weighing, integrating and recording the cumulative weight of the material transported on the belt, can be rapidly and accurately calibrated and permits accurate, sensitive weighing of material at different belt angles.

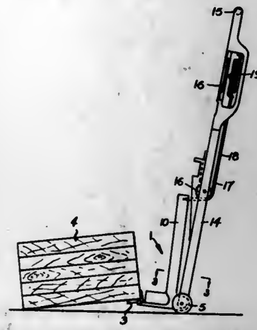
3,513,922
PRICE-INDICATING WEIGHING SCALES
Josef Schwarz, Balingen, Wurttemberg, Germany, assignor to Bizerba-Werke Wilhelm Kraut KG, Balingen, Wurttemberg, Germany, a firm
Filed Mar. 20, 1968, Ser. No. 714,529
Claims priority, application Germany, Mar. 30, 1967, B 91,841
Int. Cl. G01g 23/22
U.S. Cl. 177—25 10 Claims

A weighing scale for weighing goods and indicating the price thereof. A weighing member which assumes a position according to the weight of the goods is scanned by a scanning means comprising a follow-up mechanism which is supported for adjustable movement by a price-indicating means which is movable from a given starting position to a price-indicating position. A coarse adjusting means coacts with the follow-up mechanism to adjust the latter coarsely to a given whole currency unit per unit of weight while a fine adjusting means also coacts with the follow-up mechanism for precisely adjusting the latter to a fractional currency unit per unit of weight, both of these adjusting means coacting additively with each other for positioning the scanning means at a selected unit price per unit of weight. A detent means coacts with the scanning means for precisely positioning the latter at the se-



lected whole currency unit per unit of weight after the price-indicating means moves away from its starting position toward its price-indicating position.

3,513,923
PORTABLE SCALES WITH AXLE ACTING AS FULCRUM
Wlodzimierz Rast and Shirley I. Rast, Flinders Park, South Australia, Australia, assignors to Rast Patents Pty. Ltd., Adelaide, South Australia, Australia
Filed Nov. 7, 1967, Ser. No. 681,215
Claims priority, application Australia, Nov. 14, 1966, 13,866/66
Int. Cl. G01g 19/08
U.S. Cl. 177—140 5 Claims



A portable weighing device with a foot to engage one lower edge of an object to be weighed and means on the weighing device to raise the foot and thereby raise the edge of the object clear of the floor, indicating means to show the weight of the raised edge and repeating the operation at the opposite lower edge whereby the sum of the two indicated weights provides the weight of the object.

3,513,924
MOTOR DRIVEN GOLF CART WITH DETACHABLE RIDER UNICYCLE
Richard Kelley Jackson, P.O. Box 176, Eads, Colo. 81036
Filed Aug. 6, 1968, Ser. No. 750,724
Int. Cl. B62d 61/06
U.S. Cl. 180—11 11 Claims

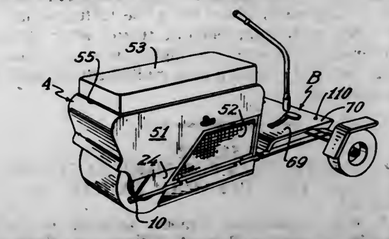
A motor driven golf cart with detachable rider unicycle, in which each of the units is collapsible, and the rider unit can be carried, when detached and collapsed, by the golf cart. When both units are collapsed, they can be stored in the trunk of a conventional motor vehicle. The cart comprises a frame, a pair of pivotally mounted

handles, an engine, a pair of wheels drivingly connected to the engine, means for unlatching the wheels from driving means, a pivotally mounted collapsible carrier for a golf bag, and a pivotally mounted draw bar. The rider unit comprises a seat on a frame supported by a rotatable



wheel, and a draw bar pivotally connected to the frame for engaging the cart draw bar to connect the two units together or for moving to collapsed position to shorten the length of the rider unit.

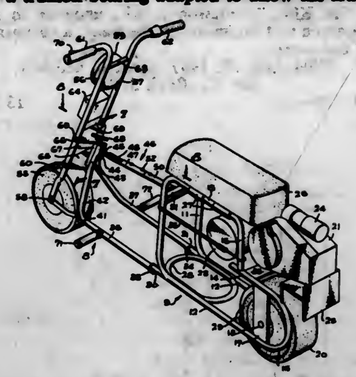
3,513,925
MOTORIZED GOLF CART
William L. Figura, Bruce, Wis. 54819
Filed July 18, 1967, Ser. No. 654,245
Int. Cl. B62d 61/00; B60k 29/02
U.S. Cl. 180—25 8 Claims



A passenger carrying collapsible motorized golf cart adapted to be separated into front and rear components for carrying and storage. The front wheels are supported extendable to provide unusual stability and are retractable for storage. Means are provided to hold the front wheels in extended position, which means may comprise golf bag supports. A detachable steering handle is provided for steering. A combination brake and clutch operable with the motor throttle is provided for controlling speed and braking. Auxiliary attachments may be attached to front or rear of the cart.

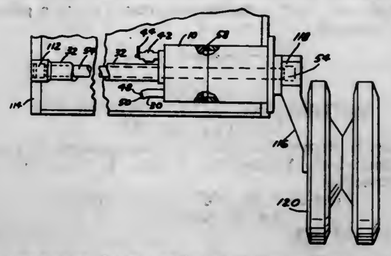
3,513,926
TWO-WHEELED FOLDABLE PERSONNEL TRANSPORTER
Richard E. Paget, Jr., deceased, late of Los Angeles, Calif., by Odette Y. Paget, surviving spouse, Los Angeles, Calif. (5132 White Oak Ave., Encino, Calif. 91316)
Filed Jan. 23, 1968, Ser. No. 702,499
Int. Cl. B62k 15/00
U.S. Cl. 180—32 12 Claims

The personnel transporter disclosed herein provides a foldable tubular frame having a forward portion and a rear portion pivotally connected together. A seat and an engine is mounted on supporting structure carried by the rear portion as well as a rear wheel of the vehicle which is powered by the engine via a drive train. The forward portion detachably supports a front wheel and a steering mechanism. A resilient shock tube is detachably connected between the forward and rear frame portions which maintains the frame in a substantially rigid condition. One end of the shock tube is coupled to the steering mechanism by a trunion bearing adapted to allow the frame to



flex in all directions so as to accommodate twisting moments as well as to flex at the frame pivot connections.

3,513,927
MECHANICAL ACTUATOR WITH TORSION BAR SYSTEM
Ted Kozowyk and Alex H. Sinclair, Detroit, and Willard R. Green, Dearborn, Mich., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Oct. 4, 1967, Ser. No. 672,939
Int. Cl. B60g 17/00; B62d 55/10
U.S. Cl. 180—41 5 Claims



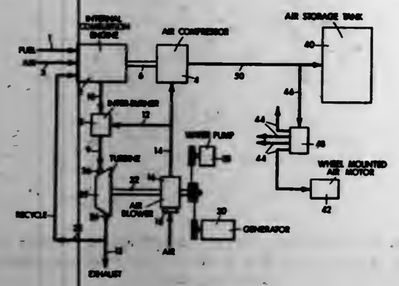
An apparatus for actuating and controlling the variable ground clearance of tracked or wheeled vehicles. The height control system is adapted to selectively raise and control the height of the vehicle by a hydraulically controlled mechanical gearing actuator to rotate the torsion bars on which the wheels are mounted. The vehicle may be pitched or canted by selectively raising or lowering any combination of vehicle wheels.

3,513,928
COMBINED VEHICLE AND EXERCISING DEVICE
Glenn L. Emmons, 1512 Los Alamos SW., Albuquerque, N. Mex. 87104
Filed Sept. 25, 1968, Ser. No. 762,430
Int. Cl. B60k 1/00, 33/00
U.S. Cl. 180—65 5 Claims



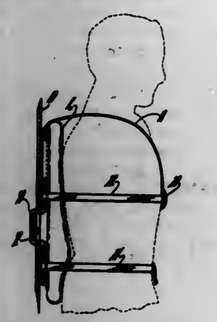
A motor driven vehicle is disclosed which includes an exercising device operatively connected with and controlling the speed control of the vehicle.

3,513,929
LOW-POLLUTING ENGINE AND DRIVE SYSTEM
Dae Sik Kim, Maplewood, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Aug. 25, 1967, Ser. No. 663,405
Int. Cl. B60k 3/00
U.S. Cl. 180—66 13 Claims



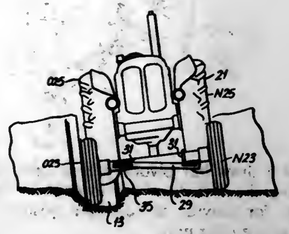
A low-polluting fossil-fueled engine and drive system is achieved by utilizing in combination an internal combustion engine operatively associated with a compressor, an interburner which completes the combustion of unburned hydrocarbons and carbon monoxide from the internal combustion engine, a gas turbine which recovers power from the hot exhaust leaving the interburner and a compressed air reservoir which serves as a power storage tank and which supplies compressed air to a plurality of air motors.

3,513,930
RESTRAINING DEVICE FOR MOTOR VEHICLE DRIVER
William H. Brown, Jr., Suffield, Conn., assignor to Kaman Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Dec. 26, 1967, Ser. No. 693,555
Int. Cl. B60r 21/10
U.S. Cl. 180—82 10 Claims



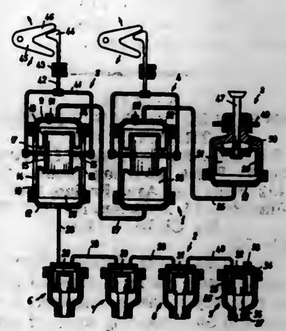
A harness frame is worn on the driver's back, and has two readwardly protruding latch defining portions which are received in slots defined by a fixed bulkhead in the vehicle. An air motor behind the bulkhead moves bolts across these slots to releasably secure the frame to the bulkhead. The operation of the air motor is controlled by weight on the driver's seat of the vehicle for latching movement of the bolts and by moving the shift lever to "park" or "neutral" for releasing the bolts.

3,513,931
VEHICLE AUTOMATIC GUIDANCE MEANS
Michael George Reeve Warner and Gwilym Owain Harries, Bedford, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain
Filed July 26, 1967, Ser. No. 656,087
Claims priority, application Great Britain, July 26, 1966, 33,634/66
Int. Cl. B62d 1/24, 5/06
U.S. Cl. 180—98 3 Claims



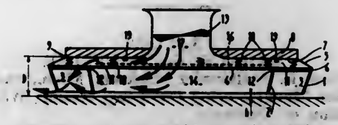
Automatic vehicle guidance systems in which a guide feature is scanned transversely so as to enable the position of the feature to be sensed relative to a selected point of the scan and steering means are operated in dependence upon the deviation of the "observed" position from the selected point to tend to maintain the two in predetermined relationship. Ultrasonic transducers are used in echo range-sounding arrangements where the guide feature is in the form of a step, such as the side of a furrow when ploughing. Mechanical traversing of a single pair of transducers, as well as switched scanning of a multiplicity of pairs in line are disclosed.

3,513,932
HYDRAULIC DEVICES FOR SIMULTANEOUSLY LOCKING THE OPENING PANELS OF A VEHICLE
Pierre Ventre, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, Hauts-de-Seine, France, and Societe Industrielle et Commerciale des Automobiles Peugeot, Paris, France
Filed Oct. 17, 1967, Ser. No. 675,980
Claims priority, application France, Nov. 17, 1966, 83,964
Int. Cl. B60r 25/00
U.S. Cl. 180—112 10 Claims



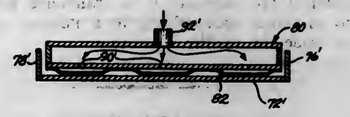
Device for simultaneously locking multiple opening panels of a vehicle, wherein locking actuators are responsive to a hydraulic volumetric transmission comprising a number of control members which is independent of the number of actuators in the device.

3,513,933
MULTISKIRT GROUND EFFECT MACHINE
Marc Henri Jean Faure, Saint-Maur-des-Fosses, France, assignor to Societe d'Etudes et de Developpement des Aerogliseurs Marins, S.E.D.A.M., Paris, France, a company of France
Filed July 24, 1968, Ser. No. 747,217
Claims priority, application France, July 27, 1967, 115,933
Int. Cl. B60v 1/16
U.S. Cl. 180—121 10 Claims



An air cushion vehicle comprising a movable skirt-carrier structure highly permeable to cushion supply fluid and connected to a rigid platform through a resilient suspension system which is immersed in the cushion fluid and designed for taking only a minor fraction (say, 5 to 15%) of the load, the major part being transmitted directly by cushion pressure to said platform owing to the high permeability of said skirt-carrier structure.

3,513,934
AIR BEARING DEVICES
Walter A. Crowley, Mercer Island, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Apr. 19, 1967, Ser. No. 631,974
Int. Cl. B60v 1/00, 1/16
U.S. Cl. 180—124 21 Claims



Stable supporting cushions of pressurized gas are maintained between opposing bodies through confinement by special valving diaphragms, each comprising a membrane of rounded (viz. circular, oval, etc.) planform configuration mounted on one of the bodies and having a gas discharge aperture therein with a free (i.e. unattached) edge or rim. Being free, the rim portion of the diaphragm is placed in elastic hoop tension by pressure of air acting behind the diaphragm bowing it with shallow convexity toward the opposing body. In this operating condition the aperture rim portion of the diaphragm extends generally parallel to the opposing body surface and moves flexibly toward and from such surface in sensitive response to changing differential pressure acting on the rim portion's opposite surfaces. This response action is regulatory in that the rim portion flexes toward the opposing body as the gap distance separating them increases locally, and away from the opposing body as such gap distance decreases. The diaphragm thereby controls the rate of loss of the pressurized gas through the air gap and regulates the pressure of gas comprising the cushion. By employing thin membranes of low specific density, the inherent regulating action of such valving diaphragms can be made very sensitive such that even abrupt changes of load magnitude or position, or the encountering of surface irregularities when moving across the opposing body do not disturb the stability of the air cushion support system. Further stabilization, particularly against flutter of the diaphragms, can be achieved by providing smaller by-pass apertures in the rim portions of their main apertures.

3,513,935
AIR CUSHION SUPPORTED PLATFORMS
Bruce Thomas Noble, Yeovil, Somerset, England, assignor to British Hovercraft Corporation Limited, Yeovil, Somerset, England
Filed May 10, 1968, Ser. No. 728,130
Claims priority, application Great Britain, June 1, 1967, 25,459/67
Int. Cl. B60v 1/04, 1/16
U.S. Cl. 180—124 7 Claims



A load carrying pallet has a load bearing platform fitted with a number of wheels or casters and at least one air cushion pad. When the platform is not air cushion supported the wheels or casters facilitate movement of the platform and maintain the platform clear of the ground. The air cushion pad comprises a flexible diaphragm secured to the underside of the platform and arranged to be inflated from a supply of pressurized air to assume an extended operational position to lift the feet or casters clear of the ground and to form at least part of the boundary of a supporting air cushion. The diaphragm is biased toward the underside of the platform so that in the unpressurized condition the diaphragm automatically assumes a convoluted configuration in a retracted position adjacent the underside of the platform and is maintained in this position to be clear of the ground when the platform is resting on the wheels or casters.

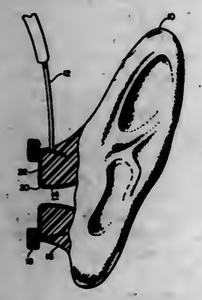
3,513,936
FLUID BEARING DEVICE WITH SELF-REGULATING ACTION
Walter A. Crowley, Federal Way, and Kenneth G. Wood, Seattle, Wash., assignors to Aero-Go, Inc., Seattle, Wash., a corporation of Washington
Filed Sept. 30, 1968, Ser. No. 763,680
Int. Cl. B60v 1/00
U.S. Cl. 180—124 23 Claims



A fluid cushion device is made from flat nonporous sheets providing a minimum thickness when collapsed. The sheets, when inflated, form a torus attached with a fluid tight seal to the lower surface of the platform to define a plenum chamber within the seal and the lowermost extremity of the torus. A fluid supply orifice conducts fluid under pressure through the bottom surface of the platform into the plenum and one of the sheets has defined within it a fluid inlet aperture held in general registry with the fluid supply orifice when the cushion is deflated. Once inflated additional apertures in the torus provide surge pressure regulating outlets from the cushion exiting into the plenum. Large area pads are positioned around the periphery of the torus and within the boundary formed by the inner edges of the sheets to provide a distributed load-bearing support when the torus is deflated without wrinkling or pinching the sheets. For higher pressures and heavier loading, a retainer ring is fastened between the bonded sheet and the platform to provide a structural supplement to the fluid tight seal. The sheets may be overlapped between the retainer ring and the platform, with the joint between the overlapped sheets exposed to the plenum so that any escaping fluid through the joint from within the torus escapes into the

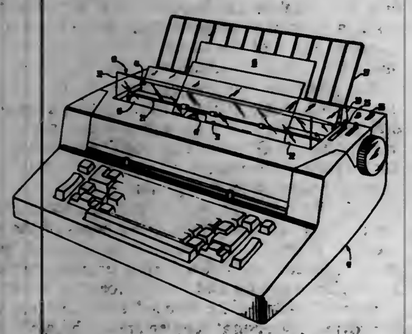
plenum and any escaping fluid from the plenum is received into the torus. To resist nonuniform expansion of the sheets under high pressure, the sheets may be formed of laminated plies of nonporous material having the warp of adjacent plies biased from one another.

3,513,937
ACOUSTIC TRANSDUCER
Harold D. Robinson, Arlington, and Stephen L. Mosher, Cambridge, Mass., assignors to Listening Incorporated, Arlington, Mass., a corporation of Massachusetts
Filed Sept. 27, 1968, Ser. No. 763,103
Int. Cl. G10k *11/10*
U.S. Cl. 181—25 2 Claims



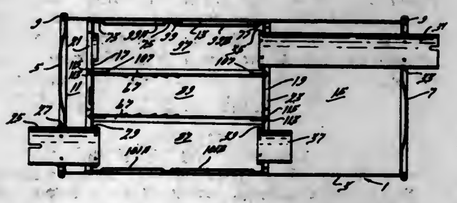
An enlarged replica of a human pinna is provided having a highly sound reflective surface. The reproduction is mounted to an acoustic isolator which, when placed over the user's ear, is effective to preclude all external sound from reaching the user's ear except that sound which passes through the enlarged reproduction. The device may be used to practice our discovery that the size of the pinna does not adversely affect the character of an impinging sound wave so as to render the sound location unintelligible.

3,513,938
ACOUSTICAL COVERS FOR OFFICE MACHINES
William L. Buckner, Donald L. Greer, Richard W. McCormack, Paul L. O'Brien, and Henry W. Simpson, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 2, 1969, Ser. No. 829,406
Int. Cl. F01n *1/02*; H04l *15/24*
U.S. Cl. 181—33 9 Claims



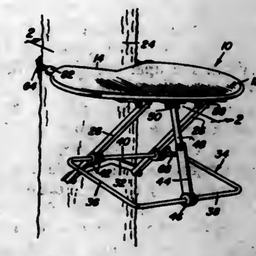
A low profile acoustical cover for an office machine adapted to fit over the opening in the machine housing which accommodates paper feeding and handling. The acoustical cover incorporates a plastic hood having angled walls enabling operator observation of the printing on the paper with a minimum of glare from the ambience of the machine and an acoustic device which is placed in proximity to paper entrance and exit slots in the plastic hood to prevent the emission of undesirable audible sounds therethrough. The plastic hood pivots to enable ready access to the machine mechanism and to the paper being operated on and the entire acoustical cover is readily removable from the machine.

3,513,939
EXHAUST GAS MUFFLER
Wladyslaw F. Malkiewicz, Jackson, Mich., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Dec. 6, 1967, Ser. No. 688,495
Int. Cl. F01n *1/02*
U.S. Cl. 181—54 6 Claims



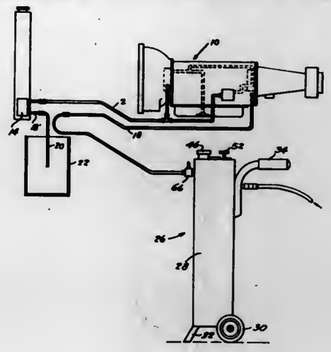
An automotive exhaust muffler of the tri-flow type has a pair of longitudinally extending partitions of triangular configuration mounted in an outer shell and secured by mechanical tab connections to transverse partitions so as to minimize spot-welding in a number of different parts inside the muffler.

3,513,940
HUNTER'S SEAT
Frank G. Usery, 215 Jackson St., Warner Robins, Ga. 31093
Filed Apr. 29, 1969, Ser. No. 820,153
Int. Cl. A47c *9/10*
U.S. Cl. 182—187 13 Claims



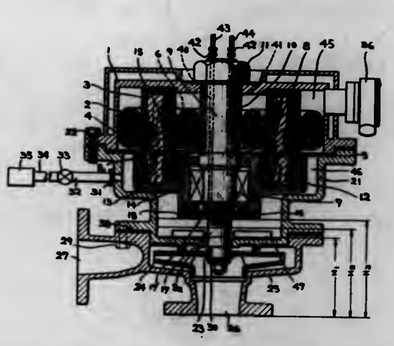
A collapsible seat or platform selectively mountable on a tree and including a support panel having a tree embracing notch at the rear thereof and a tree encircling adjustable chain for a clamping of the panel to the tree. The seat also includes a pair of legs or braces pivotally engaged with the forward portion of the panel for a selective downward and rearward extension thereof into engagement with a tree, and a footrest extending forwardly from pivotal engagement with the lower end portions of the support legs with the forward end thereof link-connected to the forward portion of the panel.

3,513,941
FLUID CHANGE MEANS FOR AUTOMATIC TRANSMISSIONS
Neil J. Becnel, Rte. 2, Box C164B, Belle Chasse, La. 70037
Filed Oct. 20, 1967, Ser. No. 676,782
Int. Cl. F16n *33/00*
U.S. Cl. 184—1.5 1 Claim



Fluid change means for automatic transmissions comprising a tank for fresh fluid; means for connecting a source of gas pressure to said tank; means for regulating the pressure applied to said tank; an outlet for said tank; metering means between said tank and said outlet, means for connecting said tank outlet to the return line from the oil cooler of an automatic transmission and means to discharge said cooler to a used-fluid receptacle.

3,513,942
DEVICE FOR LUBRICATING A BEARING FOR USE IN A CANNED MOTOR PUMP AND AN AGITATOR
Tetsuya Sato, Ibo-gun, Hyogo, Japan, assignor to Kabushiki Kaisha Teikoku Denki Seisakusho, Osaka, Japan
Filed Nov. 27, 1967, Ser. No. 685,856
Int. Cl. F04d *29/06*; F16n *1/00*
U.S. Cl. 184—6 4 Claims



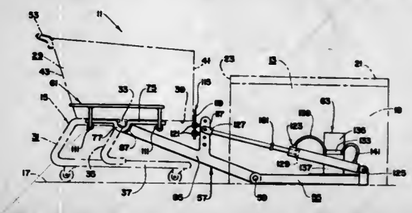
A device for lubricating a bearing for use in a canned motor pump and an agitator comprising a rotary shaft connected to an impeller, a bearing supporting rotatable said rotary shaft, a lubricating liquid fed to said bearing, a high pressure gas chamber containing said bearing, a high pressure gas source in communication with said gas chamber, whereby the pressure gas in said gas chamber is effected to maintain the level of a handled liquids below the level of the bearing portion.

3,513,943
POROUS PACKING MATERIAL CONTAINING PRESSURE AND/OR HEAT SENSITIVE ENCAPSULATED LUBRICANT AND METHOD FOR MAKING AND USING THE SAME
Theodore D. Ernst, Waterloo, and Charles G. Stucke, Palmyra, N.Y., assignors to Garlock, Inc., Palmyra, N.Y., a corporation of New York
Filed Apr. 17, 1968, Ser. No. 722,026
Int. Cl. F16n *15/00*
U.S. Cl. 184—1 18 Claims



The useful lifetime of machinery packing is extended by incorporating lubricant-containing capsules of minute size in the packing material. When excessive pressures and/or temperatures develop in the packing during operation, such as might result from gland takeup, other adjustment or material expansion, the capsules break and supply lubricant to the dynamic interfaces.

3,513,944
SHOPPING CART UNLOADING APPARATUS
Jarvis W. McConnaughhay, 748 East St., Memphis, Tenn. 38104
Filed Sept. 18, 1968, Ser. No. 760,624
Int. Cl. E04h *3/04*
U.S. Cl. 180—1 8 Claims

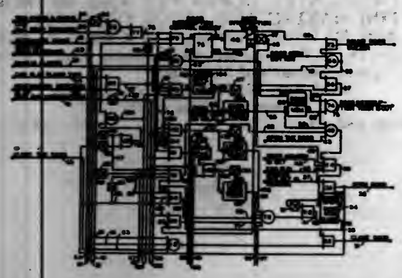


Apparatus for facilitating ready unloading of grocery shopping carts or merchandise shopping carts of self-service stores. The apparatus includes means for elevatingly tilting or bodily lift-tilting a shopping cart so that its fore and aft axis is tilted downwardly. The apparatus includes a pivotaly liftable carriage adapted to coactingly receive and lift a shopping cart. The carriage includes reach structure for pivotally moving a shopping cart in an upwardly sweeping arc thereby lift-tilting the basketed merchandise within easy reach of the checkout cashier.

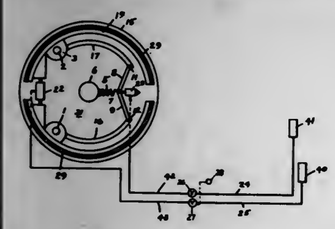
3,513,945
ELEVATOR STANDING TIME AND DOOR CONTROL
Donivan L. Hall, Richard C. Loshbough, and Gerald D. Robaszkiewicz, Toledo, Ohio, assignors to Reliance Electric Company, Cleveland, Ohio, a corporation of Delaware
Filed Jan. 30, 1967, Ser. No. 612,724
Int. Cl. B66b *1/16*
U.S. Cl. 187—29 14 Claims

A control for timing the interval an elevator car stands at a floor and the interval the door will remain open having operating parameters which vary with the location of the car and the nature of the stop. The usual floor stop is for a predetermined time interval which is abbreviated in response to the transfer of a passenger and is set for a shorter safety or courtesy time interval when that transfer is completed. If both a car call and a hall call are in registration for the car, the predetermined time

interval cannot be abbreviated. If the stop is at a floor where substantial loading is anticipated, the door operation is as for a stop for a combination of calls. When the stop is at a main floor, each passenger transfer resets a longer courtesy interval.



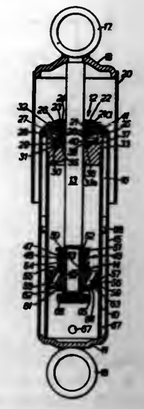
3,513,946
HYDRAULIC BRAKE SYSTEM WITH PLURAL ACTUATING MEANS AND LOCKING MEANS THEREFOR
Frank G. Rick, 114 Gilliam St., Franklin, Pa. 16323
Filed July 16, 1968, Ser. No. 745,172
Int. Cl. F16d *51/24*
U.S. Cl. 188—78 1 Claim



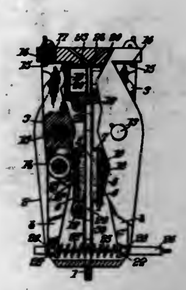
A brake for a vehicle or the like having a drum and two shoes inside the drum with the ends of each shoe adjacent the ends of the other shoe. A hydraulic cylinder is disposed in the space between the adjacent ends of the shoes. A cam is disposed on each shoe intermediate the ends. A lever is attached to each cam and a toggle link arrangement is attached to the end of each shoe opposite the first mentioned cylinder. A second cylinder has one end fixed relative to the auto frame with its piston rod attached to the toggle linkage. Two hydraulic lines are provided, one is attached to each cylinder. The main service brake cylinder may be connected by one line to the second mentioned cylinder and the emergency brake cylinder may be connected to the first mentioned cylinder. A key actuated valve is connected to each line so that by locking the key, fluid is trapped in both cylinders, thus locking the brakes. The brake is so arranged that either cylinder can fail and yet the system will still operate.

3,513,947
HYDRAULIC VIBRATION DAMPER
William A. Duckett, Kingsway, Ossett, England, assignor to Woodhead-Monroe Limited, Kingsway, Ossett, England, a British company
Continuation of application Ser. No. 527,715, Feb. 15, 1966. This application June 25, 1968, Ser. No. 742,964
Int. Cl. F16f *9/32*
U.S. Cl. 188—100 2 Claims

A shock absorber of the telescopic hydraulic type includes a piston rod operating in a working cylinder and in which the piston is provided with through passageways for passing the working fluid from one side of the piston to the other. A second cylinder surrounding the working cylinder in spaced relation provides a reservoir for the working fluid and which is connected at its opposite ends to the corresponding ends of the working cylinder. The connection between the closed end of the working cylinder and the corresponding end of the reservoir is established by a plurality of passageways which do not excessively restrict flow of the fluid therebetween, and the connection between the opposite end of the working cylinder and the corresponding end of the reservoir, i.e. the end through which the piston rod passes, includes a chamber housing a seal for the piston rod, this chamber being ported to the reservoir and containing such of the working fluid that escapes into it along the surface of the piston rod from the working cylinder.

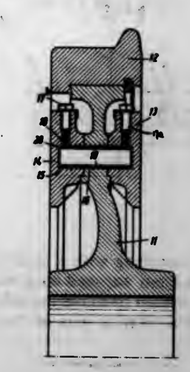


3,513,948
DISC BRAKE HAVING A DOUBLE PRESSURIZED FLUID/MECHANICAL CONTROL
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Automobiles Citroen, Paris, France, a society of France
Filed Sept. 23, 1968, Ser. No. 761,692
Claims priority, application France, Sept. 25, 1967, 122,148
Int. Cl. F16d *65/14*
U.S. Cl. 188—106 5 Claims



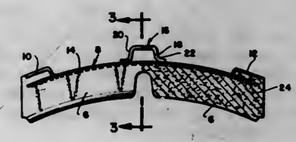
Primary levers, actuated by pressurized fluid, are articulated on the brake frame, and are provided, each, with a device for taking up play to limit their unclamping stroke. Secondary levers, actuated mechanically, are articulated respectively on the primary levers such that these secondary levers, during their clamping stroke, tend by reaction to move the primary levers in the direction of the limited unclamping stroke.

3,513,949
WHEEL, BRAKE MEMBERS AND SECURING MEANS THEREBETWEEN
Horst Klassen and Alfred Otto, Remscheid, Germany, assignors to Bergische Stahl-Industrie, Remscheid, Germany
Filed Feb. 28, 1969, Ser. No. 803,151
Int. Cl. F16d *65/12*
U.S. Cl. 188—218 10 Claims



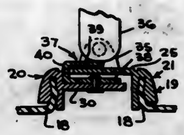
A wheel for rail vehicles has a wheel disk provided with circumferentially spaced axial apertures. A rim is rigid and coaxial with the wheel disk. A pair of annular brake members each overlie and abut against one of the opposite sides of the disk and have axial holes which are each aligned with and communicate with one of the axial apertures. A connecting arrangement connects the brake members with the wheel disk and includes a sleeve member received in each aperture with its opposite end portions extending into one of the holes in one of the brake members. Radial bores are provided in the brake members and each communicates with one of the holes. A recess is provided in each end portion of each sleeve member and communicates with the respectively associated radial bore, and an elongated member is received in each radial bore rigid with the respective brake member and has a leading portion lodged in the respective communicating recess of a sleeve member.

3,513,950
BRAKE SHOE INCLUDING EXPANDED METAL REINFORCING MEMBER
Edward Ratcliffe and William N. Crawford, Mont St. Hilaire, Quebec, Canada, assignors to AMSTED Industries Incorporated, Chicago, Ill., a corporation of Delaware
Filed June 28, 1968, Ser. No. 740,968
Int. Cl. F16d *69/04*
U.S. Cl. 188—250 1 Claim



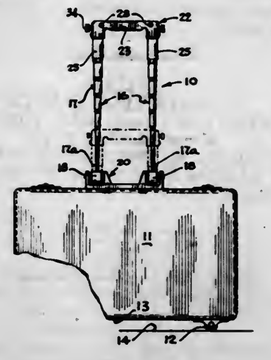
In a molded composition brake shoe having a composition body and a back supporting member, an expanded metal strip is welded to the supporting back member and acts as a mechanical bond between the composition and said supporting member.

3,513,951
LUGGAGE CONSTRUCTION
Henry Leong, Princeton, N.J., and Dennis S. Marrion, Colonial Heights, Va., assignors to Seward Luggage Manufacturing Company, Inc., Petersburg, Va., a corporation of Virginia
Filed Mar. 4, 1968, Ser. No. 710,022
Int. Cl. A45c *13/04, 13/36*
U.S. Cl. 190—49 3 Claims



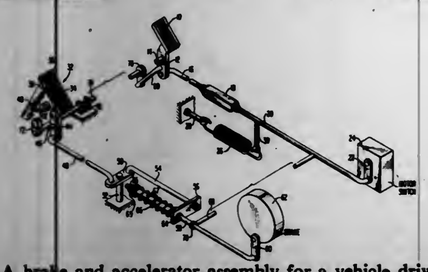
A luggage case having a pair of hinged sections, each section being formed of a concave shell and a frame strip extending about the edges of the shell. The shell has a base wall paralleling the medial plane of the case and sidewalls extending toward the latter terminating in outwardly projecting flanges paralleling the plane and secured in channels in the frame strips.

3,513,952
EXTENDABLE HANDLE STRUCTURE
John W. Warner, Jr., Waukegan, Ill., assignor to Hideaway Handles, Inc., Waukegan, Ill., a corporation of Illinois
Filed Aug. 19, 1968, Ser. No. 753,438
Int. Cl. A45c *5/14, 13/26*
U.S. Cl. 190—58 6 Claims



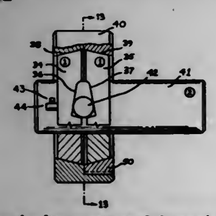
An extendable handle structure for an article of luggage having support means on the lower surface thereof and wherein the extendable handle structure comprises a plurality of telescopic sections forming an extendable collapsible arm member having the lower end thereof secured to the luggage and the upper end connected to a hand engageable section with latch means thereon for releasably holding the handle section adjacent the upper surface of the luggage in load supporting relationship therewith while permitting the handle section to be moved into an elevated position above the upper surface of said luggage when the latch means is released to facilitate moving the luggage along the supporting surface without lifting the luggage.

3,513,953
BRAKE AND MOTOR CONTROL FOR ELECTRIC VEHICLE
William P. Stevens, Augusta, Ga., assignor to Stevens Appliance Truck Company, Augusta, Ga., a corporation of Georgia
Filed June 20, 1968, Ser. No. 738,481
Int. Cl. H02k 7/10
U.S. Cl. 192—2 9 Claims



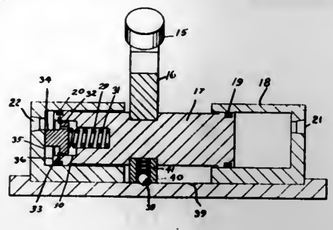
A brake and accelerator assembly for a vehicle driven by a switch controlled electric motor which provides both automatic and independent brake actuation. An accelerator pedal controls the opening and closing of the motor controlling switch through appropriate linkage. The linkage is biased to open the switch and apply the brake automatically. The biasing means is adjustable, however, to allow only partial braking. An engaging means which cooperates with the biasing means to apply the brake automatically is adjustable to provide variable lost motion control, and to render the automatic braking completely inoperable. Thus, when the acceleration pedal is released, the vehicle accelerator pedal linkage may be adjusted either for "free wheeling" or automatic brake operation. A brake pedal on the vehicle provides independent braking actuation. The brake pedal has an upper pivotable section on which is mounted a brake locking ratchet member that is in position to engage a pawl on the chassis when the pedal section is pivoted. The brake locking member is automatically released by movement of the accelerator pedal.

3,513,954
SELF-LOCKING CLUTCH
Jakbin Boaz Popper, Rehov Ranas 6, Kiryat Motzkin, Israel
Filed July 31, 1967, Ser. No. 657,167
Int. Cl. F16d 11/06, 13/04, 23/00, 43/00
U.S. Cl. 192—41 8 Claims



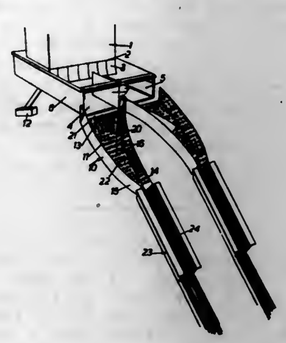
The invention, in its most useful version, comprises a clutch connecting two shafts, such that the first shaft can drive the second shaft in either direction, but the second shaft is able to drive the first shaft in one direction only, producing self-locking in the other direction. The clutch can be used for freewheeling or overrunning, for indexing, and for backstopping applications. The two shafts are coupled by means of inclined wedge surfaces producing an axial force component which presses the first shaft against a thrust surface. By making this thrust surface of sufficiently large diameter and by selecting an appropriate angle for the wedge surfaces, self-locking is obtained.

3,513,955
LIMIT SWITCH ACTUATING CYLINDER
Norman J. Anderson, Erie, Pa., assignor to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania
Filed June 3, 1968, Ser. No. 733,957
Int. Cl. F16d 25/08
U.S. Cl. 192—86 6 Claims



A shiftable gear coupling with a shifting mechanism to move the coupling from engaged to disengaged position. A mechanism is provided to move the shifting mechanism out of contact with a rotating part of the coupling during operation.

3,513,956
FEEDING DEVICE FOR ELONGATED OBJECTS
Arthur G. Rayment, Bromley Common, Kent, England, assignor to Gunson's Sortex Limited, London, England, a British company
Filed Sept. 11, 1967, Ser. No. 666,673
Claims priority, application Great Britain, Sept. 27, 1966, 43,200/66
Int. Cl. B65g 11/20
U.S. Cl. 193—43 8 Claims

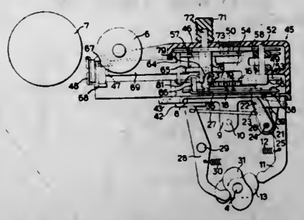


A feed tray is mounted at an angle to the horizontal and has a relatively wide upper end and a relatively narrow lower end, the fed tray having upstanding side walls which converge towards the lower end. A guide member is mounted obliquely above an upper portion of the feed tray and extends substantially throughout the width of the upper end, the guide member being arranged to deflect objects, which have been supplied to the upper end, towards one of the side walls so that the objects are orientated by and slide down the latter, one at a time, towards the lower end.

ERRATUM

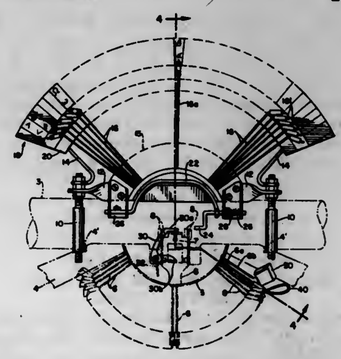
For Class 197—19 see:
Patent No. 3,514,546

3,513,957
INK RIBBON CARTRIDGE FOR A TYPEWRITER, TELEPRINTER OR SIMILAR OFFICE MACHINES
Giuseppe Ricciardi and Bruno Sandrone, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Sept. 20, 1967, Ser. No. 669,134
Claims priority, application Italy, Sept. 20, 1966, 21,859/66
Int. Cl. B41j 33/14
U.S. Cl. 197—151 4 Claims



An ink ribbon cartridge for a typewriter, teleprinter or similar machine comprising: a substantially C-shaped box open on its lower side and positionable with the opening of the C embracing a typecarrier; a ribbon guide secured across the opening of the C; a top wall of the box having two pivots to carry ribbon spools; two members each mounted on one of said pivots and each having three arms lying in substantially the same plane carrying respectively a tension spring, means to engage a ribbon reversing mechanism, and a ribbon guide whereby ribbon tension can rotate one of the members against the spring actuating the reversing mechanism; two manipulative levers, fulcrumed scissor-fashion, each urged by a spring to contact ribbon on respective spools and having means to block the rotation of the respective member until ribbon thickness on the respective spool is below a predetermined value. Normally the cartridge is secured to a plate on a typing machine or printer in which a cam is arranged to vibrate the plate on pivots, thus vibrating the cartridge so as to locate a ribbon in and out of position between a typecarrier and platen.

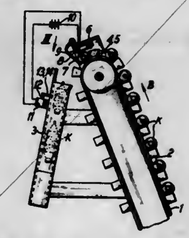
3,513,958
TYPEWRITER CHARACTER ADDING ATTACHMENT
Leo Lichtenstein, Hicksville, N.Y., assignor of fifty percent to Frank Biaha, Jamaica, N.Y.
Filed Mar. 7, 1968, Ser. No. 711,277
Int. Cl. B41j 25/20, 29/00
U.S. Cl. 197—180 18 Claims



Typewriter attachment permitting rapid selection of a plurality of additional characters and insertion in typewritten text produced with a typewriter fitted with the attachment. It has a set of typebars similar to those of the parent typewriter, held by a support in substantially vertical relation to the plane in which the typewriter segment moves. The attachment typebars have arcuately aligned pivot points converging toward a printing point which is common with that of the conventional typebars in the typewriter segment.

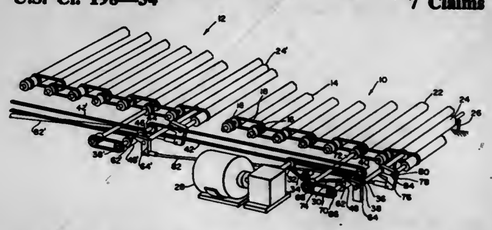
The attachment may have means to cause a selected attachment typebar to strike the platen, and may also be provided with manually or automatically operable means to return the selected typebar to its inoperative position. Optionally, a small arm may be provided on the typebar guide for spacing the selected attachment typebar a small distance away from the ribbon guide until the striking means is actuated.

3,513,959
DEVICE FOR ORIENTING SPINNING COPS
Günter Frehn, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Oct. 9, 1967, Ser. No. 673,833
Claims priority, application Germany, Oct. 8, 1966, R 44,314
Int. Cl. B65g 47/24
U.S. Cl. 198—33 4 Claims



Device for orienting wound coils having opposite core ends of different diameters so that the core ends of similar diameter face in the same direction, comprising means for sequentially advancing the coils in a direction transverse to the axes thereof along a given path, with the ends of the coils facing haphazardly in opposite directions, sensing means in said path for measuring the size of the diameter of the core laterally of the winding thereon, and a stop member located downstream of said sensing means and operatively connected thereto, said stop member being insertable in said path to a location between the center line of said path and the outer edge of said path in response to measurement of the core-end diameter by said sensing means.

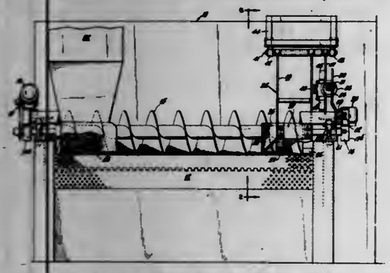
3,513,960
ACCUMULATOR CONVEYOR
Robert E. Adams, Hudson, N.Y., assignor to Gifford-Wood, Inc., Hudson, N.Y., a corporation of Massachusetts
Filed Jan. 17, 1968, Ser. No. 698,458
Int. Cl. B65g 47/26, 13/02
U.S. Cl. 198—34 7 Claims



An accumulator conveyor is provided which has particular utility in the handling of heavy loads. The conveyor system is made up of consecutive stages, each stage

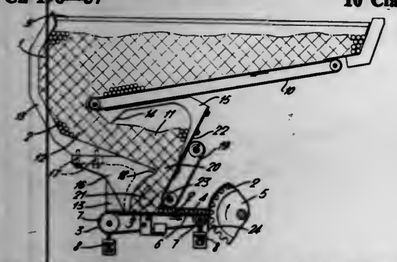
comprising a set of load supporting rolls and an actuating roller adapted to operate a clutch mechanism which stops the drive for the rolls in its stage when there is a load on it and to condition the preceding stage to stop when a load travels onto it. The remainder of the conveyor will continue to run and accumulate loads with each succeeding stage stopping as loads accumulate. As the leading load is removed from the discharge or end stage the system causes the loads to advance incrementally while maintaining spacing between the loads.

3,513,961
SPREADER FOR PARTICULATE MATERIAL
John J. Franklin, Glenside, Pa., assignor to Proctor & Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 13, 1968, Ser. No. 752,236
Int. Cl. B65g 47/19
U.S. Cl. 198—53 10 Claims



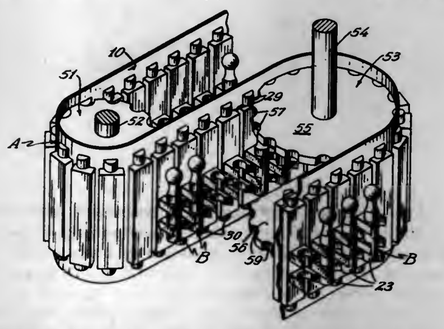
A moving conveyor surface for particulate material having a loading station on one side thereof is provided with automatic apparatus for distributing the particulate material in a uniform layer across the conveyor. The apparatus comprises a rotary auger mounted on a frame transverse to the moving conveyor and adapted to be raised and lowered to control the displacement of the material across the conveyor. Feeler means senses the accumulation of particulate material at the opposite side of the conveyor and automatically adjusts the frame upwardly and downwardly to thereby vary the distribution of the particulate material while maintaining a uniform layer across the conveyor surface.

3,513,962
ARTICLE FEEDING APPARATUS
Horace Alexander Stone and William Charles London, London, England, assignors to Molins Machine Company Limited, Deptford, London, England, a corporation of Great Britain
Filed Mar. 12, 1968, Ser. No. 712,516
Claims priority, application Great Britain, Feb. 16, 1968, 7,766/68
Int. Cl. B65g 47/18
U.S. Cl. 198—57 10 Claims



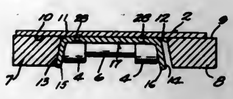
Apparatus for feeding plugs being lengths of cigarette filter material from trays comprising a hopper into which the trays are unloaded and a fluted rotary drum wherein the plugs are fed from the bottom of the hopper to the fluted drum in a single stream which is positively urged by a supporting conveyor band to move them transversely to their lengths.

3,513,963
CONVEYOR BELT FOR ELONGATED ARTICLES
Donald H. Witte, 1392 N. Pascal, St. Paul, Minn. 55108
Filed July 1, 1968, Ser. No. 741,493
Int. Cl. B65g 15/00, 17/00
U.S. Cl. 198—131 10 Claims



The present invention lies in a vertical web conveyor having clips on its opposite sides to support elongated objects in horizontally spaced relation. The web is preferably of spring steel or an equivalent. The brackets secured to the web are preferably equipped to engage suitable sprockets for propelling the web. The objects supported by the clips may be readily stripped therefrom or automatically applied thereto during movement of the web.

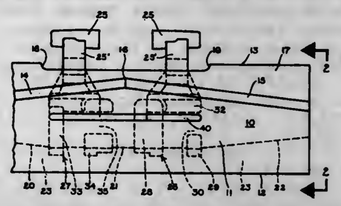
3,513,964
ARTICLE CARRYING CHAIN HAVING UNITARY GUIDE MEMBERS ATTACHED TO THE BOTTOM OF THE LINKS
Philip J. Imse, Wauwatosa, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 2, 1968, Ser. No. 718,038
Int. Cl. B65g
U.S. Cl. 198—189 3 Claims



An article carrying chain for travel in either a straight or curved path having a one-piece guide and wear member attached to the flat underside of each link. The ends of the member project downwardly to form a pair of guide and wear shoes adapted respectively to slide against one or the other of a pair of associated stationary wear strips in a manner to guide the chain and prevent chain tension from causing the chain to tilt out of a horizontal plane when it is moving in a curved path.

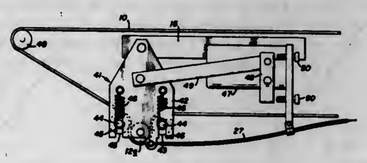
3,513,965
CONVEYOR AND LINK
Eldon S. Miller, 6645 SW. 129 Terrace, Miami, Fla. 33156
Continuation-in-part of application Ser. No. 655,401, July 24, 1967. This application Oct. 21, 1968, Ser. No. 769,248
Int. Cl. B65g 15/30
U.S. Cl. 198—195 12 Claims

A linking unit which is articulated with like links to provide a conveyor with a supporting surface, each of said links having an interlocking element at one end and an interlocking linking element at the other end; and an interlocking element of a like unit adapted to be interlocked



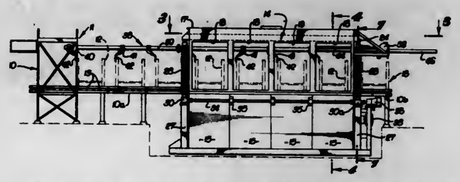
in the linking element in such a way that the articulated links may undergo angular movement in a common plane and in different planes. An endless conveyor is assembled from such a plurality of articulated links.

3,513,966
CONVEYOR BELT STABILIZER
George S. Eckels, 8013 Chaparral Drive, Fort Worth, Tex. 76108
Filed June 26, 1968, Ser. No. 740,378
Int. Cl. B65g 15/62; B65h 25/26; F16h 7/10
U.S. Cl. 198—202 3 Claims



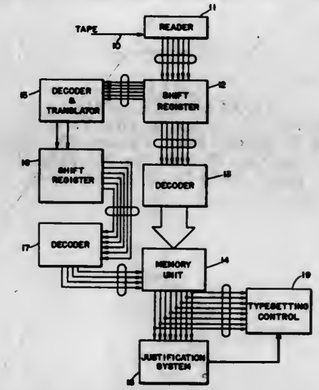
A conveyor belt stabilizer utilizing automatic angular adjustment of a roller to hold the belt in line within narrow limits, the roller being oscillated by a linear actuator controlled by a mechanical sensing device contacting the edge of the belt.

3,513,967
CONTAINER MOVING MECHANISM
Richard H. Sheppard, Palos Verdes Peninsula, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
Filed Jan. 29, 1968, Ser. No. 701,373
Int. Cl. B65g 25/08
U.S. Cl. 198—221 10 Claims



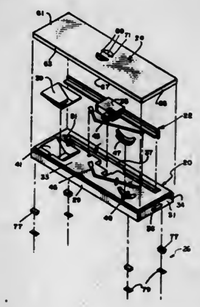
The invention provides mechanisms for intermittently advancing a succession of containers to and from predetermined stations by employment of an axially reciprocated shaft mounted for rotation or oscillation about its axis and carrying spaced pusher arms swung to positions of engagement against the containers for their advancement and to positions of disengagement to clear the containers during retraction of the shaft. Such mechanism is useful in overhead relation to the containers and for their advancement to stations at which the containers and their contents are lowered into and removed from treating solutions.

3,513,968
CONTROL SYSTEM FOR TYPESETTING ARABIC
Ellis P. Hanson, Rockport, Mass., assignor to Compugraphic Corporation, Reading, Mass., a corporation of Massachusetts
Filed Jan. 24, 1967, Ser. No. 611,319
Int. Cl. B41b 9/06
U.S. Cl. 199—18 3 Claims



A reader unit translates codes representing successive Arabic characters and space units into signals which are temporarily stored in a first shift register and successively decoded to classify the data, by a two-bit output signal, into one of three classes of data and sent to a second shift register which stores three successive sets of class data. A second decoder determines the form of the character from the character classification immediately preceding and following the given character. Simultaneously therewith, the data from the first shift register is decoded by a third decoder to indicate the particular character itself. The latter information plus the character form are used to address a memory to select the character in its desired form and signal typesetting control and justification apparatus prior to printing the character. The apparatus includes a Kashida code generator and ligature generating circuitry.

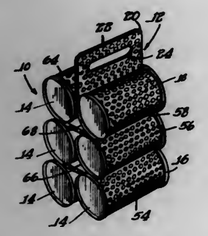
3,513,969
BUMPER JACK CONTAINER ASSEMBLY
Jack H. Roff, 3927 Meadowlane, Wichita, Kans. 67218
Filed Nov. 4, 1968, Ser. No. 773,262
Int. Cl. A46c 11/24; B65d 85/54
U.S. Cl. 206—16 2 Claims



This invention is a bumper jack container case including a main support base assembly adapted to receive a bumper kit assembly therein; a lid member mountable on the support base assembly to completely enclose the

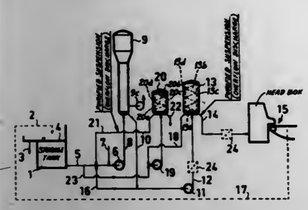
bumper jack kit assembly; and attachment means operable to releasably secure the support base assembly to a given support surface. More particularly, this invention is a bumper jack container case constructed of a foam material having indentations adapted to compactly receive the various elements of a bumper jack kit assembly therein in an enclosed manner whereas to prevent noisy contact and presents the same in a compact, neat appearing structure.

3,513,970
CONTAINER CARRIER
Robert J. Eckholm, Jr., New York, N.Y.
(8501 W. Higgins Road, Chicago, Ill. 60631)
Filed Nov. 17, 1967, Ser. No. 684,053
Int. Cl. B65d *71/00, 25/12, 75/40*
U.S. Cl. 206—65 7 Claims



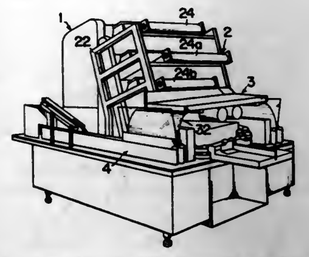
There is disclosed a carrier for containers such as cans or bottles formed from a strip of heat sealable plastic cushioning material wrapped around the containers and heat sealed to itself at intervals for forming container retaining pockets. A free end of the strip projects outwardly from the containers for providing a carrying handle. The cushioning strip is formed from two sheets of plastic heat sealed together so as to form air pockets therebetween.

3,513,971
CONTINUOUS METHOD FOR DEGASIFYING AND CLEANING AQUEOUS SUSPENSIONS OF FIBROUS MATERIALS
Nils Anders Lennart Wikdahl, 42 Bravallavagen, Djursholm, Sweden
Filed Feb. 16, 1968, Ser. No. 706,084
Claims priority, application Sweden, Feb. 17, 1967, 2,270/67
Int. Cl. B03b *7/00*
U.S. Cl. 209—3 4 Claims



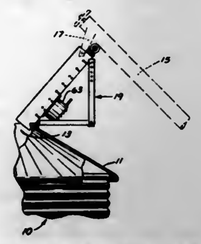
There is disclosed a continuous method for degasifying and cleaning aqueous suspensions of fibrous materials by first removing the free air from a suspension by submitting the same to vacuum and then removing substantially all of the undesired small solid particles as may be present in the suspension by means of one or more hydrocyclone separator stages whereupon the suspension is dewatered.

3,513,972
APPARATUS FOR SELECTING SHEET-FORM ARTICLES
Masayuki Sakurai, Tokyo, Teiichi Okamoto and Tsutomu Honjo, Kawasaki-shi, Hideya Saimei, Tokyo, Juta Kazumoto, Yokohama-shi, and So Kamimura, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed July 23, 1968, Ser. No. 746,867
Claims priority, application Japan, July 31, 1967, 42/48,959, 42/48,969, 42/65,728, 42/65,737, 42/65,740
Int. Cl. B07c *1/10*
U.S. Cl. 209—75 2 Claims



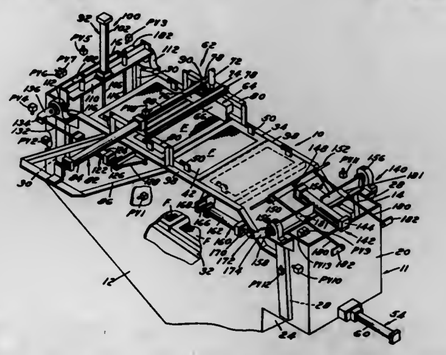
An apparatus for automatically selecting sheet-form articles having a specific weight, thickness, width and rigidness includes a weight selector positioned at the rear portion of the apparatus so as to select the article during its upward travel: a thickness selector having belt-conveyors stepwise positioned at the middle portion of the apparatus in a staggered fashion, and a transverse belt-conveyor corresponding to each of the staggered belt-conveyors so as to select the article by passing it through a space between both types of belt-conveyors during its forward travel; a divider disposed at the forward portion of the apparatus to divide the selected articles into two groups respectively to be conveyed to two opposite transporting paths, said paths extending rearward and respectively disposed on either lower side of the apparatus; and means for sorting articles of the predetermined width and rigidness from among those brought to the middle part of the respective paths.

3,513,973
GRAIN CLEANING DEVICE
Emil G. Grulke, Kelley, Iowa 50134
Continuation-in-part of application Ser. No. 421,162, Dec. 24, 1964, now Patent No. 3,370,705, dated Feb. 27, 1968. This application Feb. 26, 1968, Ser. No. 708,130
The portion of the term of the patent subsequent to Feb. 27, 1985, has been disclaimed and dedicated to the Public
Int. Cl. B07b *9/00, 1/28, 11/06*
U.S. Cl. 209—241 5 Claims



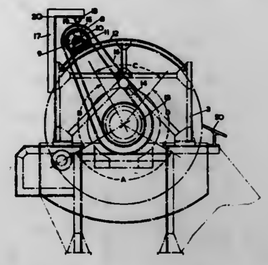
A device for cleaning grain which may be positioned either at the inlet or outlet end of a grain conveyor feeding a storage bin or the like. The cleaning device employs a fan under a pair of spaced apart screens for blowing air through the screens and removing foreign material. The lower screen includes along its length staggered guides for directing the grain from the top to the bottom of the device back and forth from one side to the other side to give maximum exposure to the air being blown through the screen. The cleaning is further assisted by the lower screen being connected to a shaker.

3,513,974
INDEXING FILTER SCREENING APPARATUS AND METHOD
John P. Markwick, Clawson, Mich., assignor to C. A. Dauer Company, Inc., Detroit, Mich., a corporation of Michigan
Filed Oct. 31, 1967, Ser. No. 679,397
Int. Cl. B01d *33/32*
U.S. Cl. 210—73 14 Claims



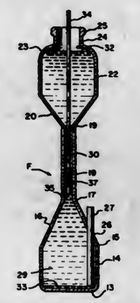
The apparatus comprises a row of individual, separate filter screen units which can be intermittently moved along a base and then cleaned and returned for filtering. specifically, when the surface of the unfiltered liquid above the filter screen units rises to a predetermined level, a transfer mechanism moves a filter screen unit at one end of the row to a cleaning station, and a second transfer mechanism returns a cleaned filter screen unit from the cleaning station to the opposite end of the row.

3,513,975
FILTER
John Edward Russell, Yarm, England, assignor to British Titan Products Company Limited, Durham, England, a corporation of the United Kingdom
Filed Jan. 10, 1969, Ser. No. 790,303
Claims priority, application Great Britain, Jan. 13, 1968, 2,016/68
Int. Cl. B01d *33/38*
U.S. Cl. 210—77 26 Claims



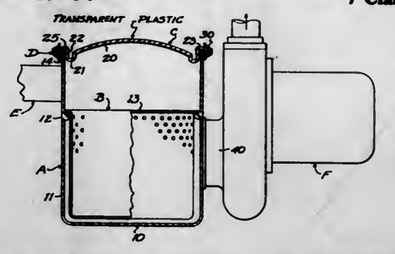
A rotary filter having a rotatable drum with a filtration surface, a tank or bosch mounted so that at least a portion of the surface of the drum is rotatable within the tank or bosch and a rotatable vane feeder having at least four troughs mounted parallel to the axis of the drum and positioned above the horizontal axial plane to the drum to feed a liquid or suspension to be filtered to the surface of the drum. Means to rotate the drum and the feeder are incorporated and means to supply to the vane feeder a liquid or suspension to be filtered.

3,513,976
LEUKOCYTE FLASK AND METHOD OF OBTAINING WHITE CELLS FROM WHOLE BLOOD
William C. James, 301 Lankenau Medical Bldg., Philadelphia, Pa. 19117
Filed Mar. 19, 1968, Ser. No. 714,315
Int. Cl. B01d *21/26*
U.S. Cl. 210—78 2 Claims



This specification discloses a flask for use in obtaining leukocyte from whole blood containing an anticoagulant with the flask including a lower portion of substantially horizontal extent that receives the red blood cells, a narrow vertical column of small horizontal cross-sectional area upstanding from the lower portion and which receives the leukocyte or white cells and an upper portion of large horizontal cross section that receives blood plasma. A tube is provided at one side of the lower portion for introducing mercury into the bottom thereof to raise the blood components to a desired level. A pipette is inserted through the plasma into the narrow column to withdraw the white cells aspiration.

3,513,977
LINT POT FOR SWIMMING POOL FILTER
Bernard Bellinson, Sherman Oaks, Calif., assignor to Marine Swimming Pool Equipment Company, North Hollywood, Calif., a corporation of California
Continuation-in-part of application Ser. No. 671,873, Sept. 29, 1967. This application Jan. 27, 1969, Ser. No. 814,219
Int. Cl. B01d *35/14*
U.S. Cl. 210—94 7 Claims



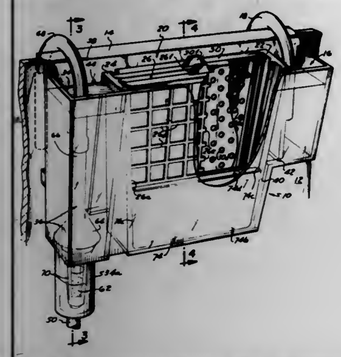
Disclosed herein is a lint pot of a type comprising a casing in the form of a cup or pot having an open top normally closed by a transparent lid which is sealed to its rim and is removable in order to remove debris collected in a strainer basket within the pot. An outlet in the lower area of the casing is connected to the suction inlet of a

pool circulation pump, and an inlet in the upper area of the casing, is connected to an inlet line which draws water from the pool (normally through the pool filter).

3,513,978
EXTERNAL WATER TREATING DEVICE FOR AQUARIA

Robert Newsteder, 5 Valley Way, West Orange, N.J. 07052

Filed May 27, 1968, Ser. No. 732,293
Int. Cl. E04h 3/20
U.S. Cl. 210—169 6 Claims

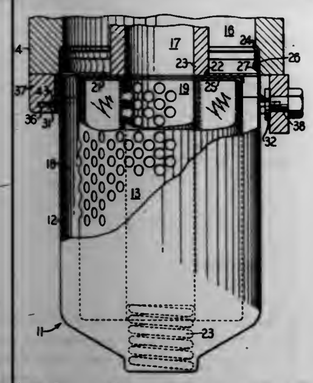


A relatively flat, tri-compartmented tank, mounted upon the outside of an upright wall of an aquarium, provides for approximately horizontal flow of water between the tank's compartments and into and from perforate broad faces of adjacent, separately removable, upright, relatively thin boxes containing different water treating materials and fitted, in side-by-side relationship, into one of the tank's compartments. One of these boxes includes a sediment receptacle; and another compartment of the tank is fitted, for aeration purposes, with a readily removable assembly including an air bubble emitting porous stone positioned directly below a conical bubble receiving canopy to which the stone is connected by a group of upright fingers.

3,513,979
OIL FILTER MOUNTING

Willis D. Miller, Peoria, and James P. Welsh, Morton, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Apr. 3, 1969, Ser. No. 813,175
Int. Cl. B01d 27/08
U.S. Cl. 210—232 3 Claims

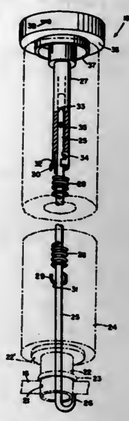


A mounting for a filter assembly wherein the filter assembly is secured to a filter base by a split ring which is expandible by means of a rotatable cam member to permit removal of the filter assembly from the base.

3,513,980
FILTER TUBE SECURING MEANS

Joseph B. Massaschi, Charles A. Miller, Jr., and Robert W. Miller, Jr., Baltimore County, Md., assignors to Filterite Corporation, Timonium, Md., a corporation of Maryland

Filed Dec. 8, 1967, Ser. No. 689,156
Int. Cl. B01d 27/08
U.S. Cl. 210—238 9 Claims

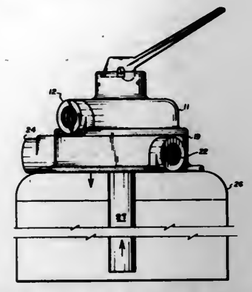


A filter having one or more elongated tubular filtering units within a casing through which the fluid to be filtered flows, each unit being held within the casing by a resiliently contractible fastening means having one end attached to a partition wall within the casing, the contractible means extending through the unit and operable from the end thereof remote from the end attached to the header, the fastening member being contractible to resiliently urge the filter unit into sealing engagement with the header and hold it in place and being provided with means to hold the same in extended position for ready attachment and detachment from the partition wall.

3,513,981
ROTARY GATE, MULTIPORT VALVE FOR DIRECT MOUNTING ON A FILTER TANK

Robert A. Mendelow, Flushing, N.Y., assignor to Major Pool Equipment Corporation, South Kearney, N.J., a corporation of New Jersey

Filed Feb. 6, 1968, Ser. No. 703,439
Int. Cl. B01d 29/38
U.S. Cl. 210—411 9 Claims



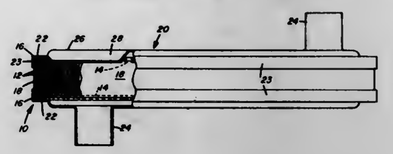
A rotary gate, multiport valve having a filter position, a backwash position, a waste position, and a closed position, with a rotary gate controlling these positions by

reason of the positioning of an axial port, a peripheral port, and a bypass arranged to cooperate with a plurality of chambers in the valve body and with the valve cap.

3,513,982
FILTER ARRANGEMENT

Arthur L. Carter and Donald M. Forster, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 1, 1967, Ser. No. 635,216
Int. Cl. B01d 27/06
U.S. Cl. 210—435 7 Claims

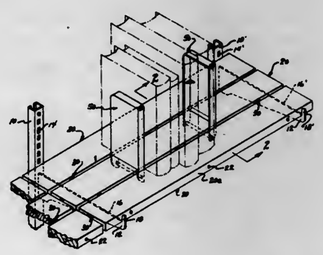


A filter formed of pleated filter paper having an integrally molded edge seal and oppositely arranged plastic end caps sealed to the filter paper. The end caps do not meet at the edge of the filter paper thereby reducing the possibility of liquid bypassing the filter.

3,513,983
SHELF ASSEMBLY

Harlan F. Kellogg, Rockford, Ill., assignor to Rockware, Inc., Rockford, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 650,992, July 3, 1967. This application Jan. 28, 1969, Ser. No. 794,558
Int. Cl. A47b 65/00
U.S. Cl. 211—43 3 Claims



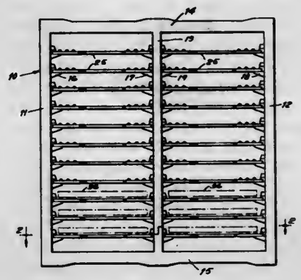
A book shelf is assembled from a plurality of slots and held in spaced relationship by spacers to provide longitudinal slots extending along the shelf. Plastic book ends are provided with a marginal reinforcing flange having lower portions which extend through the slots. A locking member extends between the lower portions and is arranged to lock the book end against movement.

3,513,984
TILE SETTER

John W. Miller, New Castle, Pa., assignor to The Joseph Dixon Crucible Company, Jersey City, N.J., a corporation of New Jersey

Filed Dec. 5, 1967, Ser. No. 688,117
Int. Cl. A47f 5/00
U.S. Cl. 211—134 8 Claims

The invention involves a setter frame having a plurality of sets of opposed ledges for supporting setter shelves mounted for manual removal but locked against

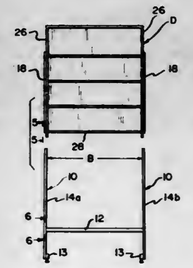


removal from the ledges when the setter frame is tilted to eject the ceramic tiles from the setter shelves.

3,513,985
ARTICLE OF FURNITURE

Hugh C. Acton, Birmingham, Mich., assignor to Brunswick Corporation, a corporation of Delaware

Filed Aug. 8, 1967, Ser. No. 659,196
Int. Cl. A47b 57/00
U.S. Cl. 211—148 8 Claims



An article of furniture primarily intended for business and institutional uses, in which a rigid cradle-like supporting base frame structure has a horizontal brace extending between a pair of upright side posts which are a unit self-contained and in which the posts above the brace are vertically split forming a vertical slot in each of the side posts in order to receive a furniture unit supported by gravity on the horizontal brace; the furniture unit used with the base frame being equipped with vertical ribs to fit the slots in the side posts, the interfitting being the sole means for positioning and retaining the furniture unit within the cradle formed by the supporting framework.

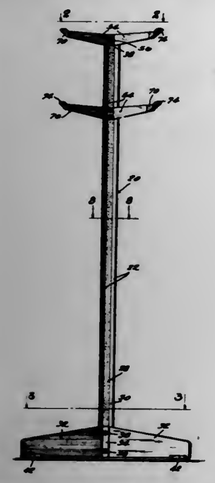
3,513,986
COSTUMER WITH CHANNELED FACE

Robert W. Schier, Northfield, and Leonard D. Singer, Chicago, Ill., assignors to Krueger Metal Products, Inc., Green Bay, Wis., a corporation of Wisconsin

Filed June 24, 1968, Ser. No. 739,454
Int. Cl. A47f 5/04
U.S. Cl. 211—177 8 Claims

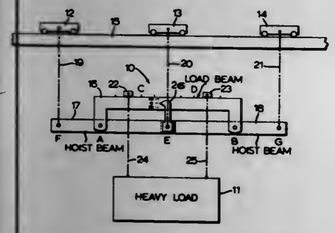
The upright post of the costumer is of generally square cross section except as provided with flanges projecting from its corners forming channels on its respective faces. Legs, and hook-supporting arms are connected at right angles to each other in oblique 45° relation to intermediate anchorage portions screwed to the post to lie with-

in the channels and engaged laterally with the flanges of the post. Non-metallic hooks and feet are respectively



interlocked mechanically with the arms and legs to require no screws.

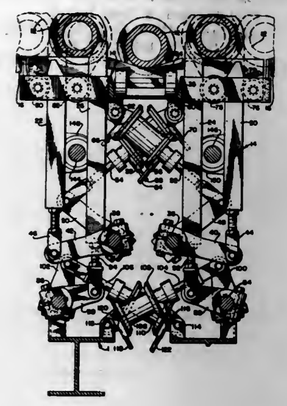
3,513,987
THREE-CRANE LIFTING BEAM
Ruediger Maximilian Seyff, Guelph, Ontario, Canada, assignor to Canadian General Electric Company Limited, Guelph, Ontario, Canada, a corporation of Canada
Filed Aug. 12, 1968, Ser. No. 751,791
Claims priority, application Canada, Aug. 12, 1967, 997,675
Int. Cl. B66c *19/00*
U.S. Cl. 212—128 **6 Claims**



A load, which is too heavy for a single overhead crane, is lifted by three cranes through the medium of a beam assembly which causes the load to be shared between the cranes according to crane capacity and allows the cranes to be spaced well apart so that the load is distributed over the crane supporting structure.

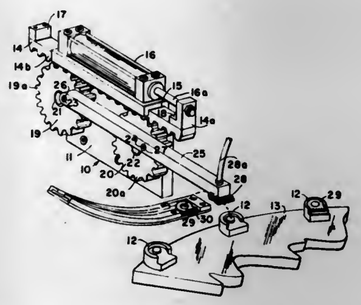
3,513,988
AUTOMATIC DRILL STEM AND PIPE POSITIONER DEVICE
John Hart Wilson, % Wilson Manufacturing Company, P.O. Box 1031, Wichita Falls, Tex. 76307
Continuation-in-part of application Ser. No. 492,581, Oct. 4, 1965. This application Apr. 24, 1967, Ser. No. 633,232
The portion of the term of the patent subsequent to Apr. 25, 1984, has been disclaimed
Int. Cl. B65g *69/00*
U.S. Cl. 214—1 **8 Claims**

A device for moving drill stem or pipe transversely off a pipe hauling and dispensing apparatus onto a wheeled carrier in programmed, automated relation, moving the drill stem or pipe longitudinally on wheeled carriers to an elevating cylinder, automatically elevating the end of the drill stem or pipe adjacent the drilling rig to enable the connection of elevators thereto. The sequence is initiated by manually operating an air valve. Upon completion of the operation of going into the hole, the cams



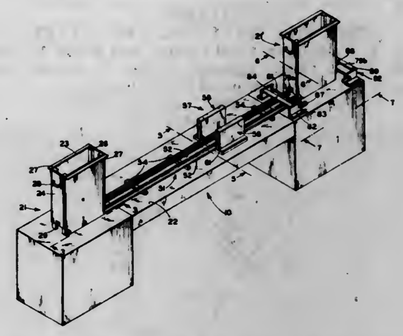
are either reset for use in withdrawing drill stem or pipe from the hole, or replaced, by quick change means, and a programmed cam shaft placed in the mechanism so upon lowering the drill stem upon the wheeled carrier, the ends of the pipe will be evened and dispensed laterally by kicker bars, in timed sequence. Provision is made for eliminating such stations as are not used.

3,513,989
HIGH SPEED TRANSFER DEVICE
Jack A. English, Elkhart, Ind., assignor to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Dec. 21, 1967, Ser. No. 692,503
Int. Cl. B66c *1/02*
U.S. Cl. 214—1 **6 Claims**



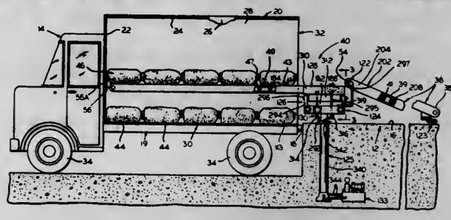
A high speed transfer device having a transfer bar for picking up a part from a stationary station and transferring the part to a movable station. The transfer bar is connected to and driven by a pair of crank pins rotated through a predetermined angle by a gear rack. Power means imparts reciprocating movement to the gear rack and drives the transfer bar through a predetermined angle of approximately 180°.

3,513,990
APPARATUS FOR MAGNETICALLY UNLOADING ARTICLES FROM HANDLING RACKS
Donald L. Wolle, Reading, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 12, 1968, Ser. No. 744,573
Int. Cl. B65g *59/06, 57/00*; B65b *69/00*
U.S. Cl. 214—6 **5 Claims**



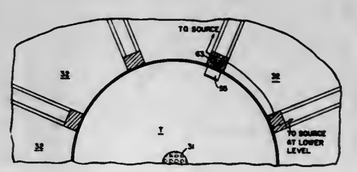
A plurality of handling racks, each having a plurality of elongated, paramagnetic articles transversely supported thereon, are stacked in a feeding canister and are withdrawn individually and transported through a magnetic field having horizontal lines of force. The elongated, paramagnetic articles are attracted from the handling racks and supported along the horizontal lines of force after which the articles are removed in a scoop. The empty handling racks are moved away from the magnetic field and are restacked in a receiving canister.

3,513,991
APPARATUS FOR LOADING BAGGED MAIL FROM A LOADING DOCK INTO A HIGHWAY VEHICLE
Joseph E. McWilliams, 1345 Canterbury Lane, Glenview, Ill. 60025
Continuation-in-part of application Ser. No. 694,151, Dec. 28, 1967. This application July 10, 1968, Ser. No. 743,892
Int. Cl. B65g *67/08, 57/112*
U.S. Cl. 214—6 **14 Claims**



The invention relates to the loading of mail bags from a loading dock into an end loading highway vehicle, such as a truck, to fully load the vehicle, where desired, with stacks of mail bags in which the bags are compactly loaded into place in individual stack forming tiers without those performing the bag loading operation having to enter the vehicle. In practicing the invention, the loading dock at the post office or the like is provided with an assembling conveyor on which out-going bags are placed and oriented in closely spaced single file tier form and operating between the conveyor and the highway vehicle is a tilting loading conveyor in the form of a belt conveyor secured in cantilevered relation on a support frame that is in turn tiltably mounted on a carrier riding on trackways mounted on the dock, with the tilting conveyor being so positioned on the dock and proportioned that it projects into the vehicle substantially up to the forward end of its loading area when the vehicle is backed into loading position adjacent the dock. The tilting conveyor receives the bags in single file form up to the number needed to make a stack forming tier unit that will extend lengthwise of the vehicle, and without disturbing the orientation of the bags, and disposes the tier load in the vehicle loading area for discharge of the stack forming tier unit; placement of the tier as part of a stack in the vehicle is effected by tilting the conveyor to one side or the other, again without disturbing the orientation of the bags. Other tier loads of the same type, are applied to the conveyors to complete the loading operation, the carriage being moved sidewise of the vehicle and conveyors to dispose the tier loads as necessary in different positions laterally of the vehicle.

3,513,992
SPIRAL STORAGE STRUCTURE AND SYSTEM FOR PARKING VEHICLES
Eugene H. Handler, 4217 Brookfield Drive, Kensington, Md. 20795
Filed Mar. 8, 1968, Ser. No. 712,035
Int. Cl. E04h *6/06*
U.S. Cl. 214—16.1 **3 Claims**

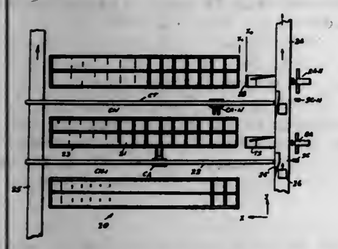


A storage structure for automobiles having a central open area defined by a spiral track for a power driven turntable adapted to revolve and travel up and down the spiral track in the open area into position for transfer of vehicles to and from the turntable at selected parking areas at spirally stepped elevations around the open area. The turntable has track wheels and the storage structure has the respective parking areas at stepped spiral elevations starting at ground level around the track arranged to register with the periphery of the turntable at various vehicle parking elevations and includes automatically controlled transfer means on the turntable for transferring the vehicles from the turntable onto one of the parking areas and retrieving it from the parking area to the turntable and returning the car to its driver.

3,513,993
AUTOMATIC STORAGE APPARATUS
Jerome H. Lemelson, Metuchen, N.J., assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio
Application June 30, 1965, Ser. No. 468,532, which is a continuation of application Ser. No. 219,357, Aug. 13, 1962. Divided and this application July 9, 1968, Ser. No. 743,418
The portion of the term of the patent subsequent to Aug. 14, 1979, has been disclaimed
Int. Cl. B65g *1/00*
U.S. Cl. 214—16.4 **3 Claims**

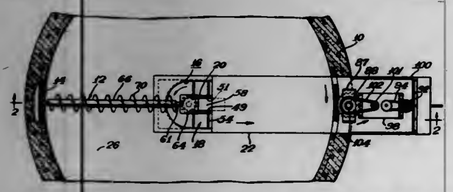
An automatic load handling system comprising a storage rack having a plurality of storage volumes and a powered load carrier movable alongside the storage rack for depositing loads into and removing loads from the storage rack. The load carrier is actuated by electrical power means in circuit with control means, the latter

being operable to cause the load carrier to move sequentially to two selected storage volumes in the storage rack, and from a pick up station where the load carrier picks



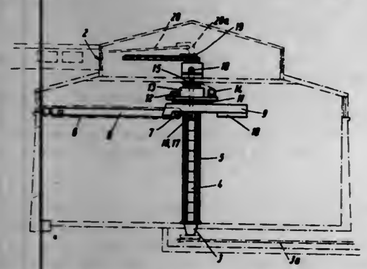
up a load and then deposits the load at the first storage volume in the storage rack, and then the load carrier moves to the second selected storage volume to pick up a load already on deposit in the storage rack.

3,513,994
BOTTOM DISCHARGE SILO CONSTRUCTION
Donald M. De Bower and Pete M. Warfield, Cedar Falls, Iowa, assignors to Clay Equipment Corporation, Cedar Falls, Iowa, a corporation of Iowa
Filed Sept. 27, 1968, Ser. No. 763,125
Int. Cl. B65g *65/46*
U.S. Cl. 214—17 **5 Claims**



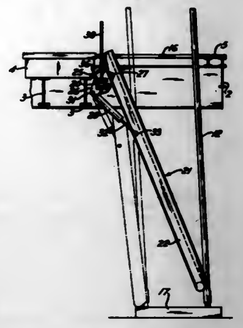
A mechanism is provided for discharging silage and the like from the bottom of a cylindrical silo. A radially disposed auger attached at its outer end to a rotatable ring and pivoted at its inner end is caused to move in a plane parallel to the floor of the silo while being rotated about its longitudinal axis to move cut silage inwardly of the silo to a center opening in the floor of the silo. A drive for the rotatable ring is located exteriorly of the silo. Flight-type conveyor means conveys the cut material generally radially outwardly of the silo.

3,513,995
STORAGE ARRANGEMENT
Günter Ströker, Holzwickede, Germany, assignor to Gustav Schade, Dortmund-Schuren, Germany
Filed May 15, 1968, Ser. No. 729,263
Int. Cl. B65g *65/38*
U.S. Cl. 214—17 **6 Claims**



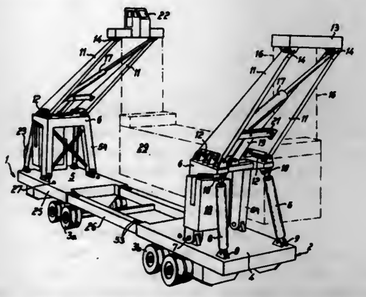
A housing defines an upright chamber which is adapted to accommodate flowable material. The upper end of the housing is provided with an inlet and the lower end is provided with an outlet. An elongated tubular chute is arranged in the center of the housing extending from the upper to the lower end. An elongated conveyor is carried by the chute and extends transversely thereof. The conveyor is turnable about the chute and can be moved lengthwise of the chute in upward and downward direction.

3,513,996
DRILL PIPE HANDLING APPARATUS
Homer J. Woolslayer, Cecil Jenkins, and Erwin A. Campbell, Tulsa, Okla., assignors to Lee C. Moore, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 31, 1968, Ser. No. 749,037
Int. Cl. E21b *19/00*
U.S. Cl. 214—2.5 **4 Claims**



Inclined downwardly and outwardly from an elevated support beside a rotary table is a chute provided with a longitudinal guide channel therein for receiving the lower end of a drill pipe suspended above it and then guiding the pipe as it is lowered. The lower end of the chute can be moved outwardly and back and the entire chute can be moved laterally, whereby the lower ends of drill pipes can be set in predetermined positions below an elevated pipe rack.

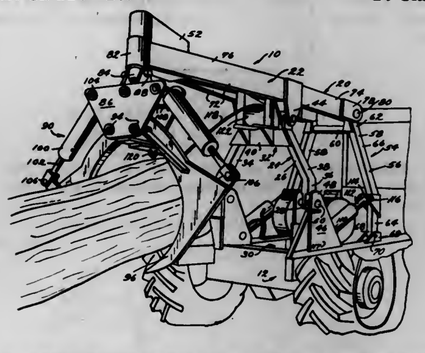
3,513,997
TRANSPORTER FOR CRATES
Heinrich W. Heyer, Straelen, and Heinz Spitzer, Hannover, Germany, assignors to Coles Krane G.m.b.H., Duisburg-Meiderich, Germany, a corporation of Germany
Filed Jan. 16, 1968, Ser. No. 698,330
Claims priority, application Germany, Jan. 17, 1967, C 41,238; Apr. 6, 1967, 1,271,939
Int. Cl. B60p *1/48*
U.S. Cl. 214—77 **14 Claims**



A road vehicle designed for the lifting and/or transportation of large creates as two cranes symmetrically mounted on a common platform, the cranes having laterally swingable arms with confronting hoists for jointly

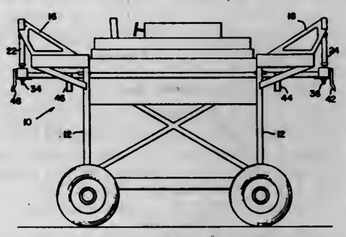
lifting a crate placed alongside the vehicle to deposit it on the opposite side or on the platform; bases tiltable about parallel horizontal axes, transverse to the direction of vehicle motion, enable the cranes to be tipped inwardly toward the platform to facilitate road travel. A rectangular loading frame suspended from the hoisting cables of both cranes comprises two relatively movable end members, defining the minor sides of the rectangle, interconnected by two extensible cables defining the major sides; an unbalanced linkage, supplementing the hoisting cables, biases each end member outwardly to keep the connecting cables taut.

3,513,998
LOGGER
Carl W. Stone, Franklin, Va., assignor to Franklin Equipment Company, Incorporated, Franklin, Va., a corporation of Virginia
Filed Sept. 13, 1968, Ser. No. 759,731
Int. Cl. B66c *1/30*
U.S. Cl. 214—147 **14 Claims**



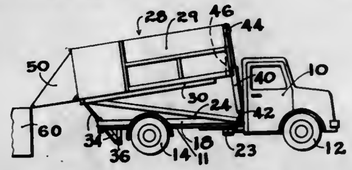
A logger having a vehicle body and a boom pivotally mounted on the vehicle body by a pair of rigid, unextendible support means with piston and cylinder means for pivoting the forward support means and hence the boom and including a grapple secured to the rear end of the boom and rotatable about a vertical axis and pivotal about a horizontal axis.

3,513,999
LIFTING AND CARRYING VEHICLE
William H. Schwartz, 260 Summit Drive, Corte Madera, Calif. 94925, and Graham Slater, 500 Pine St., Sausalito, Calif. 94965
Filed Mar. 27, 1968, Ser. No. 716,399
Int. Cl. B66f *7/16*
U.S. Cl. 214—394 **1 Claim**



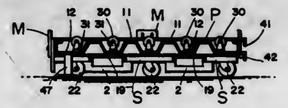
A vehicle for picking up and transporting containers, the vehicle having a spreader which has fixed thereto a plurality of downwardly and outwardly extending members, the members contacting the container to shift the position of the spreader relative to the container as it is lowered into a proper position so that the spreader and container may be locked together.

3,514,000
MOBILE TRUCKING EQUIPMENT
Melvyn C. Kolling, 351 Elm Ave., Elmhurst, Ill. 60126; Allen Klitzke, 1200 SW. Fairview, Park Ridge, Ill. 60068; and Roderick H. Hein, 125 W. 3rd St., Elmhurst, Ill. 60126
Continuation of application Ser. No. 585,568, Oct. 10, 1968. This application Mar. 3, 1969, Ser. No. 805,110
Int. Cl. B60p *1/44*
U.S. Cl. 214—502 **23 Claims**



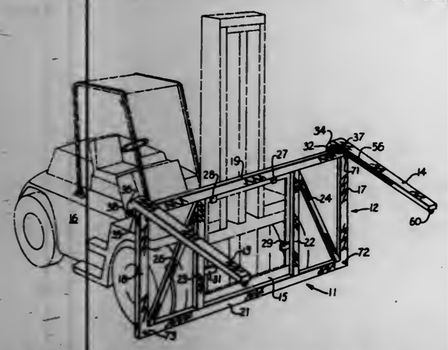
Transverse pivot connections at the rear end of a load support are themselves pivoted, as by radius rods, about a horizontal transverse axis near the front end of the support. Hydraulic jack means provide precise adjustment of the height to which the rear end of the load support may be raised. The front end of the load support may be independently lifted up by other independently adjustable hydraulic jack means at the front end, to lift the front end by rotation around a rear end pivot on the load support. A supplemental feature is a rear gate pivoted on the load support on a transverse pivot at the rear end. The same jacks that lift the rear end of the support can go on down after the load support is at rest on the chassis, and let the gate open, first in rearward and downward rotation into a coplanar extension of the load support floor, and subsequently vertically downward without rotation to a receiving level close to ground level. All these operations are selectively controlled by a single operator standing on the ground beside the rear end of the load support.

3,514,001
FREIGHT PALLET CARRIER
Clifford A. De Meritt, Miami, and Edward E. Brush, Coral Gables, Fla., assignors to Jet-Avion Corp., Hialeah, Fla., a corporation of Florida
Filed Aug. 20, 1968, Ser. No. 754,084
Int. Cl. B66f *9/12*; B60p *1/00*
U.S. Cl. 214—620 **3 Claims**



A multi-purpose pallet carrier for aircraft which may be used as a unit, or bolted in pairs or in sequence as a conveyor for receiving pallets thereon having a plate member consisting of alternate hills and valleys extending from one side to the other with a plurality of casters mounted in the lower surface of the valleys and smaller casters mounted on the upper surface of the valleys, reinforcing members secured to the plate member consisting of elongated straps secured to the top surfaces of the hills and extending from the front to the rear of the plate member and of enlarged channels extending from the front to the rear and from side to side where not interrupted by the first named channels, all the channels being secured to the lower surface of the valleys and having fork lift windows mounted on the ends of the channels, connecting plates mounted on the ends of the elongated straps and enlarged channels at the rear of the plate member, and a plurality of adjustable stop members mounted on the pallet carrier along the edge portions to secure pallet containing freight on the pallet.

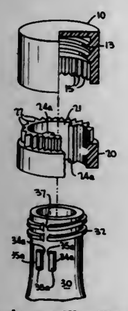
3,514,002
ANTIRACKING CONTAINER LIFT FRAME
Theodore H. Allegri, Novelty, Ohio, and Robert G. Neer, Salem, and Norman D. Thompson, Dallas, Oreg., assignors to Towmotor Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 16, 1967, Ser. No. 675,635
Int. Cl. B66f 9/18
U.S. Cl. 214—621 5 Claims



A frame for lifting and moving large transportation containers is provided. The lift frame is adapted for easy attachment and detachment to large size fork trucks. A vertical frame is provided with fittings at each lower corner suitable for mating with the lower corner fittings of the container. Transversely extending supporting and clamping arms are fitted to the upper corners of the frame. These transverse supporting and clamping arms have latching means at the outer ends thereof which latching means are adapted to engage the upper corner fittings of the container distant from the lift truck. Additional container engaging means are provided at the inner portion of the transverse support arms, which means engage the upper inboard fittings of the container.

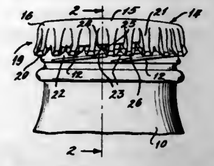
When properly positioned the lift frame of the invention engages the described corner fittings of a cargo container whereby said container may be lifted and moved by said truck.

3,514,003
SAFETY BOTTLE CAP
Millard C. Fitzgerald, Media, Pa. 19063
Filed Mar. 11, 1968, Ser. No. 712,004
Int. Cl. B65d 55/12, 45/32
U.S. Cl. 215—9 9 Claims



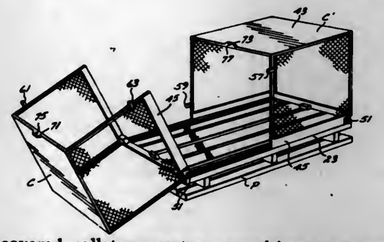
A bottle cap which is readily "locked" against unauthorized opening, especially by children, operates by virtue of a selectively engageable locking means. When engaged, these locking means prevent rotation, and therefore unscrewing, of the cap. The locking means may be engaged by moving axially along the neck of the bottle or by rotating into the plane of the screw thread on the neck.

3,514,004
CROWN CLOSURE HAVING PROTECTIVE EDGE MEANS
James O. Hammersmith, St. Louis County, Mo., assignor to Falstaff Brewing Corporation, St. Louis, Mo., a corporation of Delaware
Filed Jan. 9, 1969, Ser. No. 789,992
Int. Cl. B65d 41/10
U.S. Cl. 215—39 6 Claims



A container closure having a construction that avoids sharp edges and surfaces and makes it safer and easier to remove the closure by hand and is especially adapted for the twist-off closures that are crimped into place over threads formed around the pouring mouth of the container.

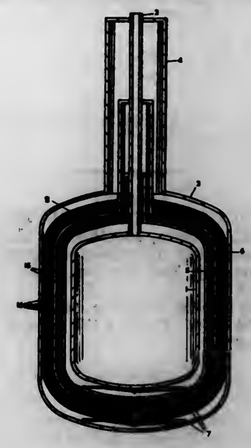
3,514,005
COVERED PALLET APPARATUS
Robert M. Irwin, 3249 Cherry Ave., Long Beach, Calif. 90806
Continuation-in-part of application Ser. No. 687,526, Dec. 14, 1967. This application Sept. 9, 1968, Ser. No. 769,774
Int. Cl. B65j 1/02; B65d 7/20, 9/12
U.S. Cl. 220—1.5 9 Claims



A covered pallet apparatus comprising a substantially flat pallet including first and second pairs of hinge elements at its opposite extremities, such hinge elements including confronting inwardly opening bolt receiving notches. A pair of cages are provided for forming a closure over the pallet and each includes a pair of axially aligned bolts which fit into the respective notches and are held captive therein when the cages are in their pallet covering position. The cages are pivotable around the axis defined by the bolts to open the pallet apparatus and locking means is provided for locking the upper adjacent portion of the cages together in the closed position.

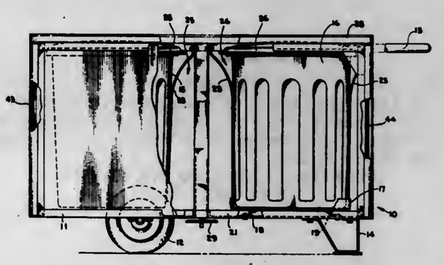
3,514,006
VACUUM INSULATED VESSELS
William Molnar, Southfields, England, assignor to The British Oxygen Company Limited, a British company
Filed May 9, 1967, Ser. No. 637,141
Claims priority, application Great Britain, May 19, 1966, 22,257/66
Int. Cl. B65d 25/00
U.S. Cl. 220—14 4 Claims

A vacuum insulated vessel for the storage and transport of low temperature materials comprises an inner container separated from an outer shell by an evacuated inter-space, and at least one gas-cooled shield located in the inter-space by attachment to the neck of the inner container. The space between the inner container and its adjacent gas-cooled shield is left void, and the space between the outer shell and its adjacent gas-cooled shield is filled with an insulant. The insulant may be of the wrapped type comprising layers of low conductive material



alternating with layers of heat reflective sheet material or alternatively, may be formed of a powderous material. If more than one gas-cooled shield is used the space or spaces between the shields may be filled with insulant or left void as required.

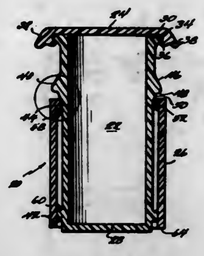
3,514,007
GARBAGE HIDEAWAY
Milton Brice Woods, Sr., 2611 Chelsea St., Orlando, Fla. 32803
Filed Mar. 14, 1968, Ser. No. 713,222
Int. Cl. B65d 25/00, 43/16
U.S. Cl. 220—15 1 Claim



This invention provides an effective mobile receptacle for one or more garbage or trash cans, which assures that the lids will be kept upon the cans at all times except during filling and emptying procedures, with the removal of the cans from the device being such an uncomplicated matter that the garbage men and/or trash men can reasonably be expected to use the device in the intended manner.

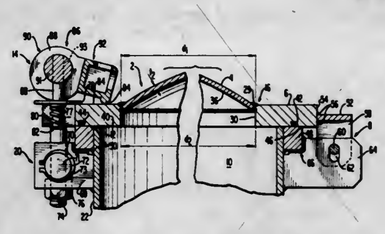
3,514,008
COMBINATION PILL CONTAINER AND DRINKING CUP
Phillip K. Dorn, 117 Patricia Lane, Utica, N.Y. 13501
Filed Dec. 13, 1968, Ser. No. 783,502
Int. Cl. B65d 7/24
U.S. Cl. 220—8 4 Claims

A combination pill container and drinking cup wherein an outer sleeve is mounted on a pill container and axially slidable from a retracted storage position to an extended position when the pill container is inverted with



the sleeve serving as a drinking cup in the extended position.

3,514,009
PRESSURE VESSEL ASSEMBLY INCLUDING A WELDED LID
Robert B. Emery and Gail F. Davis, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Nov. 19, 1968, Ser. No. 777,129
Int. Cl. B65d 43/16, 51/10
U.S. Cl. 220—32 16 Claims

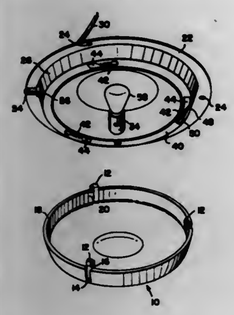


A pressure vessel assembly including a vessel body, a pivotally mounted lid, and cam lid fasteners. The lid is an integral ductile steel member formed of a relatively thin, lightweight, dished head portion having a substantially circular edge that is welded in line contact with an internal substantially cylindrical surface of a thicker flange portion adjacent the upper part thereof. The flange is provided with a plurality of generally U-shaped fastening lugs circumferentially spaced about its outer periphery. Each fastening lugs is adapted to receive a longitudinal shaft member mounted on the periphery of the vessel body. Eccentric cams pivotally associated with each shaft are operable against spring biased plates to hold the lid in latched position.

3,514,010
LAMP HOUSING
Robert R. Rossi, Audubon, N.J., assignor to Arrow Safety Device Company, Mount Holly, N.J., a corporation of New Jersey
Filed Sept. 5, 1967, Ser. No. 665,327
Int. Cl. B65d 41/06
U.S. Cl. 220—40 1 Claim

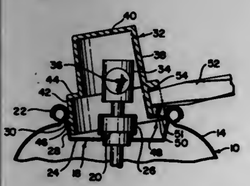
A lamp housing for vehicular dome light having a sheet metal backing, to which is attached a translucent cover. The backing is provided with a plurality of slots, parallel to and adjacent to which are provided ramps. At the end of each ramp, a depression is provided. At the end of each slot, an enlarged opening is provided for the insertion of hook-shaped elements molded integrally with the translucent cover. Attachment of the cover is accomplished by inserting the hook-shaped elements into the

enlarged openings, and rotating the cover so that the ends of the hook-shaped elements ride up the respective ramps



and fall from the ramps onto the depressions to provide a secure closure.

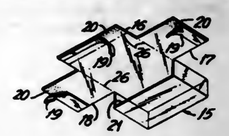
3,514,011
TAMPER-PROOF CLOSURE FOR SPRAY CANS
John W. Madeira, Akron, E. Ross Fox, Middleburg Heights, and Larry M. Albright, Berea, Ohio, assignors to Plasti-Kote Corporation, Medina, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 716,545, Mar. 27, 1968. This application Feb. 6, 1969, Ser. No. 801,919
Int. Cl. B65d *43/10, 51/18*
U.S. Cl. 220—60 9 Claims



Disclosed is a tamper-proof closure for enclosing and sealing the valve structure of a spray can. The closure is adapted to be held in position on the can by engagement of an external circumferential snap-in flange of the closure with an annular wall of the can and valve assembly. The closure comprises a tubular skirt section having an external circumferential snap-in flange formed at its lower edge. A coaxial tubular valve covering body section is interconnected with the skirt section by a radial shoulder. A tool access opening is defined in the skirt section to receive a suitable tool. A retaining wall extends across the access opening and is disposed radially inwardly of the outside surface of the skirt section to prevent entry of the tool into the interior of the closure in the vicinity of the spray valve and actuator. The closure is removed from the spray can as by inserting the end of a tool in the tool access opening and thereafter lifting a portion of the closure from the can.

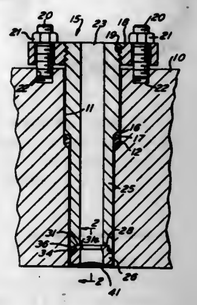
3,514,012
PAINT TRAY COVER
George S. Martin, R.D. 3, Canopus Road, Peekskill, N.Y. 10566
Filed Sept. 26, 1968, Ser. No. 762,887
Int. Cl. B65d *25/14*
U.S. Cl. 220—63 4 Claims

A disposable liner for use in paint trays in connection with the application of paint to a paint roller, said liner being constructed from a flexible, thin gauge sheet plastic. The liner includes a means for securing it against move-



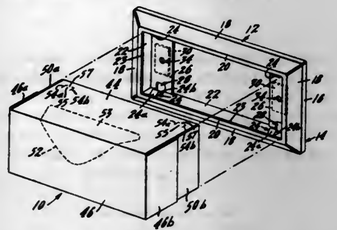
ment around the paint tray while the paint roller operates in the well of the paint tray.

3,514,013
RUPTURE PORT SLEEVES
Robert C. Wolf, Hatboro, and Rush B. Gunther, Abington, Pa., assignors, by mesne assignments, to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York
Filed July 26, 1968, Ser. No. 748,055
Int. Cl. B65d *25/00, 17/00;* F17b *1/14;* F17c *13/06*
U.S. Cl. 220—89 9 Claims



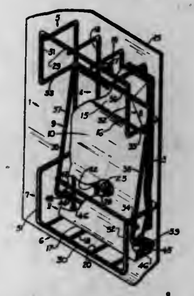
A rupture port sleeve is provided having a removable end portion on which a pressure rupturable disc is carried, the end portion being retained in place and having seals. The end portion has an internal shoulder to facilitate removal.

3,514,014
FRAME HOLDER AND CARTON THEREFOR
George Victor Skowronski, Neenah, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed June 17, 1968, Ser. No. 737,677
Int. Cl. A47k *10/24*
U.S. Cl. 221—46 7 Claims



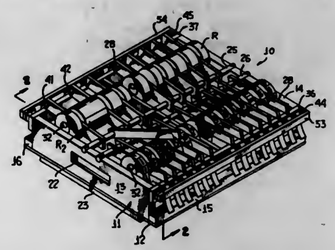
A rectangular dispenser carton is telescopically received in a rigid holder so as to be supported in cantilever fashion from a wall or other rigid support. The rigid holder is provided with a plurality of stationary locking members which engage a like number of locking slits in the top and bottom panels of the dispenser carton in locking abutment when the carton is telescoped into the rigid holder.

3,514,015
PAPER BAG DISPENSER
Lester W. Hein, 1526 E. Alton, Independence, Mo. 64055
Filed July 22, 1968, Ser. No. 746,573
Int. Cl. A47k *10/24*
U.S. Cl. 221—47 1 Claim



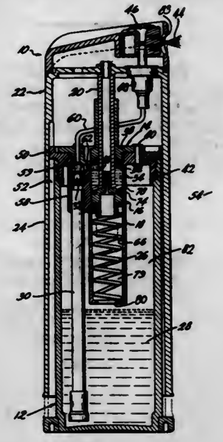
A device for dispensing a single bag from a stack of folded paper bags is formed of an open wire basket having a bed and opposed ends and opposed sides substantially at right angles to each other for receiving the stack of folded paper bags. Bag holding means are pivotally mounted on the dispenser and yieldingly engage the foremost or top bag in the stack. The bed has means therein for receiving support projections extending outwardly from a support surface whereby the dispenser is supported against movement during removal of said foremost bag from said stack.

3,514,016
LABEL DISPENSING MACHINE
Ernest W. Hackney, Nashville, Tenn., assignor to E. W. Hackney Industries, Inc., Nashville, Tenn., a corporation of Tennessee
Filed Mar. 8, 1968, Ser. No. 711,685
Int. Cl. B65h *5/28*
U.S. Cl. 221—70 10 Claims



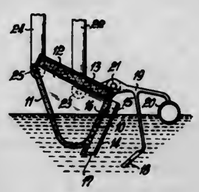
This disclosure relates to a label dispensing machine having a plurality of individually pivotally mounted roll-supporting arms which are movable between a dispensing position at which the roll-supporting arms are disposed in a generally common plane and a non-dispensing position removed from the plane whereby rolls of varying axial thicknesses can be supported between a selected pair of the arms by pivotally moving an arm normally disposed therebetween to its non-dispensing position. Means are provided for breaking away and stripping successive labels from a carrier strip in roll-form carried by the roll-supporting arms. The machine also includes a spacer arm disposed generally parallel to and between a pair of the roll-supporting arms, and means mounting the spacer arm for movement to an out-of-the-way position whereby a roll can be positioned between and supported by the last-mentioned pair of roll-supporting arms.

3,514,017
PRESSURE REGULATING STRUCTURE FOR PISTON PUMP
Carl E. Malone, Fort Lauderdale, Fla., assignor to The AFA Corporation of Florida, Miami, Fla., a corporation of Florida
Filed Mar. 3, 1969, Ser. No. 803,686
Int. Cl. G01f *11/06*
U.S. Cl. 222—321 10 Claims



An end-of-stroke pressure release mechanism for a liquid pressurizing pump having a piston reciprocable in a cylinder for pressurizing a body of liquid in the pump chamber of the cylinder. Gradual drop off in pressure as the piston reaches the end of its pumping stroke is prevented by a bypass pressure release passage which connects the pump chamber with a zone of lower pressure when the pump piston has travelled substantially to the end of said stroke. An O-ring seal carried by the piston cooperates with the bypass passage and serves as a valve for opening and closing the passage whereby pump chamber pressure is rapidly relieved and then the bypass passage is resealed for the subsequent intake stroke of the piston.

3,514,018
EQUIPMENT FOR MECHANICAL CHARGING CASTING APPARATUS
Albrecht Petig, Wuppertal-Langerfeld, and Karl Apelt, Wuppertal-Barmen, Germany, assignors to Dr. Schmitz & Apelt Industrieofenbau G.m.b.H., Wuppertal-Langerfeld, Germany
Filed Jan. 4, 1968, Ser. No. 695,621
Int. Cl. G01f *11/10*
U.S. Cl. 222—358 6 Claims



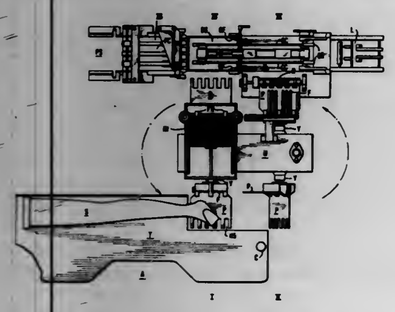
Equipment for mechanically charging casting apparatus such as casting machines, moulds, chills and the like, comprises a scooping apparatus arranged to take a quantity of metal from a molten bath, transport it to the in-gate of the casting apparatus and feed it into the latter, the scooping apparaus including a ladle supported on a movable

structure for tipping movement, in which equipment the ladle comprises a rising pipe forming an inlet passage, with a bottom inlet for the entry of the melt and a higher outlet which establishes a connection with the interior of the ladle, the arrangement being such that the vertical distance between the outlet and the bottom of the ladle during the ladling process determines the amount of material picked up during such process. The rising pipe may be an external pipe or an internal pipe.

3,514,019
HOSIERY MACHINE

John W. Glaze, Jr., Joseph P. Worth, and James C. Wilson, Charlotte, N.C., assignors to Autoboard Corporation, Charlotte, N.C., a corporation of North Carolina

Filed Dec. 22, 1966, Ser. No. 604,016
Int. Cl. A41h 43/00
U.S. Cl. 223—1 49 Claims

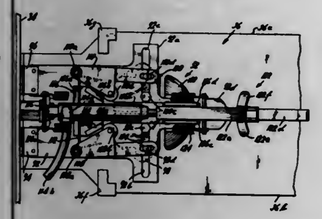


Hosiery is folded by placing it against a rotatable plate at an input station, rotating the plate and moving the axis of rotation of the plate away from the input station.

3,514,020
COLLAR CLAMP FOR SHIRT-FOLDING MACHINE

Frank C. Lorenzo, Pawtucket, R.I., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware

Original application July 13, 1964, Ser. No. 382,007, now Patent No. 3,419,199, dated Dec. 31, 1968. Divided and this application Sept. 10, 1968, Ser. No. 810,046
Int. Cl. D06c 15/00
U.S. Cl. 223—52.1 5 Claims

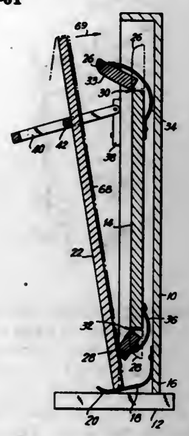


A shirt-folding machine including a frame and a clamp for shaping and clamping the collar of a shirt. The clamp includes a clamp carrier which is mounted on the frame and which moves in and out of a clamping position. The carrier has a pair of collar jaws which move from a retracted position, in which position they are inserted into the collar, to an expanded position in which position they engage the collar neckband. Actuating means are provided for moving the clamping jaws to their expanded position when the clamp moves to its collar clamping position.

3,514,021
APPARATUS FOR STRETCHING TROUSERS OR THE LIKE AND HOLDING THE SAME IN STRETCHED CONDITION

Jan E. P. de Dube, 34—36 80th St., Jackson Heights, N.Y. 11372

Filed Sept. 16, 1968, Ser. No. 762,260
Int. Cl. D06c 15/00
U.S. Cl. 223—61 5 Claims

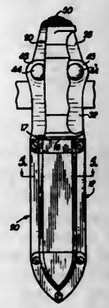


A device is provided for stretching trousers or the like and holding the same in stretched condition. The device consists of two members one of which is tiltable towards the other, which latter member includes elements mounted on hinges so as to be pivoted by engagement with the tiltable member, said elements being mounted in such a manner as to be displaceable away from one another so that the trousers are stretched in two directions disposed perpendicularly with respect to one another. In another form, only one direction of stretch is provided.

3,514,022
KNIFE SCABBARD

Edward A. Eastman, Independence, Mo., assignor to Locknife, Inc., Independence, Mo., a corporation of Missouri

Filed Nov. 1, 1968, Ser. No. 772,485
Int. Cl. F41b 13/04
U.S. Cl. 224—2 6 Claims

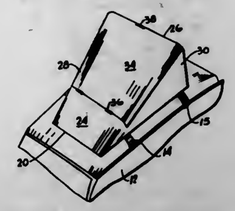


A scabbard for a knife having a blade-receiving pocket defined by a frontpiece and a backpiece. The backpiece extends from the mouth of the pocket and is stepped to present a downwardly facing rest to bear against the edge of a belt. A flap extends across the rest and has one end secured with releasable fasteners to permit installation or removal of the scabbard without removal of the belt.

3,514,023
ROOFTOP CARRIER

Fred D. Russell and George Clyde Brooks, both of 8131B White St., Del Rio, Tex. 78840

Filed Feb. 28, 1968, Ser. No. 709,062
Int. Cl. B60r 9/04; B60j 7/20
U.S. Cl. 224—42.1 4 Claims

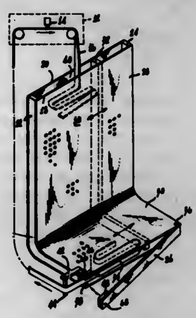


An aerodynamically designed automobile rooftop carrier which not only stores luggage but also reduces the air drag caused by a trailer that exceeds the height and width of the pulling car. This reduction is obtained by diverting the air flow over the trailer and around its sides.

3,514,024
TAPE BASKET STRIPPER APPARATUS

Charles G. Hawkins, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware

Filed Feb. 16, 1968, Ser. No. 706,039
Int. Cl. B65h 17/32
U.S. Cl. 226—97 8 Claims



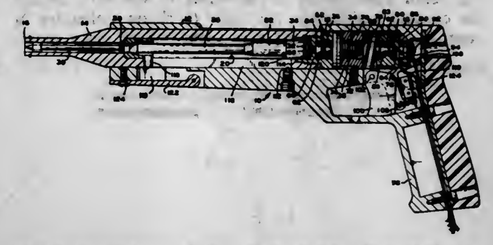
A basket for storing magnetic tape includes means adjacent the tape exit opening for preventing more than one strand of tape at a time from entering and passing through the basket exit opening.

3,514,025
POWDER ACTUATED TOOL

Yung Shing Hsu, Milwaukie, and Raymond V. Pomeroy, Portland, Oreg., assignors to Omark Industries, Inc., Portland, Oreg., a corporation of Oregon

Filed Oct. 30, 1967, Ser. No. 679,124
Int. Cl. B25c 1/12, 1/14
U.S. Cl. 227—10 14 Claims

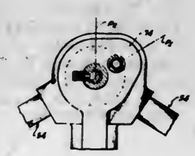
An explosively actuated tool adapted for driving a fastener device into a concrete wall or the like employs a charge or pellet of caseless explosive. The charge or pellet of explosive is placed between a power plug, communicating with the barrel of the tool, and an igniter plug carrying a relatively high resistance electrical conductor for contacting the exterior of the charge or pellet. When the tool is cocked, by urging the barrel thereof against a workpiece, electrical contacts complete a circuit from the aforementioned conductor to a triggerable current source. Operation of the tool trigger then supplies current to the conductor through the aforementioned contacts for raising the temperature of the conductor and the explosive to a value for igniting the explosive.



3,514,026
REPEATING PROPELLANT GAS POWERED DRIVING TOOL

David Dardick, Palos Verdes Peninsula, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

Filed Sept. 1, 1967, Ser. No. 665,133
Int. Cl. B25c 1/18
U.S. Cl. 227—11 21 Claims



A repeating propellant gas powered tool and ammunition therefor containing a propellant charge, the tool having a barrel and a breech mechanism at the breech end of the barrel for initially transporting an ammunition round from an ammunition magazine to firing position, selectively firing the round in firing position to drive a fastener into a workpiece, deliver a high energy impact to the workpiece, or perform some other propellant gas powered operations, and finally ejecting the spent cartridge case of the fired round, or the entire round in the event that the round is not fired.

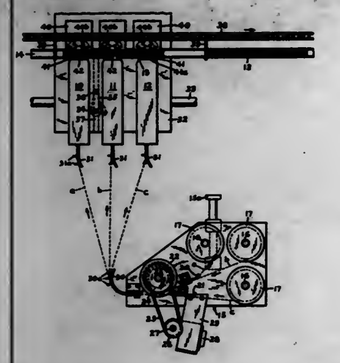
3,514,027
WIRE STITCHING APPARATUS

Gosta R. Linden, Park Ridge, N.J., assignor to Miehle-Goss-Dexter Incorporated, Chicago, Ill., a corporation of Delaware

Filed Dec. 6, 1967, Ser. No. 688,542
Int. Cl. B27f 7/06
U.S. Cl. 227—81 1 Claim

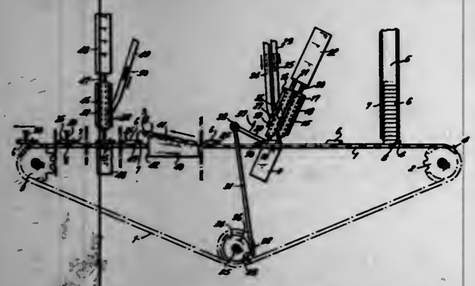
Apparatus for applying wire stitching or staples to booklets and the like with great uniformity in providing the desired length of the wire used in forming each staple or stitch. It incorporates a capstan feed device for supplying the desired lengths of wire to one or more stitching heads. The resistance to turning of the wire carrying spool, to prevent delivery of an excessive amount of wire as it is pulled from a spool, is obtained from the frictional engagement of the spool with a supporting surface by its own weight, or may be supplemented by a single adjustment of a spring force. The capstan is con-

stantly rotated but it is rendered active only as the wire is being advanced by the feeding mechanism of the stitching head. This results in tightening of the wire around the capstan and causes the latter to become effective in controlling the supply of wire from one or more spools



to their respective stitching heads. The feeding of the wire is uniform throughout the withdrawal of wire from spools which are relatively heavy at the start but become much lighter as the quantity of wire on the spools diminishes.

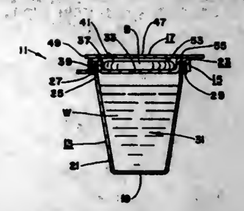
3,514,028
APPARATUS FOR MANUFACTURING PIN BOARDS
Adam V. Kowalczyk, 456 W. 35th St., New York, N.Y. 10001
Filed Oct. 11, 1965, Ser. No. 494,467
Int. Cl. B25c *5/00*
U.S. Cl. 227—99 16 Claims



Method and apparatus for manufacture of carpet tacking board comprising an endless belt conveyor for the raw board, a feeding station for introducing the board onto the conveyor, a pin inserting station wherein a plurality of arms, inclined to the vertical, drive pins until their upper ends are flush with the top of the boards, means for reversing the boards, and means for driving nails in the board so that the points thereof do not extend beyond the board.

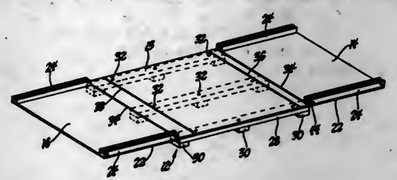
3,514,029
BREAD AND WINE COMPARTMENTED COMMUNION CONTAINER
Leo V. Powell, 700 Marianna St., Memphis, Tenn. 38114
Filed July 8, 1968, Ser. No. 743,144
Int. Cl. B65d *1/36, 85/00, 1/24*
U.S. Cl. 229—15 4 Claims

The compartmented communion container of the invention is in three separable parts including a cup-like lower element adapted to contain the wine, an intermediate element adapted to be removably secured over the cup-like lower element and having a recessed center portion adapted to contain the bread wafer or symbolic



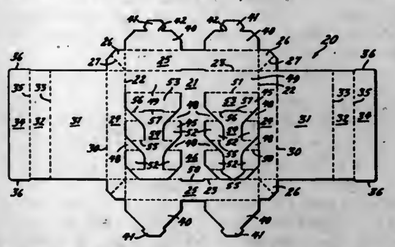
bread, and including a flat top element or cover sealingly secured on the intermediate element and arranged over the bread-containing-recess of the intermediate element.

3,514,030
SHIPPING CONTAINER
Hazen J. Carroll, Farmington, Mich., assignor to Carroll Container Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 19, 1968, Ser. No. 776,907
Int. Cl. B65d *19/00, 13/00*
U.S. Cl. 229—23 6 Claims



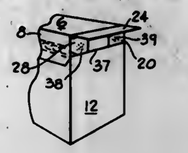
A collapsible shipping container comprising a wooden pallet, a single sheet of corrugated cardboard material defining a base secured to the pallet and a pair of end walls pivotable relative to the base between a collapsed position, where the walls are at least partially in overlapping relationship with one another and parallel to the base, and a container position, where the walls are in an upright position extending upwardly from the base. A post with a slot therein extends along each lateral edge of each end wall and a pair of independent side walls are disposed in the slots of oppositely facing posts in the container position to form a container.

3,514,031
QUICK-SETUP COLLAPSIBLE BOX
Frank H. Burgess, Landis Mill Road, R.D. 1, Telford, Pa. 18969
Filed Apr. 26, 1968, Ser. No. 724,485
Int. Cl. B65d *5/48*
U.S. Cl. 229—28 11 Claims



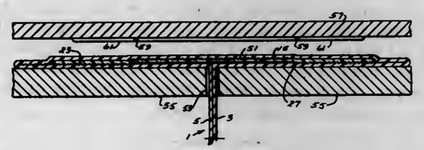
This invention is particularly concerned with collapsible boxes of the gang-lift partion type having quick-setup features.

3,514,032
TOP OPENING CARTON
Clarke B. Pierce, Milpitas, Calif., assignor to The Mead Corporation
Filed May 8, 1968, Ser. No. 727,444
Int. Cl. B65d *5/02, 5/22, 5/54*
U.S. Cl. 229—37 2 Claims



A folding box of the so-called trunk style having bottom, front, rear and lid panels is provided at each end with a bottom end panel foldably joined to an end edge of the bottom panel, a lid end panel foldably joined to the adjacent end of the lid panel, a front end panel foldably joined to the associated end of the front panel, a rear end panel foldably joined to the associated end of the rear end panel and normally disposed in overlapped face contacting relation with the adjacent one of said front end panels, a lid front panel foldably joined to the front edge of the lid panel, an end flap foldably joined to each end of the lid front panel and folded into flat face contacting relation with the associated front end panel, each end flap being configured along its lower edge so as to protrude below the bottom edge of the associated lid end panel and so as to extend underneath the upper edge of the associated bottom end panel, the lid and bottom end panels being disposed in the same plane and with their adjacent edges in close proximity to each other. A method of sealing the ends of the carton is employed wherein all end panels and flaps are closed initially and wherein certain panels are then opened and glued closed while the carton is moved continuously.

3,514,033
PLASTIC BAG WITH HANDLE
Ralph C. Goodwin, Wayzata, Minn., assignor to Bemis Company, Inc., Minneapolis, Minn., a corporation of Missouri
Filed Oct. 25, 1968, Ser. No. 770,708
Int. Cl. B65d *33/06*
U.S. Cl. 229—54 11 Claims

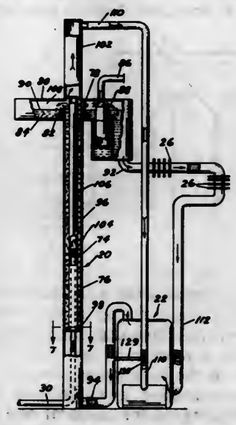


A plastic bag having a bottom closure (which may be a valved diamond-fold or satchel bottom closure) and a diamond-fold or satchel top closure in which the side flaps of the top closure are provided with a pair of slits extending alongside one another, the portion of the side flaps between these slits being free of the underlying portion of the top closure and constituting a handle, and a method of making such bags involving formation of the slits in the side flaps after they have been folded over and sealed together.

ERRATA

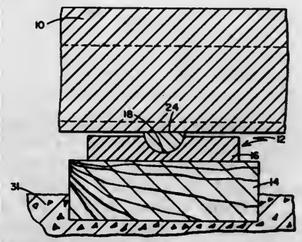
For Classes 235—61 and 235—88 see:
Patent Nos. 3,514,582 and 3,514,583

3,514,034
GAS-FIRED AND POWERED HEATING SYSTEM
Walton W. Cushman, 401 N. Penn St., Webb City, Mo. 64870
Filed Mar. 20, 1968, Ser. No. 714,649
Int. Cl. F24d *3/02*
U.S. Cl. 237—8 19 Claims



An automatic, self-modulating, gas-fired, gas-powered, forced-circulation residential or other hot water heating system, which is fully and efficiently operable without electricity or any other form of externally supplied power, other than the natural or other gas used for combustion, and includes a zone temperature-responsive control system which likewise requires no electricity or other external source of power.

3,514,035
RAILROAD RAIL SELF-ADJUSTING SUPPORT STRUCTURE
John Edward Hickey, Taunton, Mass., assignor to Bird Tie Pads, Incorporated, Taunton, Mass., a corporation of Massachusetts
Filed Feb. 7, 1968, Ser. No. 703,747
Int. Cl. E01b *9/00, 9/42*
U.S. Cl. 238—306 4 Claims

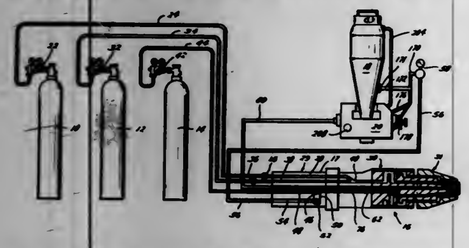


Railroad rail supported on upper flat surface of semicylindrical element, the bottom curved surface of which rests in a correspondingly curved groove in a tie plate secured to a tie, for automatic self-adjustment of the rail with respect to the tie.

3,514,036
FLAME SPRAYING EQUIPMENT
Horace V. Smith, Sr., and George M. Clark, Houston, Tex., assignors to Powder Weld International Corporation, Houston, Tex., a corporation of Texas
Filed Dec. 14, 1967, Ser. No. 690,455
Int. Cl. B05b *7/00*
U.S. Cl. 239—85 14 Claims

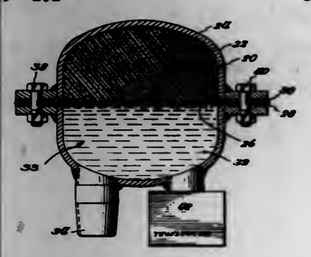
The present invention relates to apparatus for flame

spraying powdered material, and more particularly, to improved torch and powder supply equipment and to systems utilizing the improved equipment for flame spraying powdered material. An improved torch assembly is utilized which provides for a better gas mixture and for heat exchange means. Interior and exterior feeding of the material to the torch flame is incorporated as well as



concentrically disposed tubes for conveying the powdered material with reduced fusing to the torch. An improved powdered material container and proportioner is employed to give a more even and controlled dispersion of the material in the carrier gas stream and remote control means are utilized to control the feed of powder. Improved bonding of the material and a reduced pressure for the carrier gas is brought about by the improved system.

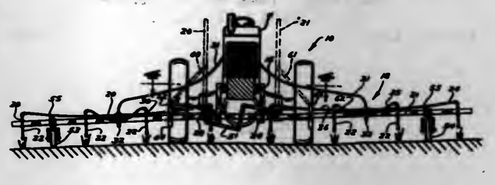
3,514,037
PULSE JET AMPLIFIER
Louis McDonald, Altadena, Calif., assignor to Kelite Chemical Corporation, Los Angeles, Calif., a corporation of Delaware
Filed Jan. 26, 1968, Ser. No. 700,764
Int. Cl. B05f *1/08*
U.S. Cl. 239—101 **8 Claims**



Device for amplifying fluid and other mechanical pulses of an essentially non-compressible nature at elevated pressure and without the addition of external energy. The device is characterized by a hollow chamber completely filled with a particular dilatant plastic characterized by elastic recovery from deformation under stress, said recovery being a function of the rate of application of the stress. Silicone putty is illustrative of the plastic. The device also includes means for transmitting the incoming pulses to the plastic and receiving an amplified pulse therefrom.

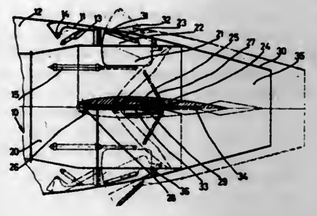
3,514,038
ADJUSTABLE SPRAY UNIT
Alvin E. McQuinn, Minneapolis, Minn., assignor to Ag-Chem Equipment Co., Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 14, 1968, Ser. No. 705,475
Int. Cl. B05b *1/20*
U.S. Cl. 239—165 **9 Claims**

Spray apparatus comprising a spray boom having means for coupling to a source of spray composition under pressure, the boom having right and left laterally extending arms, each arm having a plurality of spray heads arranged in spaced spray discharge relationship therealong, each of the arms being coupled at its inner end to a com-



mon carrier member, the carrier member defining a common transverse axis for the spray boom and means for reciprocably moving each of said arms toward and away from said common transverse axis.

3,514,039
JET FLOW CONTROL APPARATUS FOR AN AIRCRAFT
Gerhard Kopp, Munich, Germany, assignor to Entwicklungsring Sud G.m.b.H., Munich, Germany
Filed Nov. 29, 1967, Ser. No. 686,543
Claims priority, application Germany, Dec. 20, 1966, E 33,066
Int. Cl. B64c *15/06*
U.S. Cl. 239—265.31 **5 Claims**

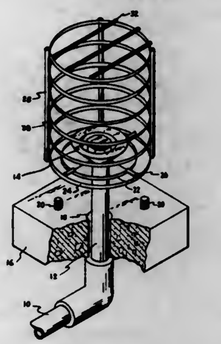


The invention concerns an apparatus for reducing the flow of jet gases through the exhaust nozzle of an aircraft. Corresponding to axial movement of the nozzle away from the exhaust pipe of the aircraft, deflection flaps mounted within the exhaust pipe are caused to move to a position so as to obstruct the gas flow therethrough. Additionally, guide flaps located about the terminal periphery of the exhaust pipe are caused to simultaneously move outwardly away from the surface of the nacelle of the aircraft allowing a portion of the exhaust gases to bypass the exhaust nozle and thus serving to reduce the jet gas pressure within the exhaust pipe and produce a decelerating thrust. The apparatus provides a smooth and efficient means for gradually reducing the flow of the jet exhaust stream during deceleration.

3,514,040
SPRINKLER CAGE
Monte A. Carson, 4512 Bates Drive, Yorba Linda, Calif. 92686
Filed Dec. 5, 1967, Ser. No. 688,066
Int. Cl. A01g *25/00*; B05b *15/06*
U.S. Cl. 239—288.5 **7 Claims**

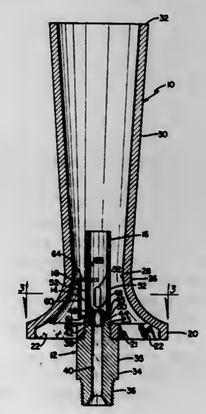
The invention comprises a protective cage and base assembly for positioning on a sprinkler in a fixed or permanent sprinkler system. The cage prevents theft or tampering with the sprinkler which is positioned on a conventional riser that extends through an opening in the base. The hole is of a smaller diameter than the radial dimensions of the sprinkler so that the base and cage can not be readily removed from the sprinkler. In preferred embodiments, the cage position

on the base is adjustable, with rotational movement and, optionally, with vertical movement to permit setting



of the cage to a spacial position that will provide the minimum interference with the spray pattern of the sprinkler.

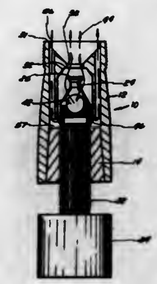
3,514,041
INSPIRATOR BURNER
Harvey G. Van Rooyen, Westminster, Colo., assignor to Denver Fireclay Company, Denver, Colo., a corporation of Delaware
Filed Apr. 24, 1967, Ser. No. 639,920
Int. Cl. B05b *7/08*
U.S. Cl. 239—427.3 **6 Claims**



The burner is of the inspirator type characterized by an outer venturi-shaped shell, or primary inspirator, a gas discharge orifice located at the base of the shell, and a slotted burner tube is located for upward projection from the orifice through the throat region of the shell to improve the flame characteristics and promote optimum combustion over a wide temperature range, but with particular reference to solving difficulties of proper combustion in the lower temperature and pressure range.

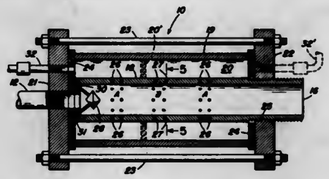
3,514,042
MULTIPLE PURPOSE HOSE NOZZLE
Marvin J. Freed, 25547 Lincoln Terrace Drive, Oak Park, Mich. 48237
Filed Aug. 21, 1967, Ser. No. 662,003
Int. Cl. B05b *1/30*
U.S. Cl. 239—458 **11 Claims**

A multiple purpose nozzle which can be connected directly to a sprinkler, additional hose extension or the like



to serve as a connector and which can also be used as a standard spray nozzle or as a soaking nozzle.

3,514,043
FLUID ENERGY MILL FOR MILLING FRIABLE MATERIALS
Richard A. Slepetys, Bricktown, N.J., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 4, 1967, Ser. No. 658,526
Int. Cl. B02c *19/06*
U.S. Cl. 241—5 **17 Claims**



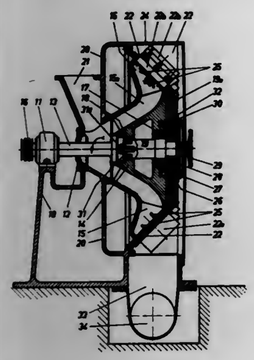
The present invention relates to a fluid energy mill for milling friable materials by utilizing a plurality of individual streams of high velocity milling fluid directed into a substantially straight tubular milling chamber from rings of jet apertures surrounding said milling chamber and spaced along the length thereof wherein the streams of milling fluid from some of said jet apertures enter the tubular milling chamber substantially perpendicular to its longitudinal axis and others make an acute angle to the longitudinal axis of said milling chamber.

The term friable material, as used herein, will be understood to include graphite, mica, clay, gypsum, organic and inorganic pigments and similar pulverizable particulate materials and for purposes of illustration has special reference to a TiO_2 pigmentary material.

3,514,044
WOOD COMMINUTOR
Balthas Maier, Brackwede, Westphalia, Germany, assignor to Dr.-Ing. Gerhard Maier, Brackwede, Westphalia, Germany
Filed June 26, 1967, Ser. No. 648,671
Int. Cl. B02c *18/00, 19/00*; B07b *7/06*
U.S. Cl. 241—51 **7 Claims**

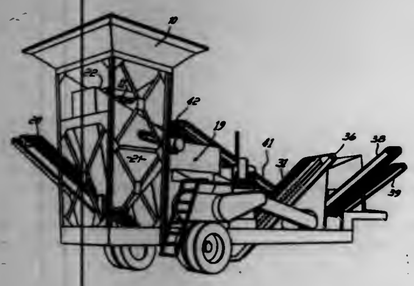
Apparatus for finely and uniformly cutting up wood chunks or chips. The comminuted wood is fed to a hopper which discharges it to a rotary impeller having outwardly-

directed flared channels. The ends of the channels run inside a stationary ring of adjustable cutters against which the chips are pressed by centrifugal action, and the re-



duced material is sucked away from the backs of the cutters. The cutter faces may lie on a flat surface, a cylindrical surface, or a frusto-conical surface.

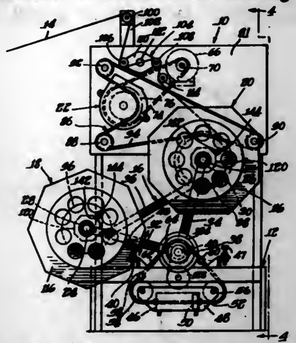
3,514,045
APPARATUS FOR CONVERTING PEA GRAVEL INTO USEFUL AGGREGATE
George L. Sellars, Terrace Park, Ohio, assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 11, 1967, Ser. No. 666,733
Int. Cl. B02c *17/08*
U.S. Cl. 241—208 7 Claims



Apparatus for cracking pea gravel into useful aggregate comprising (a) a pair of planar jaws, (b) an eccentrically rotatable shaft between the jaws, (c) a drum carried by the shaft, the drum being freely rotatable about the shaft, and (d) a braking device for restraining rotational movement of the drum in the same direction as the eccentric shaft rotates.

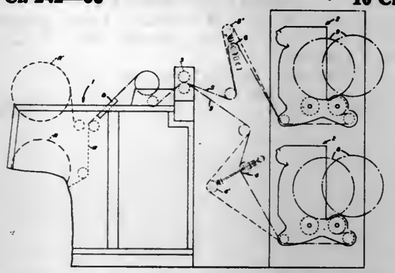
3,514,046
WINDUP REEL MECHANISM
William Donald Stockdale, Arlington Heights, and Robert John Jurin, Chicago, Ill., assignors to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Oct. 25, 1968, Ser. No. 700,764
Int. Cl. B65h *75/00*
U.S. Cl. 242—64 11 Claims

An apparatus including a pair of windup reels selectively positionable to be driven for winding up a strip of



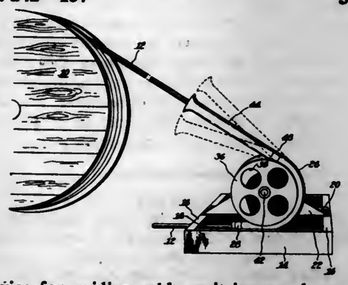
material received from an adjacent processing apparatus.

3,514,047
AUTOMATIC WINDING METHOD AND DEVICE
Howard R. De Mallie and Thomas J. Perconti, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 9, 1968, Ser. No. 766,187
Int. Cl. B65h *17/12, 19/18*
U.S. Cl. 242—66 10 Claims



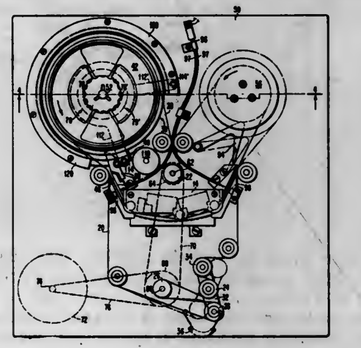
An apparatus including a unitized surface windup device for automatically introducing a core within the nest of the winding drums, cinching the end of a web around the core, winding the web onto the core to form a roll, and ejecting the wound roll from the nest. A method for automatically attaching the trailing end of a web to the outer convolution of a wound roll and a method for automatically cleaning the winding drums.

3,514,048
CABLE FEED APPARATUS
Nicholas Jerry Lowery, West Babylon, N.Y. (300 Driftwood Drive W., Baywood Village, Palm Harbor, Fla. 33563)
Filed Jan. 22, 1968, Ser. No. 699,648
Int. Cl. B65h *57/12*
U.S. Cl. 242—157 5 Claims



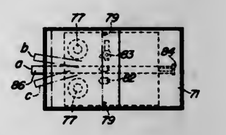
A device for guiding cable as it is wound onto or unwound from a drum while maintaining a suitable angle of feed and a suitable amount of tension.

3,514,049
STRIP RECORD MEDIUM CONTACT BELT DRIVEN TRANSPORTS
Dale Darwin Decker, San Jose, and Daniel Martin Roberts, Saratoga, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 10, 1968, Ser. No. 766,424
Int. Cl. G03b *1/04*; G11b *15/32, 23/04*
U.S. Cl. 242—192 12 Claims



In a transport for a strip record medium (such as magnetic or paper tape or photographic film or similar strip record medium) of the self threading reel-to-reel type driven by a belt looped over a drive capstan and the magnetic tape on the reels, a sealed supply reel is released from the drive belt for removal from and replacement on the transport by interposing a resilient band between the supply reel and the drive belt to locate them slightly beyond the periphery of the supply reel. The supply reel is arranged with a recessed finger grip about the hub for ease in the removal and replacement of the sealed supply reel when released from the drive belt. Automatic threading is enhanced by a wobblable flange on the takeup reel accommodating a leader wider than the tape in opposing annular grooves in the flanges about the hub of the takeup reel.

3,514,050
FAST FORWARDING AND REWINDING MECHANISM IN TAPE RECORDER OF MAGAZINE TYPE
Kozo Yamamoto, Hirakata-shi, and Toshio Kawada, Neyagawa-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Feb. 26, 1968, Ser. No. 708,153
Int. Cl. G03b *1/04*
U.S. Cl. 242—198 12 Claims



A tape recorder of the magazine type having means which permit a slight movement of the magazine in a direction different from the inserting direction of the magazine into the tape recorder casing, so that the tape can freely be rewound or fast forwarded without interference by the recording and reproducing mechanism.

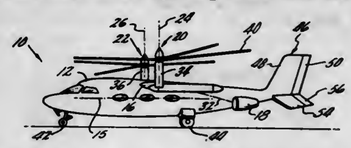
3,514,051
VERTICAL TAKE-OFF AND LANDING AND ENGINE MEANS THEREFOR
Genaro C. Celayan, 317½ N. Beaudry Ave., Los Angeles, Calif. 90012
Filed Oct. 30, 1967, Ser. No. 679,599
Int. Cl. B64c *27/30*
U.S. Cl. 244—7 6 Claims



A vertical lift aircraft has foldable rotor blade arrangements tiltably mounted for rotation with the conventional prime-moved aircraft engine, such as a turbo jet engine, on both wings on opposite sides of the aircraft fuselage. The rotor blade arrangements are rotated in the wing structures with the prime-mover engines to an upright position with the rotor blades extended to be driven through a selectively engageable coupling from the main shaft of the aircraft engine to provide a vertical lift in addition to that provided by the aircraft engine itself during vertical take-offs and landings. For level flight, the rotor blade arrangement is disengaged from rotation by the main shaft at the engine, and rotated with the blades folded along with the engine to a horizontal position.

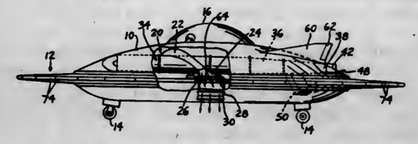
3,514,052
CONTROL SYSTEM FOR AIRCRAFT HAVING LATERALLY OFFSET ROTORS
John C. McKeown, Wilkes-Barre, Pa., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 25, 1968, Ser. No. 700,545
Int. Cl. B64c *27/28*
U.S. Cl. 244—7 21 Claims

A control system for an aircraft having laterally offset rotors which are tiltable between vertical positions for helicopter mode of operation and horizontal positions for propeller mode of operation and which has roll, pitch and yaw control in both modes of operation with the yaw control in the helicopter mode constituting tilting the rotor pods in opposite directions while applying differential longitudinal cyclic pitch to the rotors and



washing out the cyclic pitch in response to increased pod tilting.

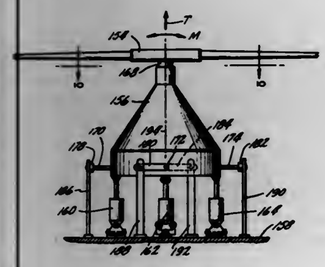
3,514,053
AIRCRAFT, ESPECIALLY OF THE VTOL TYPE
Gilbert R. McGuinness, 1596 Oakland Ave., Dayton, Ohio 45409
Filed Dec. 19, 1967, Ser. No. 691,755
Int. Cl. B64c *15/06*
U.S. Cl. 244—12 6 Claims



Aircraft, especially of the VTOL type, in which a disc-like fuselage has a bladed rotor concentrically mounted

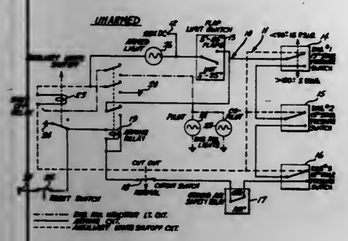
thereon in surrounding relation thereto with engine means in the fuselage for driving said rotor on the fuselage and for developing forward and maneuvering thrusts on said aircraft; the blades of said rotor extending radially and being tiltable on respective axes which extend radially.

3,514,054
VIBRATION ISOLATION SYSTEM
Kenneth C. Mard, Stratford, and Bernard G. Richitelli, Huntington, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 5, 1967, Ser. No. 643,518
Int. Cl. B64c 27/00
U.S. Cl. 244—17.27 11 Claims



This invention relates to a mounting system for a body, such as a wind tunnel model or a helicopter transmission, by which the vibrational loads in one plane or about axes in a common plane can be isolated from the mount while loads in other directions or about other axes can be transferred directly to the mount.

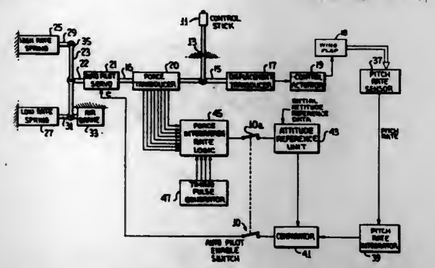
3,514,055
HIGH-SPEED, EMERGENCY, AUTOMATIC AUXILIARY UNITS SHUTOFF SYSTEM
Mark C. Gregoire, Issaquah, Willis R. Lambert, Seattle, and Peter J. Rothermel and Derek Rouse, Bellevue, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed June 5, 1968, Ser. No. 734,754
Int. Cl. B64d 25/00
U.S. Cl. 244—53 21 Claims



An aircraft safety method and an apparatus for carrying out the method comprising circuits responsive to failure of an engine of a multi-engine aircraft for instantaneously disconnecting all auxiliary units or systems operating off the engines to thereby instantly increase the energy available for propulsion from the remaining engines any time during the crucial period of a take-off and the initial climb phase thereafter.

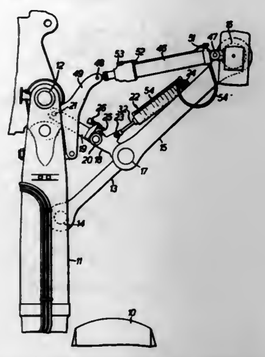
A modified system applied to a single engine aircraft is effective when only partial loss of power is experienced.

3,514,056
FORCE TRANSDUCER AND FORCE INTEGRATION RATE LOGIC
Carmine V. Di Camillo, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed Apr. 23, 1968, Ser. No. 723,534
Int. Cl. B64c 13/36, 13/40
U.S. Cl. 244—78 22 Claims



A force transducer includes a hollow pipe adapted to issue a fluid stream pivotally mounted on a frame and biased to a neutral angular position by a pair of springs secured to the pipe and frame. A plurality of outlet channels are formed in the frame at spaced locations for selectively receiving the fluid stream at corresponding angular positions of the pipe. Application of a differential force across the pipe and frame produces rotation of the pipe to provide appropriately weighted fluid output signals at the outlet channels as a function of the applied force. The weighted signals are received as input signals by respective AND gates and serve to selectively gate respective pulse trains having repetition rates which are related as a function of the weights of the fluid signals. Gated pulses are stored in a counter which provides an indication of the integrated applied forces.

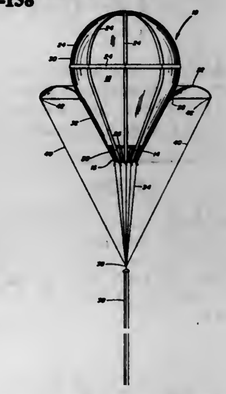
3,514,057
AIRCRAFT RETRACTABLE UNDERCARRIAGES
William B. Biggs, Cheltenham, England, assignor to Dowty Rotol Limited, Gloucester, England, a British company
Filed Dec. 14, 1967, Ser. No. 690,465
Claims priority, application Great Britain, Dec. 22, 1966, 57,467/66
Int. Cl. B64c 25/18
U.S. Cl. 244—102 6 Claims



A pivotally mounted wheel-carrying leg is braced when extended by a foldable strut, the in-line condition of which is maintained by a toggle linkage which is in turn urged to an in-line condition by a spring-loaded telescopic device, wherein the telescopic device includes two pistons

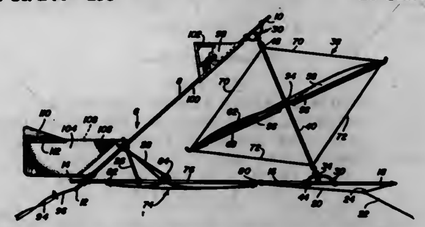
which are operated by fluid pressure when retraction is selected, one piston compressing the spring to relieve the toggle linkage of spring load, and the other piston acting to break the toggle and thus to commence folding the strut.

3,514,058
SELF-INFLATING RETARDATION AND FLOATATION DEVICE
George J. Sloan, Jr., and William P. Ludtke, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 3, 1968, Ser. No. 726,295
Int. Cl. B64d 17/04
U.S. Cl. 244—138 2 Claims



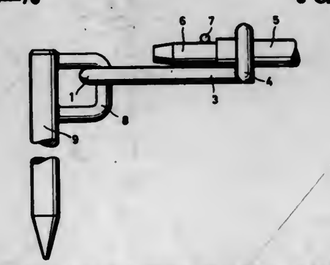
A self-inflating retardation and floatation device for recovery of a load which is ejected at a high altitude above a body of water. The device is basically a parachute for retarding the rate of descent of the load in the air and a floatation device for maintaining the load at the water surface at the end of the flight such that the load may be recovered. A rubber or plastic bladder having an open mouth portion is enveloped by a cloth cover member having a radially extending circumferential skirt member such that the combined drag areas of the bladder, cover member and skirt portion retard the rate of descent of the load during flight, and the bladder member which is ram-air inflated maintains the load at the surface of the water.

3,514,059
TURBOCOPTER KITE
Leo Aalto, 146 Belmont St., Worcester, Mass. 01605
Filed June 17, 1968, Ser. No. 737,593
Int. Cl. A63h 27/08; B64c 31/06
U.S. Cl. 244—153 10 Claims



A V-shaped yoke or frame is made of upper and lower bamboo or equally strong wooden rearwardly converging members. A first strut provides a rear brace. A second strut rigidifies a cross-stick or bow forming a part of a diamond-shape kite-like stabilizer which underlies and is carried by a median portion of the lower frame member. This wing-like stabilizer is situated forwardly of a tail-end fin-equipped steering rudder and rearwardly of a unique lifting rotor. This rotor functions as a helicopter, provides the chief support means and its shaft is oblique angled and is freely turnable in bearing brackets which are fastened to the free leading end portions of the respectively oriented frame members. In addition to a front fin and an optional tail the lower frame member is provided with a bridle to which the kite line is connected.

3,514,060
MEASURING HOSE MOUNTING DEVICE
Erich Hubinger, Neutershausen, Max Schneider, Wattenheim, and Horst Weimar, Heisternbach, Germany, assignors to ELMEG, Elektro-Mechanik G.m.b.H., Peine, Germany, a corporation of Germany
Filed Feb. 2, 1968, Ser. No. 702,692
Claims priority, application Germany, Feb. 2, 1967, H 57,881
Int. Cl. F16l 3/12, 7/00
U.S. Cl. 248—76 6 Claims



This invention relates to a mounting device for a hose, used in traffic counting mechanisms, which comprises a hook, a ring attached to one end of the hook, and a connecting tube having a tapered frusto-conical end, the ring having an inside diameter sufficient to permit passage of said hose therethrough but insufficient to permit the passage of the hose when the tapered frusto-conical end of the connecting tube has been inserted into the hose whereby the hose is mounted on said device by pulling the hose and tube into wedging relationship with the ring after the connecting tube has been inserted into the hose.

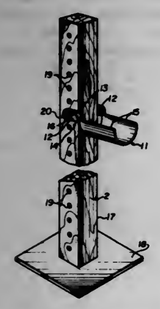
3,514,061
SUPPORT FOR A SACHET CONTAINING A LIQUID, POWDER OR SIMILAR PRODUCTS
Louis Doyen, 79 Rue de Bourgogne, Lyon 9°, Rhone, France
Filed Sept. 10, 1968, Ser. No. 758,804
Claims priority, application France, Nov. 17, 1967, 49,344
Int. Cl. B65b 67/12
U.S. Cl. 248—97 10 Claims



A support for a sachet containing a liquid product consists of an oval collar much less in height than the sachet, the lower edge forming a base. A crosspiece lies across the shorter diameter of the collar slightly spaced from the base. The base includes two slots on its longer diameter. The dimensions are such that a sachet can rest on the crosspiece so that its two lower corners protrude through

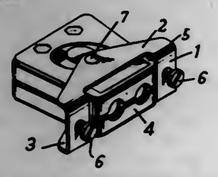
the openings and are gripped by the lower edge enabling the support to hold the sachet efficaciously. Stability is increased by a beading around the base. The support is advantageously made by moulding plastics material.

3,514,062
JUMP CUP
Jack Gordon, 79 Ramsdale Road, Madison, N.J. 07940
Filed Feb. 28, 1969, Ser. No. 803,368
Int. Cl. A47g 29/02
U.S. Cl. 248—248 2 Claims



Jump cups for holding bars for horses to pump over, in which a hemicylindrical cup is provided with coaxial, rearwardly extending slotted arms, the slots of which fit over pins on a post.

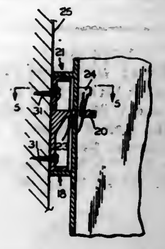
3,514,063
PANEL MOUNTING CLIPS
Betty R. Hollander, Stamford, Conn., assignor to Omega Engineering, Inc., a corporation of Delaware
Filed July 16, 1968, Ser. No. 745,146
Int. Cl. A47f 5/00
U.S. Cl. 248—309 1 Claim



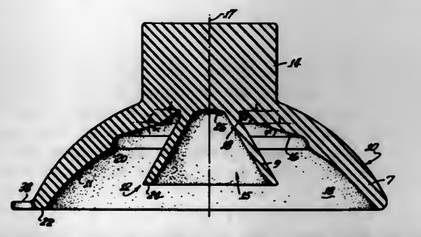
A clip for use in the mounting, on a panel, of a socket such as a thermo-couple socket comprises a single-piece body of sheet metal including a front wall and a base wall projecting at a right angle from an edge of said front wall, said front wall being apertured to receive a front portion of the socket and having other openings to receive means for attachment of the clip to a panel, and said base wall having an opening to receive means for attachment of the socket to the clip, a modification having a top wall projecting parallel to the base wall from an opposed edge of the front wall.

3,514,064
PILFER-PROOF, SELF-POINTING CONSTRUCTION FOR ATTACHING A RECEPTACLE ONTO A SURFACE
Jacob M. Katz, 225 E. 57th St., New York, N.Y. 10019
Filed July 1, 1968, Ser. No. 741,614
Int. Cl. A47k 5/10
U.S. Cl. 248—311 1 Claim

Two telescopically related box parts form a closed casing. The outer one extends from the receptacle wall and is deeper than the inner one which is adapted to be mounted onto a wall surface by screws inserted from the receptacle's interior. A cantilever tongue extending from the inner box part into the receptacle, has an elongated slot therealong into which a tapered key is frictionally fitted whereby the receptacle is firmly fixed, and the outer box part's rim "bites" into the wall surface. The receptacle is provided with a releasably secured cover.



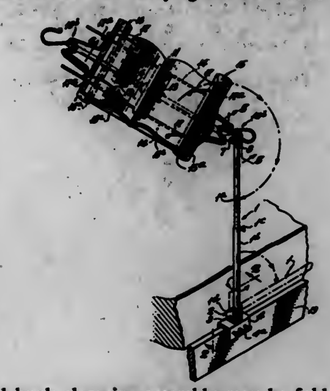
3,514,065
SUCTION CUP DEVICE
Arthur A. Litt, 6538 Gloria Ave., Van Nuys, Calif. 91406, and Ralph F. Donaldson, North Hollywood, Calif.; said Donaldson assignor to said Litt
Filed Sept. 18, 1968, Ser. No. 760,615
Int. Cl. F16b 47/00
U.S. Cl. 248—363 11 Claims



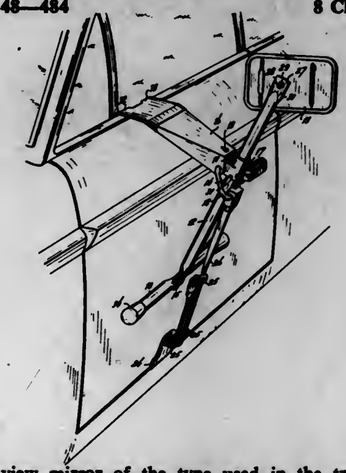
A suction cup device comprising one or more flexible inner suction cups projecting from and wholly disposed within the interior cavity defined by a flexible outer suction cup wherein there is defined by the interior wall surface of the outer suction cup an annular clearance concentric about each of said inner suction cups, such annular clearance being of sufficient dimension whereby, upon compression of the device against an object, the walls of the inner suction cups become substantially coincident with the interior wall surface of said outer suction cup. The suction cup device disclosed may further include a self-sealing air exhaust valve facilitating the exhaustion of air from the aforesaid interior cavity.

3,514,066
BOOK HOLDER FOR BEDREADER
Earl G. Singleton, 808 Gilbert St.; Charles L. Henley, 914 3rd St.; and Donald E. Henley, Rte. 1, Box 34, all of Radford, Va. 24141
Filed Apr. 8, 1968, Ser. No. 719,426
Int. Cl. A47b 23/02
U.S. Cl. 248—445 9 Claims

A book holder including a vertical rod having its lower end pivotally connected to a bracket which is pivotally connected to a clamp adapted to be secured to the side frame of a bed. A horizontal bar is pivotally connected to the upper end of the vertical rod, and a book clamping assembly is adjustably mounted on the horizontal bar. The book clamping assembly is adapted for universal movement to accommodate various reclining positions assumed by the user while reading in bed, and when not in use, the vertical rod carrying the horizontal bar and associated book clamping assembly may be folded to an inoperative position along the side of the bed.



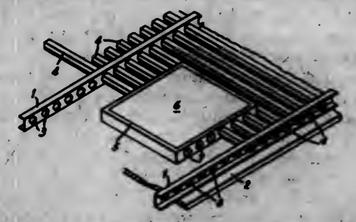
3,514,067
REAR VIEW MIRROR ADJUSTABLE SUPPORT
John C. Abromavage, Tempe, and James W. Ryden, Phoenix, Ariz., assignors to Arcon, Incorporated, Phoenix, Ariz., a corporation of Oregon
Filed July 11, 1968, Ser. No. 744,199
Int. Cl. A47g 1/24
U.S. Cl. 248—484 8 Claims



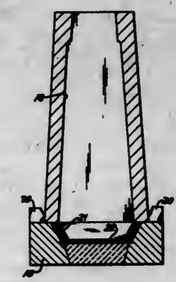
A rear-view mirror of the type used in the trailer-rental industry for temporary installation on the renter's automobile door, including a base having a pivoted auto-window clamp and a door-bottom clamp. This structure is distinguished from the prior art in providing means for varying the angle of the base and rear-view mirror with respect to the auto door means, varying the length of the bottom door clamp, as well as a mirror support which is pivotable 180° upon the base, enabling positioning of the assembly on the left or right-hand auto doors.

3,514,068
INSTALLATION FOR MANUFACTURING MOLDED ELEMENTS
Tharma Nayagam, Petaling Jaya, Selangor, Malaysia, assignor to Mrs. Suzanne Nayagam, born Perrin, Petaling Jaya, Selangor, Malaysia
Filed Apr. 12, 1967, Ser. No. 630,361
Int. Cl. E04g 11/00
U.S. Cl. 249—18 5 Claims

An installation for manufacturing in a continuous manner, molded construction elements of hardening material comprising a shuttering box formed with two parallel U-shaped beams resting on a bed, the length of the beams and the bed corresponding to the number of elements to be manufactured, parallel core formers extending in spaced parallel position extending transversely through associated pairs of openings in the U-beams with means being provided to separate successive elements to be cast and to limit the areas of the shuttering box receiving the hardening material to provide corresponding apertures such as windows or doors in the cast elements.



3,514,069
APPARATUS FOR MOLDING INGOTS
Robert E. Daley, 1465 NW. 203rd St., Miami, Fla. 33169
Filed Sept. 12, 1966, Ser. No. 578,648
Int. Cl. B22d 15/00
U.S. Cl. 249—111 1 Claim



Ingot molding apparatus for pipeless ingots is provided with an open-top molding cavity that has a lower end portion and an upwardly tapered upper portion. A band of thermal insulation engages the side wall of the cavity at the bottom of its upper portion to delay solidification of the molten metal surrounded by the band until the major portion of the ingot above has solidified.

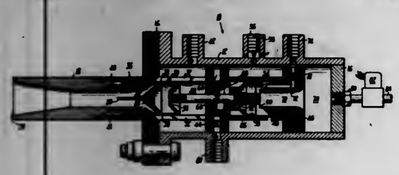
3,514,070
FORM TIE DEVICE
John C. McArdle, 3300 S. Holly St., Denver, Colo. 86222
Filed Nov. 15, 1967, Ser. No. 683,212
Int. Cl. E04g 17/06
U.S. Cl. 249—207 11 Claims



A device for use with a terminal looped form tie having a spacing stop, comprising a preferably molded thimble formed for an applied to embracing engagement over

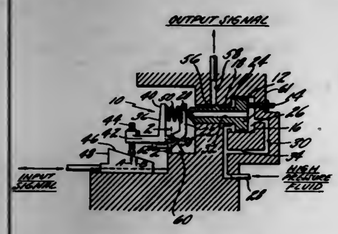
and preferably frictional retention on each tie loop, to extend outwardly from each spacing stop, with the base of each thimble not only engaging the spacing stop, but providing a seal around the tie and the outer edge of the thimble, coactable with the inner face of an opposed form wall to seal the form wall hole through which the terminal loop of the tie extends; in its preferred form, said thimble is conical and is provided with an integral interior web and channels correlated with its opposite end conformation to effectuate a structural and functional interrelation of the thimble, the form tie loop and the form wall surface, so that the thimble, as exposed through form wall removal, is receptive to a tool actuable to remove the thimble and detach the associated tie loop from the embedded portion of the tie interiorly of the form finished cast wall surface and retract said freed loop with its associated thimble, thereby producing a wall intrusive recess corresponding to the removed thimble.

3,514,071
SHOCK PULSE GENERATOR
Elbert Marston Moffatt, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 631,009
Int. Cl. F15b *15/22*
U.S. Cl. 251—31 11 Claims



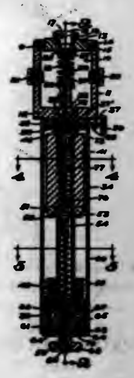
This disclosure relates to an instrument which produces high strength pressure pulses in a shock tube without using frangible diaphragms. A pulse is developed from a pressure surge generated in the shock tube by rapidly opening or closing a valve between the shock tube and a fluid reservoir. The rapid opening or closing of the valve is achieved by means of a fluid actuator which develops a high velocity motion in the output member.

3,514,072
VALVE MEANS WITH CONTROLLED HYSTERESIS
Herbert W. Tutherly, Windsor, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 711,936
Int. Cl. F16k *31/38*
U.S. Cl. 251—35 2 Claims



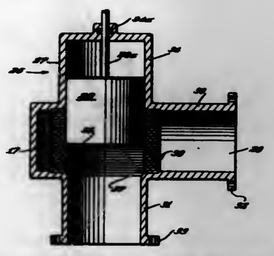
A fluid actuated valve movable with and relative to the input lever is positioned in one direction at a given position of the input lever and in another direction at a different position of the input lever. Positive feedback is utilized to drive the valve hard over to a given position in either direction.

3,514,073
PRESSURE PULSE GENERATOR
Roscoe E. Perham, Lebanon, N.H., assignor to the United States of America as represented by the Secretary of the Army
Filed June 20, 1968, Ser. No. 738,546
Int. Cl. F16k *31/44, 35/00;* F41f *11/00*
U.S. Cl. 251—76 6 Claims



A pressure pulse generator having a quick opening mechanical valve wherein the impact forces of a rapidly accelerating mass are employed to lift a poppet valve from its seat.

3,514,074
HIGH ENERGY LOSS FLUID CONTROL
Richard E. Self, 3221 Brimhall Drive, Los Alamitos, Calif. 90720
Continuation-in-part of application Ser. No. 599,229, Dec. 5, 1966. This application May 6, 1968, Ser. No. 730,978
Int. Cl. F15d *1/04*
U.S. Cl. 251—127 23 Claims

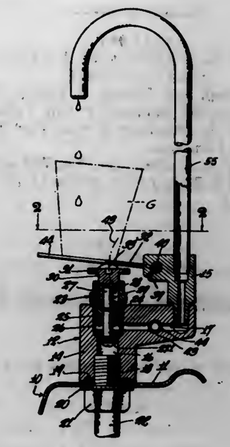


High energy loss fluid control is attained by subdividing flow of high pressure fluid into a plurality of individual streams in respective passageways having a long length to diameter ratio to impart high frictional resistance losses to the fluid flow, the passageways being in and between laminar surfaces and configurated along their lengths. For extremely high efficiency the passageways are in labyrinth formation.

3,514,075
VALVES FOR LIQUID DISPENSING FOUNTAINS
Thomas J. Puegner and Richard N. Brandon, Warren, Ohio, assignors to The Halsey W. Taylor Company, Warren, Ohio
Filed Jan. 29, 1968, Ser. No. 701,158
Int. Cl. F16k *51/00*
U.S. Cl. 251—156 12 Claims

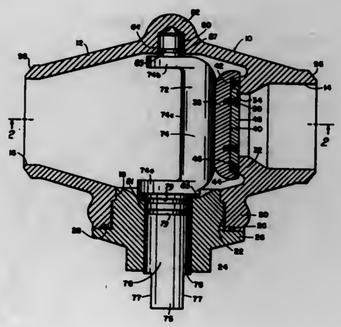
A valve for use in push-down glass filling operations wherein a straight-down movement of the glass is utilized

to actuate the valve, and wherein the valve actuator has pivot connection with the valve body, the connection



being made and broken only when the actuator is out of its operative position.

3,514,076
COMBINATION VALVE
Charles Wheatley, Tulsa, Okla., assignor to Charles Wheatley Company, Tulsa, Okla., a corporation of Oklahoma
Filed Dec. 18, 1967, Ser. No. 691,639
Int. Cl. F16k *15/03, 31/44*
U.S. Cl. 251—261 9 Claims



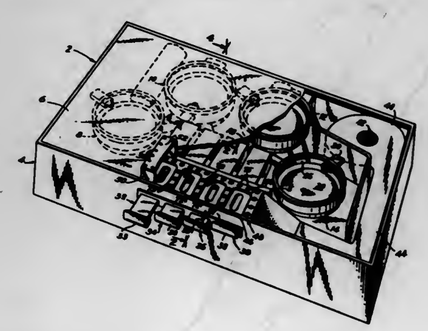
A combination check valve and positive stop flow or plug valve wherein a single valve may be interposed in a flow line to provide the functions normally requiring two separate valves. The valve may be utilized for normal check valve operation to permit flow of fluid through the line in one direction while preventing back flow of the fluid. Alternately, the valve may be utilized as a positive stop flow or plug valve for closing down flow of fluid through the line in any direction until such time as it is desired that flow through the line be restored.

3,514,077
BUTTERFLY VALVE
Kazuo Kitazawa, 21–13 2-chome, Ohara, Setagaya-ku, Tokyo, Japan
Filed Oct. 9, 1967, Ser. No. 673,545
Int. Cl. F16k *1/22*
U.S. Cl. 251—306 3 Claims



A butterfly valve adapted to be used in conjunction with a piping system for transporting hydraulic fluid under high pressure and comprising a cylindrical casing or body adapted to be connected at the opposite ends to the flanges of adjacent pipes in said piping system; a peripherally grooved valve disc disposed within said casing for rotational movement therein; a pair of semi-circular leaf springs received in the peripheral groove of said valve disc in an end-to-end-engagement relation; an annular elastomeric packing disposed around said semi-circular springs within said peripheral groove of the valve disc with the outer peripheral edge projecting out of the groove; and a rotary shaft extending through a diameter of said valve disc.

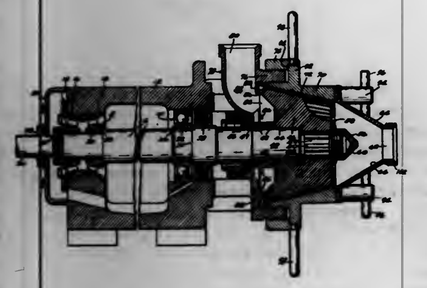
3,514,078
CONTROL VALVE, PARTICULARLY FOR THE AIR SUPPLY TO A GAS BURNER
Walter Dorwin Teague, Jr., Nyack, N.Y., and Anthony P. Montalbano, Fresh Meadows, N.J., assignors to Columbia Gas System Service Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 610,981
Int. Cl. F16k *25/00*
U.S. Cl. 137—625.3 9 Claims



A slide valve is disclosed through which air under pressure is supplied to the burner of a gas stove. The valve is a rectangular opening which is surrounded by a thin rectangular seal assembly formed by two sheet plastic diaphragms providing seals upon the opposite sides of a flat rectangular side. The diaphragms are rectangular frames around a rectangular opening, and the slide moves transversely of that opening. At one limit of movement of the slide, the opening is completely blocked by the slide. At the other limit of that movement, a number of orifices

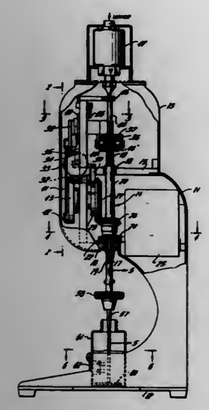
through the slide are in alignment with the opening through the diaphragms. Hence, the slide may be moved to position a selected number of the orifices in alignment with the opening, thus to regulate the amount of air flow.

3,514,079
FOOD EMULSIFYING MILL
Clarence W. Little, Jr., Brookfield, Wis., assignor, by mesne assignments, to Waukesha Foundry Company Inc., a corporation of Wisconsin
Filed Jan. 4, 1968, Ser. No. 695,752
Int. Cl. B01f *3/18*; B02c *4/10, 19/00*
U.S. Cl. 259—9 5 Claims



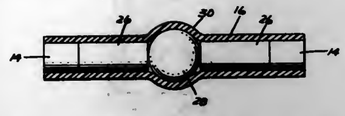
A conical mill rotor is fixed to its drive shaft with its large inlet end proximate the drive shaft bearing. Clearance adjustment is made by axial movement of the stator. A tapered delivery throat mounted on the stator leads smoothly and axially from the small end of the mill.

3,514,080
ROTARY AND RECIPROCATING MIXER
Howard Price, Kings Point, and Bela Szilagyi, Flushing, N.Y., assignors, by direct and mesne assignments, to International Patents & Development Corporation, a corporation of Delaware
Filed Aug. 16, 1968, Ser. No. 753,181
Int. Cl. B01f *7/00*
U.S. Cl. 259—19 15 Claims



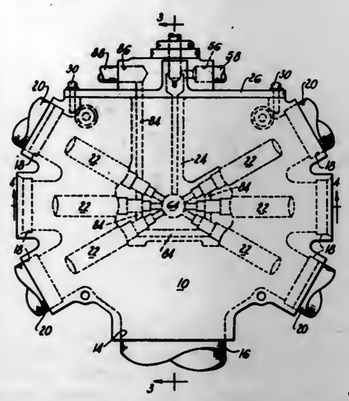
Mixing devices for preparing mixtures or blends of powderized material with liquids in a container. A mixing propeler is rotated while it is reciprocatingly moved up and down in the container. The liquid is admitted through the hollow shaft of the propeller; the flow of the liquid is controlled by a valve or pump which is controlled by a timing device operated by the drive mechanism of the mixer.

3,514,081
MAGNETIC STIRRERS AND METHOD FOR MAKING SAME
James P. Cavanaugh and Eugene P. Gugel, Fort Wayne, Ind., and William S. Shamban, Pacific Palisades, Calif., assignors to W. S. Shamban & Co., Fort Wayne, Ind., a corporation of Indiana
Filed Feb. 6, 1968, Ser. No. 703,420
Int. Cl. B01f *13/08*; B32b *27/08*
U.S. Cl. 259—114 10 Claims



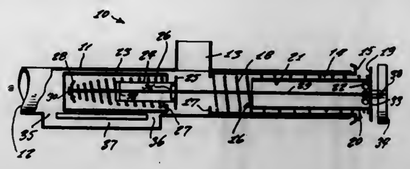
An encapsulated stirrer and method for making same, the stirrer comprising a rod-like member, a plastic plug abutting each end of the member and a heat-shrinkable plastic tube tightly and perimetrally gripping the member and plugs, the tube being sealably joined about the perimeter of each of the plugs hermetically to seal the member in the tube. The method comprises the steps of inserting the member into a heat-shrinkable plastic tube, inserting plastic plugs into the tube, one plug abutting each end of the member, and heat treating the plastic tube thereby to shrink the tube onto the member and the plugs and sealably to join the tube perimetrally to each of the plugs.

3,514,082
FUEL SUPPLY SYSTEM FOR COMBUSTION ENGINES
Elmer A. Haase, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 654,658, July 19, 1967, which is a continuation of application Ser. No. 416,358, Dec. 7, 1964. This application May 23, 1968, Ser. No. 732,498
Int. Cl. F02d *7/02*; F02m *67/02*
U.S. Cl. 261—23 3 Claims



Multiple cylinder combustion engine fuel injection apparatus wherein a plurality of fuel injection nozzles corresponding to the number of engine cylinders is encased by an air manifold having a separate outlet connected to supply air as well as fuel injected thereto by an associated one fuel injection nozzle to each of the engine cylinders. All of the fuel injection nozzles encased by the air manifold received metered fuel flow from a remotely located fuel meter via a common fuel passage having its inlet connected to the fuel meter and its outlet connected to the air manifold. A casing is secured to the air manifold for supporting the fuel injection nozzles. The fuel nozzles are of the continuous flow type. A plurality of spaced apart openings are formed in the casing and each communicates with an associated one of the fuel injection nozzles. A fuel inlet is formed in the casing externally of the air manifold. A first conduit including a circular cavity is formed in the casing and is provided with circcumferentially spaced-apart outlet ports in a curved wall which defines the plurality of openings. The fuel injection nozzles are each aligned with an associated one of the spaced-apart outlet ports and extends radially outwardly from the circular cavity toward an associated air induction pipe. A second conduit connects a source of metered pressurized fuel with the fuel inlet. The first and second conduits have series flow relationship and operate to supply a continuous flow of metered pressurized fuel to the plurality of fuel injection nozzles connected thereto simultaneously. The casing locates the circular cavity in the midportion of the air manifold. The first conduit includes a fuel pressurizing valve upstream from said circular cavity and in series flow therewith. A spring is connected to the fuel pressurizing valve for urging the same towards a closed position. A diaphragm exposed to atmospheric pressure and metered pressurized fuel is connected to the fuel valve for actuating the valve. The diaphragm urges the fuel valve toward an open position in response to metered pressurized fuel in opposition to the spring and the atmospheric air pressure.

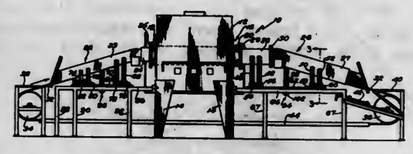
3,514,083
EXHAUST FUME ELIMINATOR AND FUEL ECONOMIZER FOR CARBURETED FUEL ENGINES
Stanley E. Harris, Box 363, Titonka, Iowa 50480
Filed Oct. 9, 1968, Ser. No. 766,064
Int. Cl. F02m *5/08*
U.S. Cl. 261—69 2 Claims



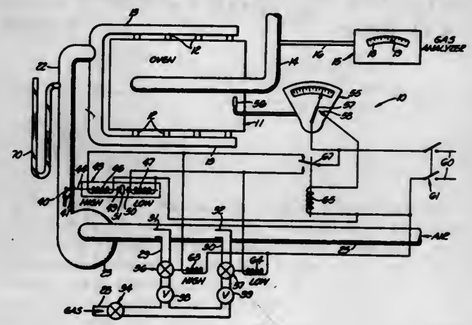
A device to prevent much of the obnoxious fumes presently being emitted by carbureted liquid fuel engines when the throttle is closed down; the device having a secondary effect of saving fuel; the device comprising a tubular body connected at one end to the carburetor throat on the engine side of the throttle valve, the device being connected at its midportion to the otherwise unvented carburetor float chamber, the body containing the working mechanism.

3,514,084
FURNACE CONSTRUCTION WITH EXPANSIBLE MUFFLE ASSEMBLY
Donald J. Morin, Plainville, Mass., assignor to S-M Engineering Corporation, North Attleboro, Mass., a corporation of Massachusetts
Filed Sept. 30, 1968, Ser. No. 763,567
Int. Cl. F27b *9/24*; F27d *3/12*
U.S. Cl. 263—8 7 Claims

A conveyor type heat treating furnace having a muffle extending through the heating chamber thereof and connected at one end to an entry duct and at the other end to a discharge duct, the entry and discharge ducts having roller units interconnected thereto that are located on tracks and that are movable thereon in response to expansion of the muffle during operation of the furnace to provide for a floating action of the muffle in the heating chamber, wherein distortion of the muffle due to expansion and contraction is effectively reduced.



3,514,085
COMBUSTION CHAMBER ATMOSPHERE CONTROL
Herbert J. Woock, 420 California St., Arcadia, Calif. 90052
Continuation-in-part of application Ser. No. 679,718, Nov. 1, 1967. This application Dec. 9, 1968, Ser. No. 782,287
Int. Cl. F23n *1/02*
U.S. Cl. 263—40 10 Claims

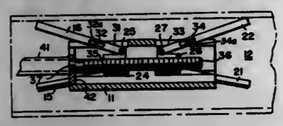


An apparatus and method for providing a combustible mixture and control of the combustion chamber atmosphere with ease and accuracy accomplished by varying the quantity of gaseous fuel of known B.t.u. value admixed with a subatmospheric stream of combustion air flowing into a combustion chamber having a flue outlet to the atmosphere and noting when a given adjustment of the gas supply means provides flue gases having the desired analysis. The gas is discharged into a combustion air stream on the suction side of a blower. The combustion chamber may be operated at different heating rates by adjusting the air flow control means to one of a number of positions for each of which there is an associated adjustable fuel flow control means operable to provide the proper fuel flow for any adjusted position of the air flow control valve.

3,514,086
PIPE CUTTING APPARATUS
William B. Clanin, 11833 Mayes Drive, Whittier, Calif. 90604
Filed Dec. 12, 1966, Ser. No. 601,015
Int. Cl. B23k *7/04*
U.S. Cl. 266—23 6 Claims

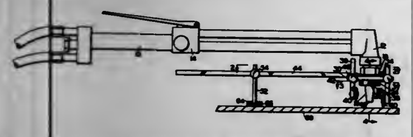
The specific pipe cutting tool according to the invention includes a supporting cylindrical casing having front and rear trios of pivotal legs whose radially outwardmost

points are adapted to grip the inside of a pipe to be cut. The radially inwardmost points of these legs are pivotally attached to respective front and rear threaded collars which ride on oppositely threaded portions of a rotatable shaft. The rotatable shaft is brought out through a hollow pipe affixed to one end of the cylindrical base and is surrounded by a hollow sleeve for rotatably carrying a cutting torch support. Rotation of the shaft with op-



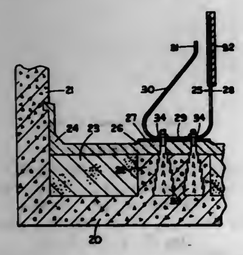
positely threaded portions causes the radially outwardmost points of the front and rear trios of legs to firmly engage the inside surface of a pipe to be cut. The cutting torch is then rotated about the axis of the assembly to cleanly cut the pipe edge, and the assembly may then be removed by rotating the shaft with the oppositely threaded portions to retract the front and rear trios of legs.

3,514,087
ATTACHMENT FOR CUTTING TORCHES
Donald L. Richards, 5950 SE. Kelly St., Portland, Oreg. 97206
Filed Nov. 7, 1967, Ser. No. 681,448
Int. Cl. B23k 7/10
U.S. Cl. 266—23 **5 Claims**



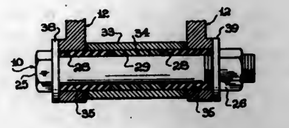
The attachment includes an annular body member arranged to be detachably secured on the tip of a cutting torch. This body member has a carrier thereon which supports wheel posts and a pivot post. The wheel supporting posts and pivot post have length adjustment in the carrier, and the carrier has rotatable positioning on the body member. An elongated arm projects laterally from the carrier and supports the pivot post for slidable adjustment.

3,514,088
CAR BUFFER
Arthur Robert David Tooler, 39 Alexandra Ave., South Harrow, England
Filed Feb. 14, 1968, Ser. No. 705,335
Claims priority, application Great Britain, Feb. 15, 1967, 7,140/67
Int. Cl. F16f 1/26
U.S. Cl. 267—1 **5 Claims**



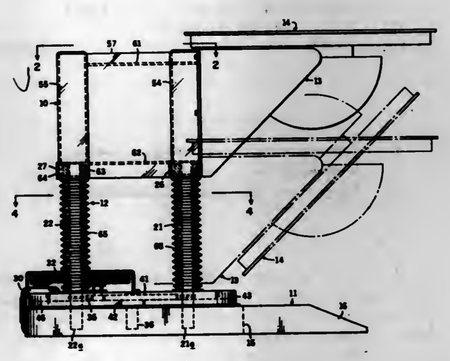
A buffer for protecting a wall against damage by a vehicle which consists of a U-shaped spring steel strip on one arm of which a resilient pad is mounted.

3,514,089
RESILIENT ELASTOMERIC BUSHING ASSEMBLY
Henry C. Harbers, Pasadena, Calif., assignor to Western Unit Corporation, Industry, Calif., a corporation of California
Filed Feb. 13, 1967, Ser. No. 615,688
Int. Cl. F16f 1/30, 7/02, 1/16
U.S. Cl. 267—54 **4 Claims**



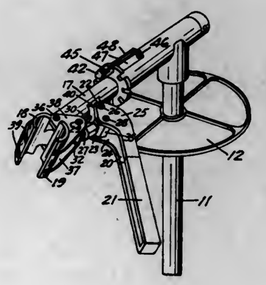
A long-life bushing assembly particularly advantageous in coupling a vehicle draft linkage to a chassis frame. The assembly includes relatively short resilient sleeves encircling each end of an assembly bolt coupling the draft linkage to the chassis frame with substantially equal end portions of each sleeve held compressed within the hanger opening and within the bore of the linkage. The central portion of the assembly bolt is encircled by a non-resilient spacer having its ends abutting the adjacent end of a respective one of the resilient sleeves.

3,514,090
WORKPIECE POSITIONER
Paul P. Wuesthoff, St. Louis, Mo., assignor to The Pandjiris Weldment Co., St. Louis, Mo., a corporation of Missouri
Filed July 19, 1967, Ser. No. 654,511
Int. Cl. B23q 3/18
U.S. Cl. 269—60 **5 Claims**



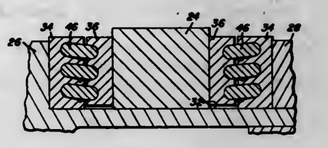
A positioner for supporting and adjusting the height and angular disposition of a workpiece which includes an elevation-adjusting mechanism operatively interconnecting a base and a frame. The elevation-adjusting mechanism incorporates a plurality of substantially vertical screws a nut threadedly engaging each screw to provide a jackscrew, and a drive mechanism relatively rotating the screws and associated nuts to urge the frame upwardly or downwardly with respect to the base. In one embodiment, three jackscrews are spaced substantially equi-distantly. A pair of jackscrews are aligned transversely to the general direction of lateral extent of a work-supporting portion carried by the frame, while the third jackscrew is located generally between the said pair of jackscrews and spaced therefrom in the general direction of lateral extent of the work-supporting portion.

3,514,091
CLAMPING DEVICE
James E. Johnson, St. Paul, and Arthur B. Engstrom and Howard C. Hawkins, Maplewood, Minn. (both of 2250 White Bear Ave., St. Paul, Minn. 55109); said Johnson assignor to said Engstrom and said Hawkins
Filed Jan. 13, 1967, Ser. No. 609,213
Int. Cl. B25b 1/14, 5/12
U.S. Cl. 269—68 **5 Claims**



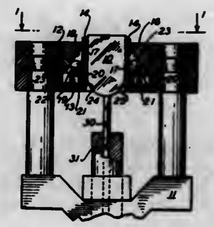
A lever-actuated clamping mechanism having two jaws, one of which is moved into clamping action with the other by a handle lever connected to it through a toggle link. The clamping action of the jaws is locked when the connection between the handle lever and toggle link passes through the dead center of a straight line between the fulcrum pivot attachment for the handle lever and the pivot attachment of the toggle link to the one jaw. The bite of the jaws of the clamping mechanism is preferably adjustable. A highly stable base standard is also provided, preferably but not always in combination with an upright and with other features to hold and permit adjustment of the orientation of a clamping mechanism.

3,514,092
WORKPIECE HOLD-DOWN JAWS
Carl O. Lassy, Bristol, Conn. (% Lassy Tool Company, Plainville, Conn. 06062)
Filed Oct. 25, 1966, Ser. No. 589,269
Int. Cl. B23q 3/02, 3/06
U.S. Cl. 269—134 **10 Claims**



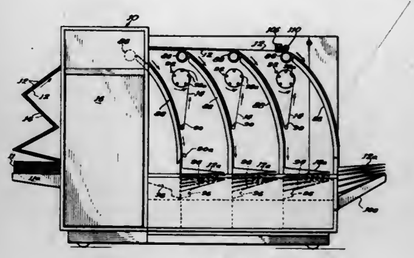
A workpiece holder including a bed and a pair of upstanding opposed jaws mounted thereon with at least one jaw being movable in relation to the other. At least one jaw is provided with means exerting a downward force on the workpiece when the jaws are moved towards each other into clamping engagement with the workpiece. The means exerting downward force includes pawls which are removable for interchangeability thereof or corresponding inclined surfaces separated by anti-friction rollers.

3,514,093
CENTERING FIXTURE
Charles Eisler, East Orange, N.J., assignor to Eisler Engineering Co., Newark, N.J., a corporation of New Jersey
Filed Mar. 8, 1967, Ser. No. 621,495
Int. Cl. B23q 3/00; B25b 13/18
U.S. Cl. 269—287 **6 Claims**



A device for automatically centering a bulb, for example, to align it with a tubing to be secured thereto.

3,514,094
WEB DELEAVER WITH OVERRIDING DRIVE MEANS
Howard K. Abaler, Skokie, and Leonard M. Narel, Cary, Ill., assignors to Uarco Incorporated, a corporation of Illinois
Filed June 13, 1967, Ser. No. 645,830
Int. Cl. B65h 41/00, 17/02
U.S. Cl. 270—52.5 **12 Claims**



A stationery deleaver for separating multiple plies of stationery from a folded stack into a plurality of individual folded stacks of single plies of stationery. Pin feed wheels at the infeed end of the deleaver are driven by means of an overriding clutch so that when carbon interleaved stacks are being deleaved, faster driven carbon rewind reels and paper drive rollers control the speed of stationery and carbon. In addition, stationery having no pin feed holes can be driven through the machine. When deleaving carbonless forms with pin feed holes, the pin wheels advance the stationery through the deleaver.

3,514,095
AUTOMATIC COLLATOR
Wally Charles Hoff, Toronto, Ontario, Canada, assignor to General Binding Corporation (Canada) Limited, a corporation of Canada
Filed Oct. 3, 1967, Ser. No. 672,486
Int. Cl. B65h 39/04
U.S. Cl. 270—58 **9 Claims**

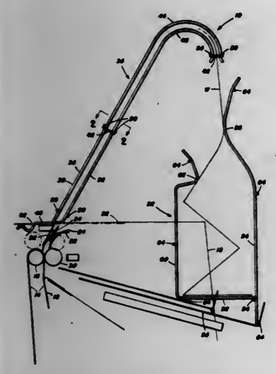
This specification discloses a machine for collating stacks of sheet material such as paper in which the stacks of paper are placed in separate bins and a single sheet is

fed from each bin simultaneously, and is thereafter drawn from each sheet by a pad mechanically driven across the upper edges of the stacks so as to pick up each sheet in sequence, one after the other and form them into a bundle of sheets in the correct order. The portion of the machine



performing the sheet-gathering function is made movable relative to the portion of the machine containing the stacks of paper in order to simplify operator handling, and refilling of stacks of sheet material, adjustment, rectifying misfeeds and the like.

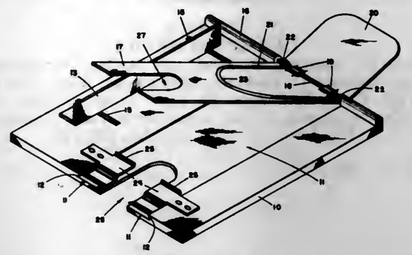
3,514,096
COPY PAPER FEEDING AND REFOLDING GUIDE
Robert D. Muller, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 25, 1967, Ser. No. 678,098
Int. Cl. B65h *45/06*
U.S. Cl. 270—61 **1 Claim**



This invention relates to a novel device for feeding and folding into pre-determined flat-folded condition, lengthy webs of copy paper processed from the developer section of a photocopying apparatus. In particular, it illustrates an upwardly extending guide or conveyor and a direction reversing guide, which will feed the web into a receptacle. The receptacle includes cooperative projecting portions adapted to impart a folding movement to the web which is vertically descending into the folding receptacle.

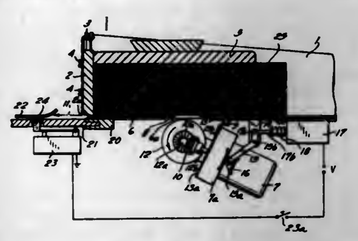
3,514,097
FOLDING APPARATUS FOR PAPER AND THE LIKE
Wally Charles Hoff, Toronto, Ontario, Canada, assignor to General Binding Corporation (Canada) Limited, a corporation of Canada
Filed Nov. 13, 1967, Ser. No. 682,335
Int. Cl. B65h *45/04*
U.S. Cl. 270—61 **8 Claims**

This specification discloses a piece of apparatus suitable for a small or medium size office for use by untrained secretarial staff for folding mail and other pieces of paper and such sheet material. The apparatus includes a recessed die into which the paper is forced by a mandrel, thereby creasing the paper along either side of the man-



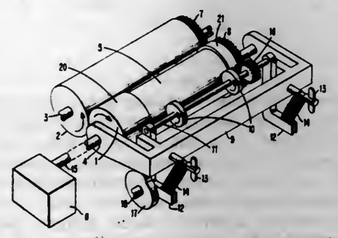
drel. In a second operation, these creases are flattened and the piece of folded paper is removed.

3,514,098
CARD TRANSPORTING APPARATUS
Heinz Georg Ostwald, Frankfurt am Main, Germany, assignor to Eichner Organisation Gesellschaft mit beschrankter Haftung Electronic und Buromaschinenfabrik, Frankfurt am Main, Germany
Filed Aug. 9, 1967, Ser. No. 659,476
Claims priority, application Germany, July 28, 1966, E 32,168
Int. Cl. B65h *1/06*
U.S. Cl. 271—41 **11 Claims**



The lowermost card of a stack is discharged through a slit in a container when an electromagnet is energized to turn a support member with a transporting roller and a motor rotating the transporting roller, to a position in which the roller is in contact with the lowermost card.

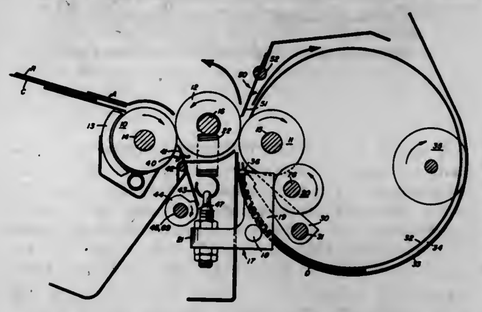
3,514,099
DOCUMENT HANDLING APPARATUS
Robert C. Miller, Englishtown, N.J., and John H. Sherer, Jr., Kirkwood, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 11, 1968, Ser. No. 736,120
Int. Cl. B65h *5/06*
U.S. Cl. 271—51 **10 Claims**



Document handling apparatus for receiving documents from a source and processing the documents so as to

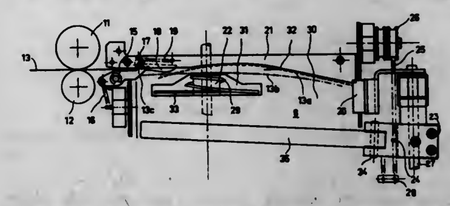
exit the documents in a timed relationship to each other comprising resilient metering rolls to move a document via guide means to a timing feed roll aligned parallel to a metering roll and having a surface velocity greater than that of said metering roll, whereby the timing of the document is advanced; the timing feed roll characterized by having position adjusting means for allowing the timing feed roll to be continuously movable along the periphery of said metering roll, allowing earlier or later engagement of the document to adjust its timing, adjustment being made during operation of the apparatus.

3,514,100
SHEET SEPARATING DEVICE
William Edward White, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 29, 1968, Ser. No. 701,312
Int. Cl. B65h *29/58*
U.S. Cl. 271—64 **8 Claims**



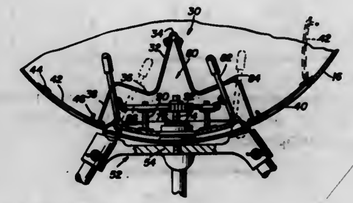
A device for separating two sheets which emerge as a composite from between the diverging surfaces of two movable members with the leading edge of one sheet preceding that of the other. The movable members are driven in synchronism and separation of the sheets is effected by movement of a cam-actuated separating member in such timed relation to emergence of the sheets that an end of the separating member sequentially engages, respectively, the advance portion of the one sheet and the leading edge of the other sheet to effect initial separation thereof. After the end has been engaged by the leading edge of said other sheet, the separating member is moved into an intermediate position in which continuous separation of the sheets is effected.

3,514,101
CARD STACKING DEVICE
Giancarlo Gatti, Varese, Italy, assignor to Olivetti-General Electric S.p.A., Caluso, Torino, Italy, a corporation of Italy
Filed Oct. 16, 1967, Ser. No. 675,434
Claims priority, application Italy, Aug. 18, 1967, 28,920/66
Int. Cl. B65h *31/00*
U.S. Cl. 271—86 **1 Claim**



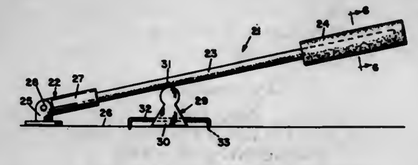
A device for the collection of punched cards and similar documents comprising guiding means conveniently shaped for controlling the bending of the cards and input means comprising a deflecting lever and a stop pawl.

3,514,102
OCCUPANT PROPELLED, ENCLOSED ROUNDABOUT
Ardell I. Wakefield, Eugene, Oreg. (17 E. Gainsborough Road, Thousand Oaks, Calif. 91360)
Filed Feb. 28, 1966, Ser. No. 530,649
Int. Cl. A63g *1/12*
U.S. Cl. 272—33 **1 Claim**



An enclosure shell rotatably mounted by a bearing member supported in an elevated position above the ground by legs, at least one of which is provided with ladder rungs so as to provide access to the enclosure through a door in its lower floor portion. Seats are centrally mounted on the floor portion above the bearing member enclosing a propelling drive mechanism operated by the occupant by oscillation of a lever projecting upwardly from the seats.

3,514,103
SINGLE OCCUPANT SEESAWS
Jerry Lieberman, 1364 Lexington Ave., New York, N.Y. 10028
Filed Feb. 17, 1967, Ser. No. 616,846
Int. Cl. A63g *11/00*
U.S. Cl. 272—55 **10 Claims**

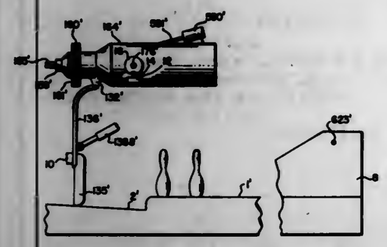


A seesaw for use by a single occupant seated on the outer end portion of a resiliently flexible rod, the inner end portion of which is anchored in a support. The rod is inclined in the direction of the occupant and its resilient flexibility permits controlled oscillation in a vertical plane. A resiliently yieldable fulcrum is provided intermediate the ends of the rod and the support and the fulcrum are adjustable so that the angle of inclination of the rod may be varied.

3,514,104
CYCLE TRIGGERING MECHANISM FOR AUTOMATIC PIN SETTER
Benjamin C. Perricone, 7—27 124th St., College Point, N.Y. 11356
Filed June 25, 1968, Ser. No. 739,694
Int. Cl. A63d *5/00*
U.S. Cl. 273—43 **4 Claims**

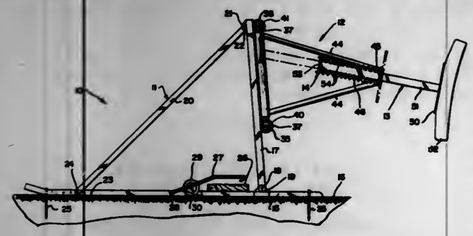
An inertia switch is mounted on the pit cushion of a pin setting machine to energize the "new set" solenoid of

the machine through a relay equipped with a holding circuit. A deactivating switch in the coil circuit of the relay is operated by a cam on a shaft of the machine which



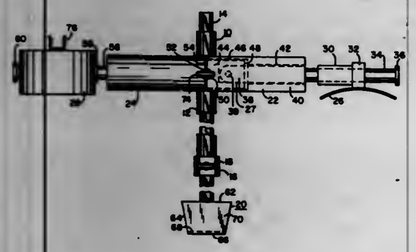
makes one revolution in each pin-setting cycle to open the holding circuit and deenergize the relay as soon as the machine starts operating.

3,514,105
FOOTBALL REACTOR TRAINING SLED
Henry P. Pillard, Blue Island, Ill.
(Diamond K Lane, Joliet, Ill. 60433)
Filed Dec. 23, 1966, Ser. No. 604,385
Int. Cl. A63b 67/00
U.S. Cl. 273—55 6 Claims



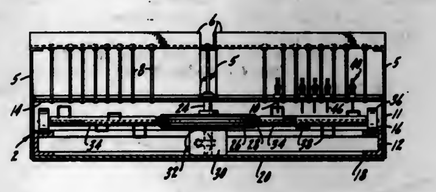
Disclosed herein is a football reactor training sled including generally, a sled base frame, a movable frame mounted on the base frame, and a reactor dummy mounted on the movable frame by a resilient assembly having a pair of horizontal tracks to which the reactor dummy is attached for freely sliding horizontal movement at all times.

3,514,106
GOLF CLUB WITH PIVOTAL, LEG ENGAGING CROSSBAR
Gordon L. Picotte, 4677 Lee Ave., La Mesa, Calif. 92041
Filed Apr. 1, 1968, Ser. No. 717,641
Int. Cl. A63b 53/14
U.S. Cl. 273—81.3 8 Claims



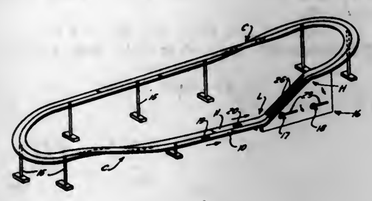
A golf club that is swung between the legs, having a dual purpose club head for use in putting and chipping the golf ball and a crossbar member connected to shaft. The crossbar member is grasped and rotated by the golfer to swing the club and outer ends of the crossbar member rest against the golfer's legs to stabilize movement of the club during the swing.

3,514,107
SLOTTED RACING GAME
George O. Baumbrucker, 30 S. County Line Road, Hinsdale, Ill. 60521
Filed Feb. 8, 1968, Ser. No. 703,987
Int. Cl. A63f 9/14
U.S. Cl. 273—86 6 Claims



A slotted racing course including structure for sporadically moving the racing figures. Each racing figure has a projection which extends downward through a slot in the course. The structure for sporadically moving the racing figures includes a centrally located motor driven endless belt which moves in a horizontal plane beneath and substantially parallel to the course. Rod members, extending radially outward from spaced points along the belt, rotate about their own axes as they are moved in a circular path with the belt. The downward extending projections on the racing figures cooperate with impelling members carried by the rods. The impelling members may take the form of staples randomly spaced apart along the rods, crank arms like those on the crank shaft of an automobile, helical shaped projections, or magnets.

3,514,108
RACING TOY HAVING MANUALLY MANIPULABLE VEHICLE PROPELLING MEANS
Sidney Tepper, Millburn, Hyman P. Boydman, Springfield, and Joseph L. Bonanno, South Orange, N.J., assignors to Topper Corporation, a corporation of Delaware
Filed Feb. 26, 1969, Ser. No. 802,365
Int. Cl. A63f 9/14
U.S. Cl. 273—86 10 Claims



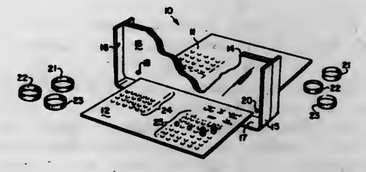
Two side-by-side tracks of equal length support rollable vehicles each of which moves by gravity around entire track except for short uphill portion. Vehicle driving member located beneath, and movable along, each uphill track portion in response to movement of a handle operated by player. Driving member carries pawl or magnet for moving vehicle along uphill portion. Movement of handle transmitted to driving member by lever, meshing rack and gear drive, or belt and pulleys.

3,514,109
THROWING TOY
Harlow B. Grow, 16530 Chattanooga Place, Pacific Palisades, Calif. 90272
Filed Jan. 2, 1968, Ser. No. 694,923
Int. Cl. A63b 33/20, 43/02, 65/00
U.S. Cl. 273—106 9 Claims



A spherical relatively heavy ball is freely slidable on a length of flexible cord having a relatively light chute including a handle at each of its ends. The chutes conform in configuration to that of the spherical ball so that the ball is nestable in either of the chutes when thrown by one person to another.

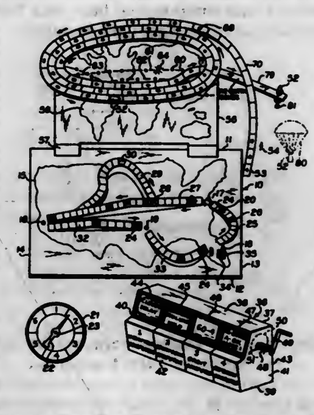
3,514,110
BOARD GAME APPARATUS WITH PLAYING PIECES, TOKENS AND MARKERS
Avon B. Thomander, Los Angeles County, Calif. (1315 Journey End Drive, La Canada, Calif. 91011)
Filed Nov. 30, 1967, Ser. No. 686,997
Int. Cl. A63f 3/00
U.S. Cl. 273—130 4 Claims



A boxed game board divided into a pair of identical board sections adapted to be arranged adjacent each other and separated by an upright barrier formed from the box lid so as to obscure the selected placement of ferruled game pieces on each of the boards from the view of opposing players. Each game board is provided with areas having an apertured grid pattern thereon for receiving certain ones of the game pieces on selected coordinates. The ferruled game pieces are adapted to receive spherical tokens of various sizes and colors for registering and recording selected coordinate intersections called for by the opposing players.

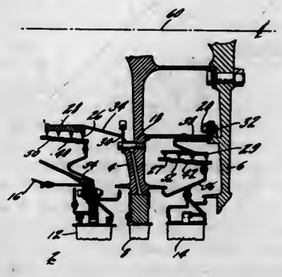
3,514,111
ORBITAL MANNED SPACE FLIGHT GAME
Paul D. Crawford, Milwaukee, Wis. (4517 University Ave. NE., Columbia Heights, Minn. 55421)
Filed May 6, 1966, Ser. No. 548,090
Int. Cl. A63b 71/00; A63f 3/02; A63h 33/20
U.S. Cl. 273—134 10 Claims

A game apparatus comprising a game board having spaced locations including a space flight launching site and flight paths connecting the locations, a plurality of simulated capsules, a spinner for determining the number of moves of simulated aircraft along the flight paths, a vertical support wall having a flat map of the earth thereon and having predetermined earth orbital flight paths marked thereon, and an orbit track perpendicularly supported



above said support wall and paralel to said board. A simulated computer is provided for determining whether the capsules enter into the orbit track and for determining the movements thereof therealong.

3,514,112
REDUCED CLEARANCE SEAL CONSTRUCTION
Jason S. Pettengill, Jr., South Windsor, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 5, 1968, Ser. No. 734,705
Int. Cl. F02f 11/00; F01d 1/04; F04d 29/08
U.S. Cl. 277—1 10 Claims

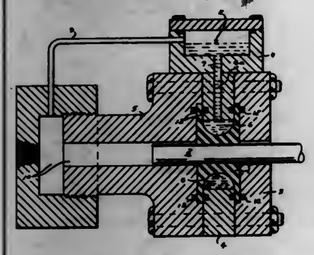


A sealing construction primarily adapted for use in a gas turbine engine wherein the clearance between the rotating and static members is maintained relatively tight. The rotating and static members are insensitive to environmental temperature changes, the rotational growth of the rotating member being substantially the sole factor affecting any increase or decrease in the clearance between the rotating and static members.

3,514,113
SEALING MECHANISM FOR HIGH PRESSURE PISTON PUMPS
Konrad Weiswurm, 313 Canova Lane, Dayton, Ohio 45431
Filed July 26, 1967, Ser. No. 656,300
Int. Cl. F16j 15/00; E21b 33/00
U.S. Cl. 277—3 5 Claims

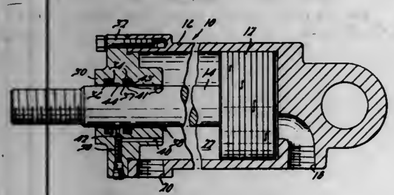
A pressure-actuated, resilient seal is mounted in close tolerance, sliding fit relation on the piston of a high

pressure piston pump, and is pulley-shaped to form an inner, pressure chamber that surrounds the seal. An outer pressure vessel, mounted on top of the pump housing, communicates with the inner pressure chamber by means of a pair of fluid passages connected therebetween, and contains a non-compressible fluid that fills both the inner chamber and connecting fluid passages.



A connecting line extends between the compression chamber of the pump and the top surface of the non-compressible fluid in the outer pressure vessel, and is used to transmit pressure in the pump compression chamber by way of the non-compressible fluid to the inner, pressure chamber and thus apply a sealing force to the resilient piston seal.

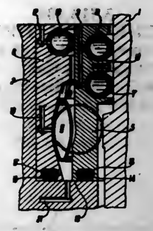
3,514,114
MULTIPLE SEALING MEANS
John C. Monahan, 16780 Ego Ave., East Detroit, Mich. 48021
Filed Nov. 9, 1967, Ser. No. 681,741
Int. Cl. F16j *15/40*
U.S. Cl. 277—3 7 Claims



A multiple sealing system particularly for a fluid actuated piston rod comprising a plurality of flexible seals to prevent leakage between the rod and a housing collar which holds the rod for sliding movement into and out of a pressure chamber containing pressurized fluid, with the outermost of said seals acting first in succession to prevent leakage while the remaining seal or seals are integrally held inactive in reserve until the first seal fails, whereupon the remaining seals are successively brought into engagement by controllably altering the force of the pressurized fluid on the remaining seals.

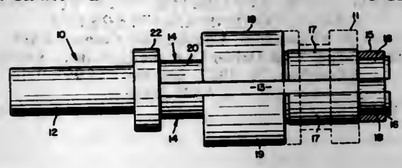
3,514,115
SEALING SYSTEM FOR THE ROTARY PLUG OF A NUCLEAR REACTOR
Sabino Gallo, Durance, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Oct. 23, 1967, Ser. No. 677,257
Claims priority, application France, Nov. 17, 1966, 84,067
Int. Cl. F16j *15/46*; G27b *33/00*
U.S. Cl. 277—34.3 7 Claims

A system which provides a tight seal between a rotary plug and the surrounding plug-support element, in which the seals can be replaced without interrupting the leak-tightness. The system comprises two tubular members which are coaxial with the plug, which are capable of moving independently of each other and which rest on the support in a leak-tight manner, collapsible seals carried by the tubular members so as to ensure leak-tightness



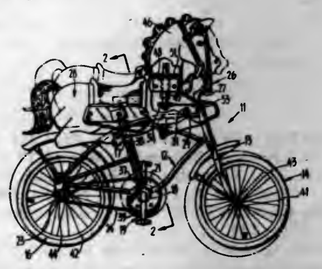
between said members and between the inner member and the plug, and a seal which is carried by the outer member and which is capable of closing off the passage between said member and the plug when the inner member is lifted.

3,514,116
EXPANDING COLLET
Earl W. Brinkman, Rochester, N.Y., assignor to Davenport Machine Tool Company, Inc., Rochester, N.Y., a corporation of New York
Filed Jan. 19, 1968, Ser. No. 699,185
Int. Cl. B23b *31/14*
U.S. Cl. 279—2 3 Claims



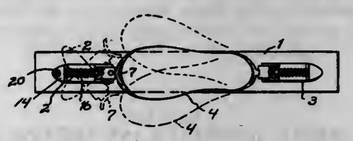
The split collet has a plurality of radially flexible jaws normally equi-spaced radially from the collet axis a distance sightly less than the radius of the bore of the workpiece that is to be chucked, whereby the latter may be inserted over the jaws when the collet is motionless. When the collet is rotated, centrifugal force causes the jaws to move radially outwardly against the bore wall of the workpiece to grip the workpiece. A ring disposable over the jaws limits their outward movement.

3,514,117
SIMULATED ANIMAL BICYCLE
Paul J. Olsen, 19511 Almaden Road, San Jose, Calif. 95120
Filed Nov. 24, 1967, Ser. No. 685,625
Int. Cl. A63f *19/00*
U.S. Cl. 280—1.192 10 Claims



A bicycle which is so arranged that an animated body of a horse, or the like, associated therewith and serving as a seat undergoes an undulating motion simulating that of a horse or animal in a running motion such as a center as the bicycle is driven forward. Not only does the animated body reciprocate regularly up and down, but in addition, the front and rear ends of the overall bicycle move up and down in a mutually random manner. The body is also provided with a head which rotates with the handle bars even though the body is reciprocating up and down.

3,514,118
SKI BINDING
Joseph L. Baccheschi, 30 Brook St., Torrington, Conn. 06790
Filed May 29, 1968, Ser. No. 740,806
Int. Cl. A63c *9/081*
U.S. Cl. 280—11.35 4 Claims



The invention relates to ski bindings in which both ski boot toe and heel engaging units include spring pressed members for holding both toe and heel to the ski, both units are subject to release by vertical forces in excess of their respective spring pressures and the toe unit is also adapted for release through torsional stress applied thereto in excess of the holding power of the toe piece locking mechanism, said toe piece embodying a pivoted member for horizontal swinging movement with respect to the ski.

3,514,119
SKI HARNESS
Robert L. Sutherland, 608 Medical Centre Bldg., Calgary, Alberta, Canada
Filed Mar. 6, 1968, Ser. No. 713,270
Int. Cl. A63c *9/00*
U.S. Cl. 280—11.35 18 Claims



A ski harness for fastening a ski boot to a ski for permitting easy adjustment of the boot relative to the ski. A carrier is provided for mounting over the ski and has a rear portion on which a toe piece is carried and a forwardly extending portion on which a cable tensioning toggle means is carried. The carrier has locking means for securing it to the ski in a number of positions longitudinally of the ski so that the toe piece and toggle means with the carrier may be moved as a unit to thereby adjust the position of the boot.

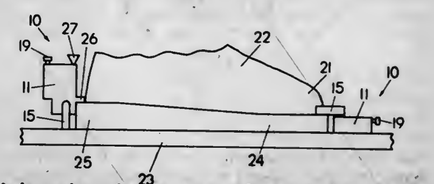
3,514,120
SKI BINDING
Thomas G. Smolka and Johann Zellaka, Vienna, Austria, assignors to Wiener Metallwarenfabrik Smolka & Co., Mauer, Austria
Filed Apr. 12, 1968, Ser. No. 720,885
Claims priority, application Austria, Apr. 18, 1967, A 3,663/67
Int. Cl. A63c *9/08*
U.S. Cl. 280—11.35 15 Claims

The invention refers to a ski-binding (front piece, heel clamp or the like) having a sole fixing device, and is characterised in that the sole fixing device and a ski-binding part have at least one extension each both which extensions are surrounded by an elastic, preferably end-



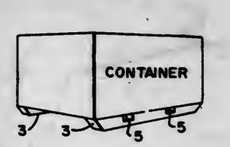
less, part. The elastic part can be made of rubber, steel or the like and can be torus-like, like a hollow cylinder etc.

3,514,121
ATTACHMENT DEVICE
John D. Kusianovich, Albuquerque, N. Mex., assignor to Energy Conversion Systems, Inc., Albuquerque, N. Mex., a corporation of New Mexico
Filed May 16, 1968, Ser. No. 736,915
Int. Cl. A63c *9/08*
U.S. Cl. 280—11.35 6 Claims



This invention relates to an attachment device comprising a housing with one or more pairs of parallel rolling elements contained therein operably connected together by a flexible, extensible band under tension with each of the rolling elements engaging opposite sides of the band and being positioned between opposite parallel sides of the housing which sides act as retaining members of the rolling elements, and a retention means on one of the two sides for retaining one of the rolling elements in a predetermined position until sufficient rotational force is supplied to that element to overcome the retention force of the retention means, and an engagement means, such as a lever arm, is connected to the other rolling element so that rotational force can be applied to that rolling element which is in turn transmitted to the first rolling element to cause it, upon the rotational force reaching a predetermined strength, to move away from the retention means.

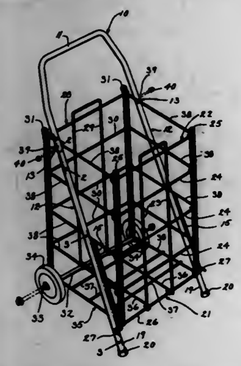
3,514,122
SHOCK ABSORBING SKID
Richard M. Corsetti, Lynn, Mass., assignor to Craig Systems Corporation, a corporation of Massachusetts
Filed Nov. 8, 1968, Ser. No. 774,285
Int. Cl. B62b *17/04*
U.S. Cl. 280—25 2 Claims



A shock absorbing skid for use in supporting a container that may be dropped or dragged over rough terrain to absorb acceleration and acceleration changes, comprising an elongated composite beam of high density

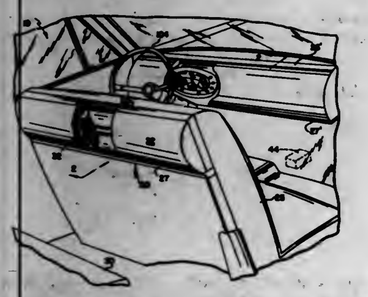
flexible compressible foam material formed with a series of apertures intermediate its ends to modify it in stiffness and connected at the bottom to a metal shoe and at the top to a pair of connecting plates adapted to be secured to the container.

3,514,123
COLLAPSIBLE SHOPPING CART
Stanley G. Injeski, Milwaukee, Wis., assignor, by mesne assignments, to Worldsbest Industries, Inc., Sturgis, Mich., a corporation of Delaware
Filed Mar. 27, 1968, Ser. No. 716,566
Int. Cl. B62b *1/04*
U.S. Cl. 280—36 2 Claims



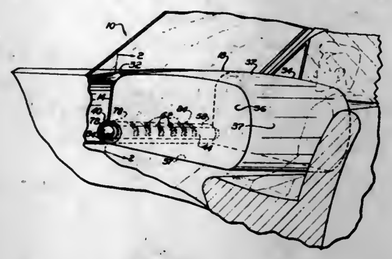
A collapsible shopping cart of the type having a U-shaped tubular support frame including a handle piece and two leg pieces depending from the handle piece, a collapsible article-retaining basket adjustable between open and collapsed conditions positioned between said leg pieces and pivotally connected to the support frame, the basket having ground engaging wheels thereon, and means operatively associated with the support frame and basket to limit the movement of the basket between the open and collapsed conditions, wherein the handle piece and leg pieces are advantageously separable, the leg pieces being detachably connected to the handle piece to form the support frame.

3,514,124
VEHICLE SAFETY DEVICE
Robert W. Richardson, Orchard Lake, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 16, 1967, Ser. No. 661,086
Int. Cl. B60r *21/00*
U.S. Cl. 280—150 19 Claims



A safety apparatus is operable to protect an occupant or occupants of a vehicle during a collision. The safety apparatus includes a safety device which is adapted to be mounted on an interior part of the vehicle. The safety device comprises an energy absorbing panel member which is releasably secured to an interior part of the vehicle and contoured so as to form a part of the interior design and means for moving the panel member relative to the occupant or occupants to restrain the same against movement during a collision and absorb the energy. The means for moving the panel comprises an expansible confinement secured to the inner side of the panel, the confinement when expanded moving the panel outwardly of the interior part. The safety device further includes a porous, energy absorbing cushion means disposed behind the panel for absorbing the energy of the occupant or occupants upon the latter impacting thereagainst when the confinement is not expanded. The panel may be located at any suitable location within the automobile. In the illustrated embodiments, the panel comprises a portion of the dashboard or the entire dashboard of the vehicle and/or a panel mounted on the front seat for protecting either the occupants sitting in the front or rear seat of the vehicle.

3,514,125
SAFETY APPARATUS AND METHOD OF ASSEMBLY THEREOF
Jerry E. Nemecek, Ferndale, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 20, 1968, Ser. No. 738,462
Int. Cl. B60r *25/00*
U.S. Cl. 280—150 11 Claims

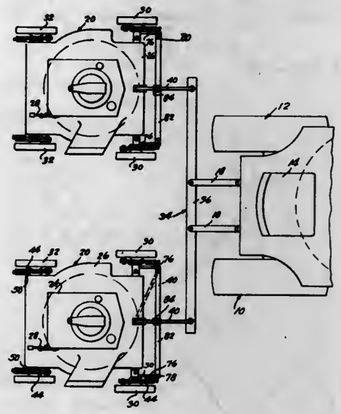


A vehicle safety apparatus includes an inflatable confinement and an inflation assembly for inflating the confinement. The confinement has a slit through which the inflation assembly is inserted into the interior of the confinement. The inflation assembly is then manipulated within the confinement so that opposite ends of the inflation assembly engage seal assemblies formed in opposite sidewalls of the confinement.

3,514,126
MOWER UNIT
William H. Fuss, 5338 Redan Road, Stone Mountain, Ga. 30083
Filed Oct. 18, 1968, Ser. No. 768,682
Int. Cl. B62d *53/00*
U.S. Cl. 280—411 7 Claims

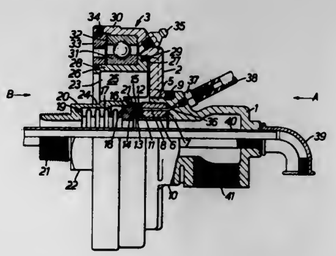
A mower unit comprising a self-propelled unit with seating means for an operator with said mower unit having hitch means on the rear thereof for attaching other non-propelled mower units thereto, with the hitching means provided with vertical slot means for enabling the mower units connected to the hitch means to adjust for up and down movement of the mower unit over uneven terrain. The non-propelled units that are connected to the hitch means are further provided with means for

permitting turning of the front wheels and other means for locking the front wheels in a straight fore and aft direction when it is desired to unhitch them from the hitch means so that they can be used as manual mower



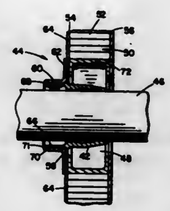
units, and the wheel means of the non-propelled mower units are further provided with means for quickly adjusting the heighth of the wheels without removing the wheels from the mower housing.

3,514,127
SWIVEL COUPLINGS
Edward Richard Brooker, Ampthill, England, assignor to The United Flexible Metallic Tubing Company Limited, Enfield, Middlesex, England, a British company
Filed Sept. 28, 1967, Ser. No. 671,420
Int. Cl. F16l *53/00*
U.S. Cl. 285—41 2 Claims



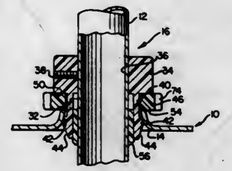
A swivel coupling for joining in a gas- or liquid-tight manner a rotating or oscillating component and a stationary component. A seal member is urged into contact with the end of the stationary component by a bellows fixed to the other component. The two components are supported for relative rotation by bearings disposed around the bellows and are spaced therefrom to accommodate fan blades which circulate cooling air. The seal member is apertured to permit controlled escape of fluid passing through the coupling when a predetermined degree of seal wear has occurred. The escape of fluid is used to actuate a warning device.

3,514,128
WELDED JOINT
William L. Hack, Tulsa, Okla., and John A. Stein and Roderick G. Rohrberg, Torrance, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Original application Aug. 23, 1962, Ser. No. 218,924, now Patent No. 3,344,498, dated Oct. 3, 1967. Divided and this application Feb. 27, 1967, Ser. No. 618,671
Int. Cl. F16l *3/04, 5/00, 41/00*
U.S. Cl. 285—158 11 Claims



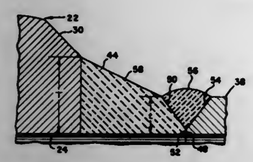
The disclosure is of a structural connection between a metal tubular conduit and a double-walled lightweight steel panel such as honeycomb core sandwich type panel used in modern missiles and aircraft. A hole in the bulkhead is provided with a flanged collar concentric with another flanged collar on the conduit. With the cylindrical shaped flanges on both stated collars in close alignment and continuous circumferential load-transmitting contact, welding heat is applied progressively along the distal edges of both flanges to join the two, whereby the weld seam is spaced apart from both the conduit and the panel. The deleterious effects of high welding heat on both stated components are thus avoided in the resulting joint.

3,514,129
SANITARY CONNECTOR WITH LOCKING MEANS THEREON
Donald R. Holdren, West Liberty, Ohio, assignor to Holdren Brothers, Incorporated, West Liberty, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 504,482, Oct. 24, 1965. This application Nov. 9, 1967, Ser. No. 681,697
Int. Cl. F16l *3/04, 5/00*
U.S. Cl. 285—162 7 Claims



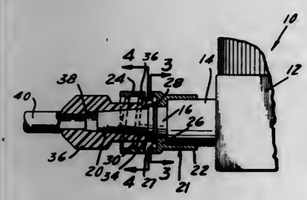
A sanitary connector having resilient fingers depending from one side thereof and adapted to be inserted into a neck-type opening in a tank to be cleaned. The fingers spring outwardly away from the center of the opening after being inserted therethrough to engage said opening on the inside of said tank. A lock member, having camming fingers thereon, is then rotated to position the camming fingers in radial alignment with the resilient fingers to prevent their movement towards the center of the opening, thereby locking the connector on the tank.

3,514,130
WELD END FITTINGS
Bertram J. Milleville, Pittsburgh, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 19, 1966, Ser. No. 580,493
Int. Cl. F16b 13/02, 47/02, 55/00
U.S. Cl. 285—173 21 Claims



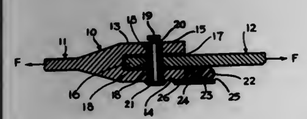
A fitting and method of making same wherein fluid inlet and/or outlet ends of the fitting, which are prepared for butt welding to a conduit or the like, are formed from weld metal and are fused to the cast or forged main body section of the fitting.

3,514,131
LUER LOCK
Carlton F. McKinney, Los Angeles, Calif., assignor to Hamilton Company, Whittier, Calif., a corporation of California
Filed May 22, 1967, Ser. No. 640,310
Int. Cl. F16l 25/00
U.S. Cl. 285—332 5 Claims



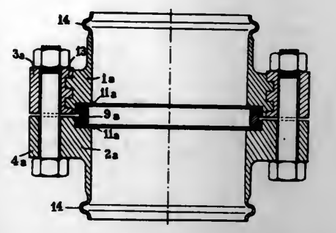
A luer lock having an element rotatably mounted on a device having a luer part for releasably securing a mating luer part thereto.

3,514,132
PRESSURE VESSEL CONNECTION
Raymond A. Peabody, Waterford, Conn., assignor to Perry Oceanographics, Inc., Riviera Beach, Fla., a corporation of Florida
Filed June 10, 1968, Ser. No. 736,938
Int. Cl. F16l 25/00
U.S. Cl. 285—331 2 Claims



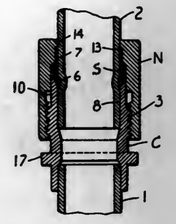
A high pressure tank closure and tube connection having the rim of one member formed as a circular clevis with the rim of a second member adapted to seat therein and a resilient seal means loosely disposed inwardly of the juncture point of the two members for sealing the connection in response to hydraulic pressure exerted thereon.

3,514,133
LEAK-PROOF DEVICES FOR CONNECTING SIMILAR PIPES AND HOSES
Georges Besse, Fontenay-aux-Roses, France, assignor to Societe d'Etudes et de Developpement des Industries Modernes (S.E.D.I.M.), Hauts-de-Seine, France, a corporation
Filed Mar. 26, 1968, Ser. No. 716,012
Claims priority, application France, Mar. 30, 1967, 100,743; Feb. 21, 1968, 140,609
Int. Cl. F16l 17/00
U.S. Cl. 285—336 2 Claims



A fluid-tight joint for a pair of tubular members in which at least one washer of ductile material and an intermediate ring of a hardness substantially equal to that of the tubular members are sandwiched between substantially parallel plane faces of the tubular members extending transverse to the aligned axes thereof with at least one convex face of the ring engaging the washer and in which means cooperate with the tubular members for forcibly drawing the same toward each other so as to press the convex face of the ring into the ductile washer while the latter rests on the plane face of one of the members.

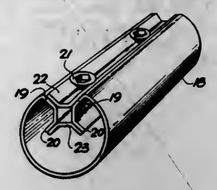
3,514,134
CONDUIT FITTING WITH SEAL
O O Shurtleff and Louis Charles Shurtleff, Austin, Tex., assignors to Chatleff Controls, Inc., Austin, Tex., a corporation of Texas
Filed Nov. 6, 1968, Ser. No. 773,760
Int. Cl. F16l 17/00
U.S. Cl. 285—341 4 Claims



A tubular coupling is adapted to have its rear end secured to a pipe. The inside of the coupling at its front end has an annular recess with a cylindrical side surface and end surfaces tapered away from it. Near the back of the coupling its inside tapers rearwardly. A sealing ring in the recess is in contact with its side surface. The coupling has an outer cylindrical surface extending forward to a point beside the front end of the recess side surface, and the side wall of the recess and the portion of the coupling in front of it are thin and deformable. A nut for encircling a tube has a front end screwed part way onto the coupling and also has an inner surface engaging the coupling around its recess. The rear end of the nut

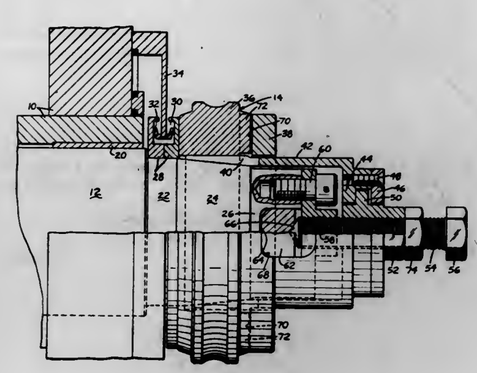
has a portion spaced axially from the front end of the coupling. When the nut is tightened on the coupling, the nut deforms the thin part of the coupling to force the seal rearwardly and inwardly in the coupling.

3,514,135
INTERNAL EXPANDING COUPLING FOR TUBULAR MEMBERS
Clinton T. Cooper, 372 Melbourne Ave., Youngstown, Ohio 44512
Filed Aug. 16, 1968, Ser. No. 753,271
Int. Cl. F16b 7/00
U.S. Cl. 285—397 2 Claims



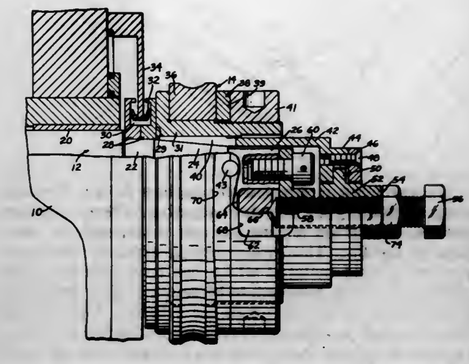
An internal expanding coupling for coaxially joining tubular members consisting of a split sleeve for registry in said tubular members and having oppositely disposed angularly inclined longitudinal flanges extending inwardly thereof together with means movable radially of said coupling between said flanges for moving the same apart and expanding said sleeve.

3,514,136
ROLL FOR ROD MILL AND MOUNTING ARRANGEMENT THEREFOR
Wilbur L. Kennicott, Ligonier, Pa., assignor to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1968, Ser. No. 768,843
Int. Cl. B60b 27/06
U.S. Cl. 287—53 11 Claims



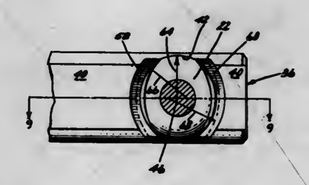
A form roll of hard material, such as cemented tungsten carbide, for example, is mounted on a driving shaft. A driving ring abuts one side of the roll and is keyed thereto by interfitting lugs and notches on the roll and ring. A bar-like key engages the notches in the shaft and ring and keys the ring to the shaft and is engaged by a screw which clamps the ring to the roll. A split sleeve is forced between a cylindrical central bore in the roll and a tapered portion on the shaft which the roll surrounds.

3,514,137
ROLL FOR ROD MILL AND MOUNTING ARRANGEMENT THEREFOR
Thomas A. Brown, Greensburg, and Joseph B. Huber, Acme, Pa., assignors to Kennametal Inc., Latrobe, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1968, Ser. No. 768,871
Int. Cl. B60b 27/06
U.S. Cl. 287—53 9 Claims



A form roll of hard material, such as cemented tungsten carbide, for example, is mounted on a sleeve carried by a driving shaft. A driving ring abuts one side of the roll and is keyed thereto by interfitting portions on the ring and roll. A nut on the sleeve clamps the ring against the roll and the roll against a flange on the end of the sleeve. A bar-like key engages notches in the shaft in the nut and keys the nut and roll to the shaft and is engaged by a screw which clamps the sleeve against a shoulder on the shaft. A split sleeve is forced between a cylindrical central bore in the sleeve supporting the roll and a tapered portion on the shaft which the roll and its sleeve surround.

3,514,138
BALL JOINT ASSEMBLY
Gilbert E. Davies, John M. Weston, and Gino L. Gasparini, Fort Wayne, Ind., assignors, by mesne assignments, to Tuthill Pump Company, a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 479,860
Int. Cl. F16c 11/06
U.S. Cl. 287—90 6 Claims

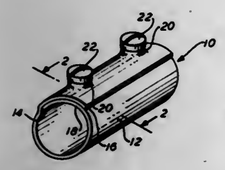


The present invention relates to a ball joint assembly wherein the socket element comprises a cylindrical body provided with a flat side having a socket bore therein which bore has an open end intersecting the flat side and part of the cylindrical body portion. Opposite sides of the socket opening along the axis of the cylinder are provided with coined indentations so as to deform metal of the bore wall inwardly against a ball stud located in the socket bore.

3,514,139
COUPLING

Menashe Bromberg, West Orange, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey

Filed Nov. 6, 1967, Ser. No. 680,667
Int. Cl. F16b *1/00*
U.S. Cl. 287—118 8 Claims

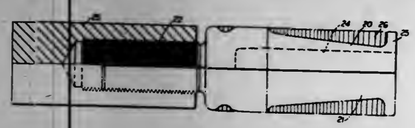


The invention is directed to coupling devices for coupling a plurality of members together. These members may be tubular or rectangular and tubes, may be rods, hose, or the like. The basic coupling structure involves a portion of rigid material which has been formed into a cylinder to accept members to be coupled either internally or externally of the surface of the cylinder. A portion of the surface of the cylinder is allowed to overlap providing an overlap region. Apertures are extruded through both the inner and outer portions of the overlap region forming extruded holes therethrough with interacting hubs. The hub of the inner portion which has been extruded through and captured by the hub of the outer portion is threaded to admit a set screw which will be used to capture the member, or members, to be coupled. The various embodiments of the device permit the direct coupling of two, for example, rigid raceways by means of separate set screws on the coupling itself. Additionally, one end of the coupling may be provided with such a set screw arrangement, as described, while the other portion is either internally or externally screw-threaded to accept members having threaded fittings.

3,514,140
STAY MEMBER, TENSION ROD AND END FITTING

Richard Anthony Ely and Andrew Squire Moseley, Gloucester, England, assignors to Permali Limited, Gloucester, England, a company of Great Britain and Northern Ireland

Filed Apr. 23, 1968, Ser. No. 723,393
Int. Cl. F16b *7/00*; F16d *1/00*; F16l *21/00*
U.S. Cl. 287—124 4 Claims

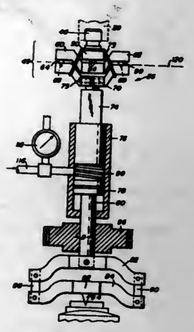


The specification discloses a tension rod made of laminated material in which end attachments to the rod (so that it can be used in a stay under tension) are made possible by outwardly flaring that end of the rod in a gradual divergence. The rod can be circular or rectangular in cross section with the flaring ends being conical or wedge-shaped. Stay members for securing to these ends have two divergent surfaces to lie flush against the divergent surfaces of the rod. In one specific form, a two-part sleeve of which the internal surface is the frustum of a cone surrounds the flared end and an internally screw-threaded cup is screwed over the two parts to hold them together. The cup is provided with means for attaching to a line. In another form, the flared end can be placed between two parts which together make up a shaped recess for receiving that end, the parts themselves being directly screwed together. Alternatively, the flared end can be fitted between divergent legs of a fork, the legs of the fork being prevented from moving apart under stress by applying a winding around them.

3,514,141
UNIVERSAL JOINT

Jack M. Suddarth, Fort Gibson, and Dolph L. Gray, Muskogee, Okla., assignors to Coburn Manufacturing Company, Inc., Muskogee, Okla., a corporation of Oklahoma

Original application July 1, 1964, Ser. No. 379,509, now Patent No. 3,389,508, dated June 25, 1968. Divided and this appplication Apr. 22, 1968, Ser. No. 745,058
Int. Cl. F16d *3/10*
U.S. Cl. 287—130 5 Claims

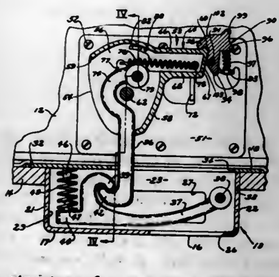


A universal joint for joining shafts which is subjected to radial and longitudinal thrusts comprising a top bracket attached to one shaft and a bottom bracket attached to the other and an intermediate bracket between the top and bottom brackets. The brackets cooperate to provide pivotal bearings and bearing surfaces in the same horizontal plane with the intermediate bracket providing diametrically spaced bearing surfaces for one bracket having bearings thereon and providing diametrically opposed bearing supports for cooperation with bearing surfaces on the other bracket, the bearings being equally, circumferentially spaced.

3,514,142
TRUCK DOOR LOCK

Vernon O. Smith, Ashley, Ohio, assignor to Overhead Door Corporation, Marion, Ohio, a corporation of Indiana

Filed Sept. 21, 1967, Ser. No. 669,481
Int. Cl. E05b *15/02*; E05c *19/72*
U.S. Cl. 292—113 9 Claims

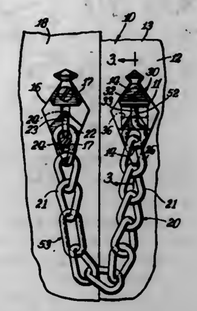


A lock structure for an upwardly-acting door of a truck van wherein a latch bolt is pivotally supported upon a manually operable arm which is in turn pivotally supported upon the lower end of the door. The latch bolt is adapted to extend below the lower edge of the door for engagement with a resiliently biased catch mounted in the truck bed. A keeper, which is arranged for automatically holding the actuating arm in the latched position, can be easily rendered inoperative.

3,514,143
CHAIN DOOR LOCK

Edward E. Schaefer, 1134 Oak Knoll Drive, Lake Forest, Ill. 60045

Continuation-in-part of application Ser. No. 652,552, July 11, 1967. This application Nov. 5, 1968, Ser. No. 777,984
Int. Cl. E05c *17/36*
U.S. Cl. 292—264 12 Claims

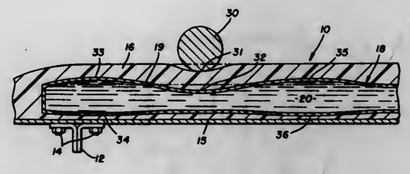


A chain door lock including a door bracket for mounting on a door, a door frame bracket for mounting on structure adjacent the door, and a chain for detachably interconnecting the door and door frame brackets. One end of the chain is retained by the door frame bracket and the other end of the chain is detachably connected to the door bracket when positioned in a channel in the door bracket. Movement of the chain into or out of the channel to render the device operative or inoperative is achieved by a key element in the chain and an opening in the door bracket which extends into the channel and which will only permit passage of the key element.

3,514,144
ELASTOMERIC ENERGY DISSIPATING BUMPER

Sterling W. Alderfer, Akron, Ohio, assignor to Sterling Alderfer Company, Akron, Ohio, a corporation of Ohio

Filed Nov. 1, 1967, Ser. No. 679,922
Int. Cl. B60r *19/08*; B61f *19/04*; F16f *7/00*
U.S. Cl. 293—71 6 Claims

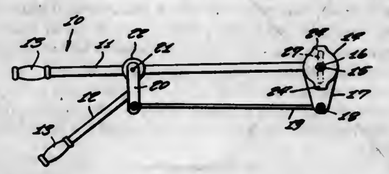


A vehicle bumper for absorbing rather than merely storing energy. The bumper is constructed with a urethane elastomer body portion supported on a rigid backing plate. A distensible chamber is fully embedded within the body portion and completely filled with a non-compressible liquid.

3,514,145
SAFE-HAND

Kenneth R. Elgin, P.O. Box 7, and James O. Youngblood, 200 Dunsmuir Ave., both of Dunsmuir, Calif. 96025

Filed Oct. 14, 1968, Ser. No. 767,453
Int. Cl. A47f *13/06*
U.S. Cl. 294—19 5 Claims

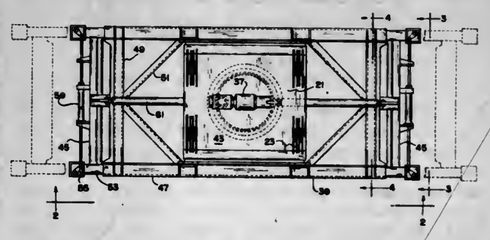


A device for removing hot radiator caps from automobile radiators, the device including a pair of levers which serve as handles at one end, one of the levers supporting pivotally free a rotatable head which is placed over a hot radiator cap, while the other lever comprises means for rotating the head so as to unscrew the radiator cap.

3,514,146
EXTENSIBLE LIFTING SPREADER

Charles H. Zweifel, Oakland, and George W. Cooper, San Leandro, Calif., assignors, by mesne assignments, to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan

Continuation-in-part of application Ser. No. 643,993, June 6, 1967. This application Feb. 26, 1968, Ser. No. 708,250
Int. Cl. B66c *1/00*
U.S. Cl. 294—67 4 Claims

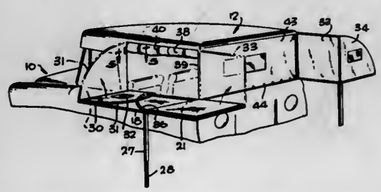


A lifting spreader having a central portion and two end portions which can be reciprocated with respect to the center portion by means of hydraulic cylinders whereby the length of the spreader is adjustable.

3,514,147
CONVERTIBLE CAMPER VEHICLE

Robert W. Forsyth and John P. Forsyth, both of 1517 N. 3rd Ave., Upland, Calif. 91786

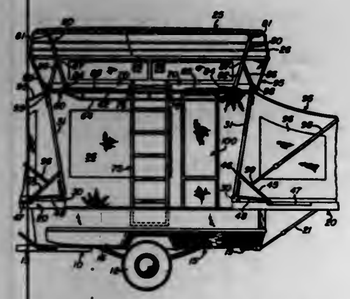
Filed Feb. 26, 1968, Ser. No. 708,089
Int. Cl. B60p *3/34*
U.S. Cl. 296—23 12 Claims



The camper vehicle disclosed herein provides a self-contained mobile body having a convertible enclosed liv-

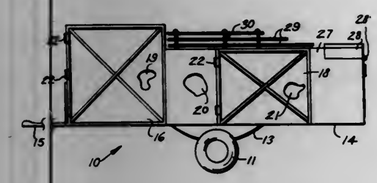
ing compartment defined by laterally extendable berth panels mounting rearwardly pivoted berth extensions so that in a first roadable configuration, the berth panels and extensions therefor serve as the opposite sides and rear compartment closures and when in a second configuration, the berth panels and extensions constitute a pair of berths longer than the length of the compartment. A foldable cover normally stored in the compartment is deployed over the combined length of each berth panel and extension to enclose the berthing areas when in their second configuration. Foldable upright front and rear section brace means are employed to support the cover over the berth and extension panels while a telescoping pivoting leg supports the extended berth panels when laterally extended.

3,514,148
CAMPING TRAILER
William B. Hunter, Hamilton, and Robert E. Wiegert, Middletown, Ohio, assignors to Ward Manufacturing, Inc., Hamilton, Ohio, a corporation of Ohio
Filed Feb. 27, 1968, Ser. No. 708,616
Int. Cl. B60p *3/34*
U.S. Cl. 296—23 **10 Claims**



A collapsible camping trailer has a body, a cover for the body, a pair of lower beds and an upper bed platform. The cover is supported by pivotal legs for movement between a collapsed position adjacent the platform and an elevated position spaced above the platform, the lower beds are movable between retracted positions over the body and extended positions projecting outwardly from the body, and the platform is supported by spring biased pivotal legs connected to the lower beds for movement in response to movement of the lower beds between a collapsed position adjacent the lower beds and an elevated position spaced above the head of a person standing within the body.

3,514,149
TRAILER
William Lee Smalley, Metairie, La.
(417 John Hopkins Drive, Kenner, La. 70062)
Filed May 24, 1968, Ser. No. 731,979
Int. Cl. B60p *3/23*; B60r *9/00*
U.S. Cl. 296—23 **1 Claim**



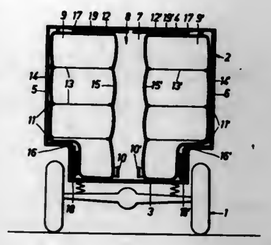
A trailer suitable for camping and picnicking having a plurality of compartments in which beds, chairs, water, ice, clothing and food may be stored. This trailer also has spaced apart rails on the top for tying down other items when necessary and doors on the side of the trailer allow for access to the interior compartments thereof.

3,514,150
CAMPING TRAILER LIFT MECHANISM
Joseph D. Wallace, Wichita, Kans., assignor to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas
Filed June 3, 1968, Ser. No. 733,888
Int. Cl. B60p *3/34*
U.S. Cl. 296—23 **10 Claims**



A cable drawing mechanism for use in combination with a camping trailer to raise and lower the top. The top, which forms a cover for the body in its lowered position is mounted on cable-operated telescopic corner posts and the operating cables extend inwardly from the lower post sections for connection to the cable drawing mechanism. The cable drawing mechanism includes a screw shaft which is rotatably mounted in the trailer frame. A nut is threadedly engaged with the shaft and a channel-shaped draw bar is secured to the nut in a manner which maintains the draw bar substantially perpendicular to the shaft. Eye hooks provided with threaded ends are inserted through openings in the channel and are secured against withdrawal by nuts received on the threaded end, and the end of each cable is looped through an eye hook and clamped. Rotation of the screw shaft in one direction advances the nut and draw bar along the shaft thereby drawing the cables to raise the top. Rotation of the screw shaft in the other direction allows the weight of the top to collapse the telescopic posts, returning the top to the lowered position.

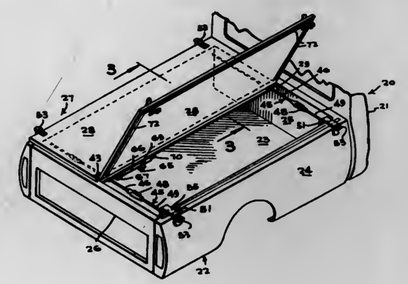
3,514,151
TRANSPORT VEHICLE
Fritz Hacker, Ludwigsburg-Osswell, Germany, assignor to Firma Dr.-Ing. h.c.F. Porsche KG, Stuttgart-Zuffenhausen, Germany
Filed Oct. 24, 1967, Ser. No. 677,586
Claims priority, application Germany, Nov. 24, 1966, 1,580,567
Int. Cl. B60p *3/24*
U.S. Cl. 296—39 **9 Claims**



A transport vehicle for carrying non-deformable as well as liquid, pulverulent, or similar flowable materials.

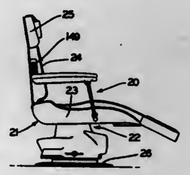
The vehicle body has side walls defining a loading space and having attached thereto a collapsible container for holding flowable materials. The container is collapsible against the side walls and may be covered by cover plates so that the loading space may be filled with non-deformable material.

3,514,152
TRUCK BED BOX COVER
Lowell Vance Hermon, 620 El Paraiso NW., Albuquerque, N. Mex. 87107
Filed Sept. 11, 1968, Ser. No. 759,097
Int. Cl. B60j *7/10*
U.S. Cl. 296—137 **2 Claims**



A cover for pick-up truck boxes or beds wherein there is provided a single beam as the support for two horizontal doors on the cover top, and wherein there is provided a locking means, and support mechanism.

3,514,153
DENTAL CHAIR CONTROL
John A. Maurer, Victor R. Ferguson, and Wilbur L. Espenschied, Canton, Ohio, assignors to The Weber Dental Manufacturing Company, Canton, Ohio, a corporation of Ohio
Filed June 3, 1968, Ser. No. 734,113
Int. Cl. A47c *3/30*
U.S. Cl. 297—71 **9 Claims**



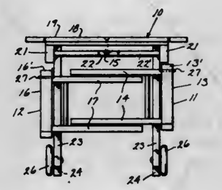
Control means for a dental chair having a hydraulic cylinder operated jack, a seat pivotally connected to the upper end of the jack, a seat back pivotally connected to the seat, hydraulic cylinder means for tilting the seat up and down and hydraulic cylinder means for raising and lowering the seat back.

A motor driven pump draws oil from an oil sump and pumps it to the various cylinders through a hydraulic circuit. A plurality of solenoid valves selectively control the flow of oil to and from the several cylinders.

The motor and solenoids are located in an electrical circuit containing a motor relay and a solenoid relay controlled by a thermal relay. A set of electrical switches on each side of the seat back independently controls the motor and the solenoid switches for "up" and "down" movement of the jack, "up" and "down" movement of the seat back, and "up" and "down" tilting movement of the chair seat.

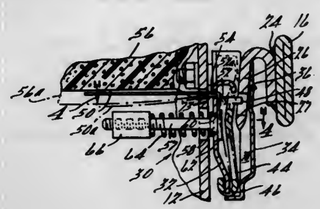
A "return" switch on each side of the seat back simultaneously controls the motor and all of the proper solenoid valves, through the thermal relay, to move the chair from a jack "up," seat back "down" and seat titlted "up" position, to a jack "down," seat back "up" and seat tilted "down" or level position.

3,514,154
PICNIC TABLE AND BENCH ASSEMBLIES
Aaron L. Kotler, Glencoe, Ill., assignor to The Goshen Manufacturing Co., Inc., Goshen, Ind., a corporation of Indiana
Filed Aug. 14, 1968, Ser. No. 752,524
Int. Cl. A47b *1/04, 39/00*
U.S. Cl. 297—159 **5 Claims**



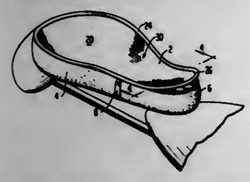
A picnic-type table having supporting elements for removably suspending a pair of benches beneath the table top for compact storage, the top of said table being pivotal and hinged to permit the overhanging portions thereof to be folded down in a compact position concealing said suspended benches when the table is not in use. In its open condition said table provides relatively unobstructed leg room beneath the table top, and also provides stored as a compact, integral unit.

3,514,155
SEAT BACK LATCH MECHANISM
Albert R. Close, Oak Park, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Original application May 2, 1967, Ser. No. 635,492, now Patent No. 3,433,524, dated Mar. 18, 1969. Divided and this application Aug. 22, 1968, Ser. No. 754,642
Int. Cl. B60m *1/02*; A47c *3/00*
U.S. Cl. 297—379 **9 Claims**



A mechanism for latching a pivotally mounted vehicle seat back relative to a horizontal seat member. This mechanism includes weight sensitive retaining means preventing seat back movement while the seat is occupied by a passenger and permitting normal pivotal seat back movement while the seat is unoccupied. Secondary retaining means, including an inertial control element, prevent relative seat back movement during periods of change in vehicle velocity whether or not the seat is occupied by a passenger.

3,514,156
VENTILATING SEAT PAD FOR MOTORCYCLES
Charles C. Fields, 4924 Morwanda St. NW., Roanoke, Va. 24017
Filed Apr. 15, 1969, Ser. No. 816,299
Int. Cl. A47c 27/14, 21/04
U.S. Cl. 297—453 3 Claims



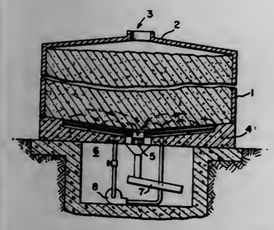
A pear-shape seat pad is formed of top and bottom cover sheets of foraminous fabric with a dimpled and perforate core of springy sheet material sandwiched therebetween. A strap for securing the pad over a motorcycle seat is disposed rearwardly of the front or smaller end of the pad so that the smaller end, which projects forwardly of the crotch of a rider, flexes upwardly and forms an air scoop.

3,514,157
APPARATUS FOR PACKING AND HANDLING SHIPMENTS
Edward M. Geiser, Downers Grove, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,407
Int. Cl. B60p 1/04; B65d 7/24, 71/00
U.S. Cl. 298—22 6 Claims



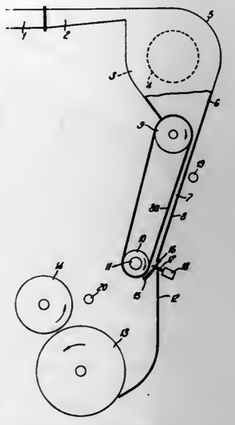
A shipping compartment provided with inlets and outlets through which bulk goods may be loaded or unloaded, collapsible into a single plane and equipped with an inflatable bag within a shipping compartment to displace free air and fill the balance of the volume not occupied by the goods to be shipped. The shipping compartment rests on a bottom through which air is expelled forcing the compartment upward.

3,514,158
PNEUMATIC CONVEYING APPARATUS
Kermit B. Stahler, Allentown, Edward T. Mitman, Schnecksville, and Warren G. Greene, Catasauqua, Pa., assignors to Fuller Company, a corporation of Delaware
Filed Apr. 15, 1968, Ser. No. 721,335
Int. Cl. B65g 53/40
U.S. Cl. 302—52 8 Claims



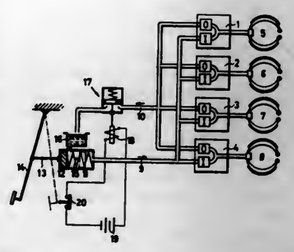
A fluidizing unit for a pneumatic conveying system having gas supply lines positioned within the fluidizing unit.

3,514,159
APPARATUS FOR CONTINUOUSLY FEEDING CUT TOBACCO INTO A CIGARETTE-MAKING MACHINE
Francis Auguste Maurice Labbe, Neuilly-sur-Seine, France, assignor to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed Nov. 8, 1967, Ser. No. 681,333
Claims priority, application Great Britain, Nov. 15, 1966, 51,081/66
Int. Cl. B65g 53/60
U.S. Cl. 302—59 10 Claims



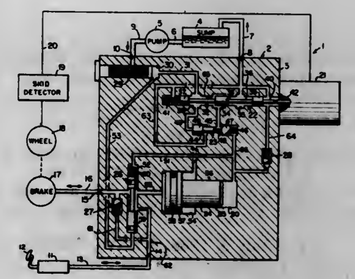
In a pneumatic feeding apparatus for feeding tobacco, e.g. to a cigarette-making machine, tobacco moves through a separating chamber, in which air is drawn off, and the tobacco then moves through a channel in which it forms an airlock for the separating chamber. One wall of the channel is movable at controlled variable speeds, and means are provided to control the rate of supply to the channel according to the quantity therein.

3,514,160
ANTIWHEEL-LOCKING BRAKE CONTROL SYSTEM SAFETY DEVICE
Heinz Leiber, Leimen, Germany, assignor to Teldix G.m.b.H., Heidelberg, Germany
Filed Nov. 21, 1968, Ser. No. 779,298
Claims priority, application Germany, Nov. 21, 1967, 1,655,457
Int. Cl. B60t 17/18, 8/00
U.S. Cl. 303—21 6 Claims



A brake control system for preventing wheel locking which is suitable for use with hydraulically actuated brakes of wheeled vehicles. The system includes a safety device which inhibits the operation of the brake control system before it discharges all the available hydraulic fluid from the portion of the brake system which supplies the fluid under pressure. The safety device includes a shut-off valve arranged in the fluid return line that returns the discharged fluid to the fluid reservoir. When the brake actuating mechanical linkage (e.g. the brake pedal) reaches a predetermined position near the end of its travel, the shut-off valve is closed and the fluid is prevented from returning to the reservoir.

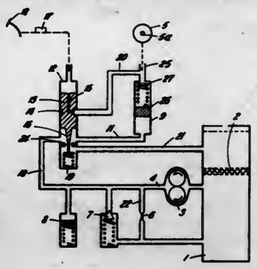
3,514,161
BRAKE PRESSURE CONTROL VALVE
Theodore Frayer, North Canton, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed June 11, 1968, Ser. No. 736,183
Int. Cl. B60t 8/10
U.S. Cl. 303—21 3 Claims



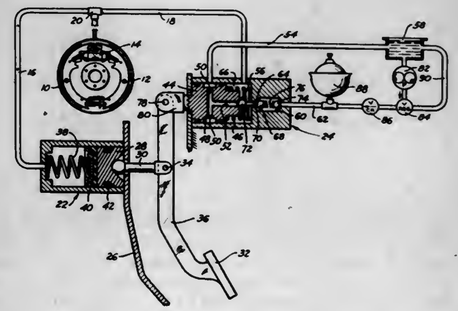
A brake pressure control valve in a brake system having a power boost master cylinder and an anti-skid detector. When a skid occurs, an electrical impulse from the skid detector operates a pressure regulator solenoid valve which regulates inlet pressure from a main hydraulic supply. The amount of pressure controlled by the regulator valve determines the relative position of a cavity volume control piston within a brake pressure regulating cavity. A separate hydraulic supply isolated from the main supply is connected between the master cylinder and the brake cylinder. The separate hydraulic supply is connected by a line to one end of the pressure regulating cavity so that changes in the cavity volume brought about by changes in position of the cavity volume control piston cause related changes in the hydraulic pressure to the brake. When the brakes are being applied and a skid condition occurs, the solenoid valve reduces the inlet pressure causing a valve to close off the pressure from the master cylinder to the brake cylinder just before it moves the cavity volume control piston to increase the cavity volume and thereby decreases the hydraulic pressure in the brake.

3,514,162
BRAKING APPARATUS
Vivien Woodland Eriebach and Richard Frank Gandy, London, England, assignors to Simms Group Research & Development Limited, London, England, a British company
Filed Oct. 4, 1968, Ser. No. 765,192
Claims priority, application Great Britain, Oct. 10, 1967, 46,183/67
Int. Cl. B60t 8/06
U.S. Cl. 303—21 3 Claims

A vehicle brake pedal pumps fluid to operate a slidable shuttle valve to control fluid pressure supplied to the brake from a pump driven by rotation of the vehicle wheel. A passage is provided through the shuttle valve so that fluid pumped by the brake pedal can pass through this passage to operate the brake. If the brake pedal is pushed further the fluid moves the shuttle valve against a biass to cut off the passage from the pedal to the vehicle wheel brake and to allow pressure from the pump to operate the brake.

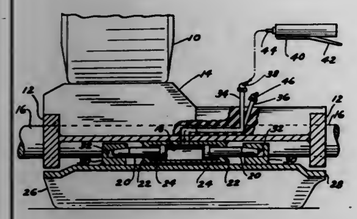


3,514,163
POWER BRAKE SYSTEM
Stanley I. MacDuff, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Sept. 27, 1962, Ser. No. 226,614
Int. Cl. B60t 11/16; F15b 15/18, 7/00
U.S. Cl. 303—49 2 Claims



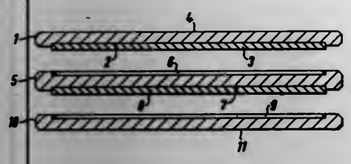
1. A power brake system comprising:
a power brake control housing including an inlet port for receiving a fluid pressure, a return port for a fluid reservoir, and a discharge port for a pressure reponsive braking device;
a valve in said housing operatively connecting said inlet port and said discharge port, which valve includes a slidable element biased by a spring to normally connect said discharge port to said return port;
a piston in said housing and coaxial with said valve, which piston has an axial passage for communicating said port for the pressure responsive device with said slidable element, said piston being biased by a spring to the rear of said housing; and
a pedal interconnecting rod operatively connected to slidable element and to said piston to first move said element and upon bottoming of said element to move said piston.

3,514,164
HYDRAULIC QUICK DISCONNECT TRACK PAD FASTENER
Michael W. Kaifesh, Warren, Mich., assignor to the United States of America as represented by the Secretary of the Army
Filed Sept. 10, 1968, Ser. No. 758,724
Int. Cl. B62d 55/26
U.S. Cl. 305—55 6 Claims



Apparatus providing a quick detachable means of securely mounting removable track pads to tank track shoes.

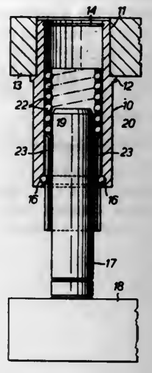
3,514,165
RESILIENT BEARINGS
Sydney William Marsh, New Malden, England, assignor to Solartridge Engineering Limited, Glasgow, Scotland, a corporation of Scotland
Filed May 6, 1968, Ser. No. 726,819
Claims priority, application Great Britain, May 18, 1967, 23,218/67
Int. Cl. F16c 17/10
U.S. Cl. 308—3 2 Claims



A resilient load supporting bearing comprising a plurality of separate, superposed slabs (1, 5, 10) of elastomeric material e.g. rubber, including a pair of terminal slabs (1, 10) and at least one intermediate slab (5), at least one of the terminal slabs (1) and each intermediate slab (5) having a reinforcing metal plate (3, 8) projecting from the slab to form a spigot arranged to engage in a recess (6, 9) in an adjacent slab, the slabs (1, 5, 10) being bonded together to form a unitary bearing assembly.

3,514,166
GUIDES FOR DIE SETS
Samuel E. Coley, Dorridge, Solihull, England, assignor to Rotolin Bearings Limited, Solihull, Warwickshire, England
Filed Aug. 8, 1968, Ser. No. 751,252
Claims priority, application Great Britain, Aug. 12, 1967, 37,128/67
Int. Cl. F16c 1/26, 17/00, 21/00
U.S. Cl. 308—6 7 Claims

A guide for a die set has a bush for attachment to the punch plate, a pin for attachment to the base, and a cage with balls which roll between the bush and pin. The cage has longitudinal grooves entered by projections which are rotatably mounted in the bush so that the cage can rotate when the pin is disengaged. The grooves may be inclined to the axis and parallel with rows of balls in the cage. The projections may be balls running in an annular groove in the bush, or lugs on a ring rotatable in the bush.



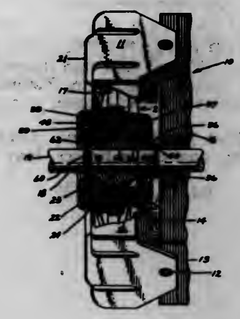
3,514,167
VENTURI-TYPE OIL SEAL SYSTEM FOR ENGINE CRANKSHAFTS OR THE LIKE
Thomas V. Wahl, Jr., North Pekin, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 3, 1968, Ser. No. 742,257
Int. Cl. F04b 21/00; F04d 29/00, 29/08
U.S. Cl. 308—36.3 1 Claim

A device for preventing the escape of engine lubricating oil from the engine crankcase to the flywheel housing by way of a main crankshaft bearing which device includes the use of a Venturi tube or restricted orifice through which oil is pumped in a manner and direction to create a low-pressure condition in the vicinity toward which oil tends to leak to draw the oil back into the crankcase.

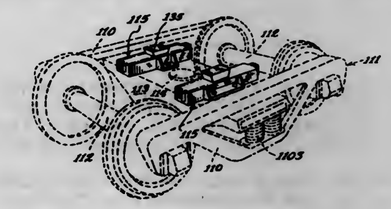
3,514,168
DYNAMOELECTRIC MACHINE INCORPORATING A LUBRICATED THRUST BEARING SYSTEM
Charles W. Otto, Dekalb, Ill., assignor to General Electric Company, a corporation of New York
Filed Aug. 15, 1968, Ser. No. 753,601
Int. Cl. F16c 1/24
U.S. Cl. 308—132 11 Claims

The stationary assembly of a dynamoelectric machine incorporates an aluminum structure formed in one piece having a bearing surface for rotatably supporting a journal surface of a rotatable assembly and a thrust-receiving bearing surface cooperating with a thrust bearing surface of the rotatable assembly. The thrust-receiving bearing surface has an olefinic composition lamination which

preserves said surface against oxidation, and it is applied prior to any original relative rotation between the thrust surfaces to provide initial lubrication for the thrust surfaces during operation of the machine. While this arrangement is quite efficient in effecting lubrication of the thrust surfaces, especially during initial relative rotation between these surfaces, it also is relatively inexpensive to produce. The invention pertains to the structural features of the bearing and to the manner of achieving this dual lubrication described.

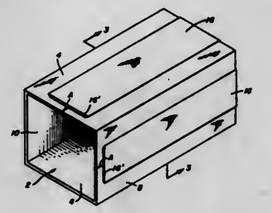


3,514,169
SELF-LUBRICATING SIDE BEARING
Robert W. MacDonnell, Crete, Ill., assignor to Unity Railway Supply Co., Inc., Chicago, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 676,259, Oct. 18, 1967. This application Sept. 16, 1968, Ser. No. 760,019
Int. Cl. F16c 17/00, 19/00
U.S. Cl. 308—138 10 Claims



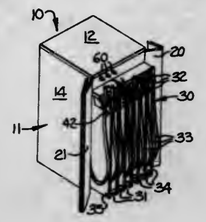
Pre-loaded side bearing units are disclosed acting between a railway truck bolster and a car body bolster to control body sway by frictional energy dissipation and to prevent wheel lifts by maintaining pressure on the unloaded truck side. The disclosed side bearing units replace existing conventional side bearings or may be integrated with a modified bolster. Each side bearing unit comprises a housing that carries a pair of wedge blocks in sliding engagement therein, with a floating upper wedge block having oppositely inclined faces engageable with correspondingly inclined faces presented by the sliding blocks. Compression spring means react against opposite end walls of the housing to urge the sliding blocks oppositely and establish the level of preloading. Urethane springs of high force constant are floatingly disposed in the compression springs to pick up load during the final portion of closure travel to increase the frictional energy dissipation characteristics of the units. Rollers are provided in the top of the wedge block to facilitate swivel movement of the car body bolster on curves.

3,514,170
STACKABLE AND INTERLOCKING CONTAINERS
Donald Shewchuk, 46 Hamptonbrook Drive, Weston, Ontario, Canada
Filed Mar. 1, 1968, Ser. No. 709,547
Claims priority, application Canada, Jan. 10, 1968, 9,549
Int. Cl. A47b 87/00; F16b 12/00
U.S. Cl. 312—107 4 Claims



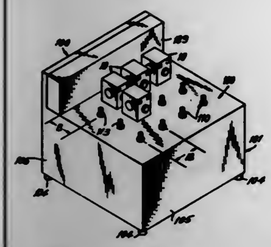
An assembly of multiple compartment units, each unit being identical and slidably interlocked with adjacent units. Each of the units having top, bottom and side sections, one of the top or bottom sections and one of the side sections having projections of dove-tail cross-section, and the other of said top or bottom sections and the other of said side sections having recesses of dove-tail cross-section.

3,514,171
DENTAL INSTRUMENT CABINET AND STORAGE MECHANISM
George V. McGaha, Charlotte, N.C., assignor to The Pelton & Crane Company, Charlotte, N.C., a corporation of North Carolina
Filed July 15, 1968, Ser. No. 744,734
Int. Cl. A47f 5/08
U.S. Cl. 312—209 10 Claims



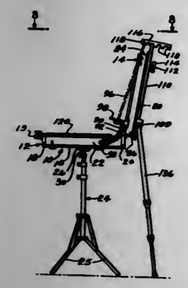
A dental instrument cabinet and storage mechanism adapted to contain a plurality of dental hand instruments and connecting hose means therefor and being characterized by separately carrying each instrument and hose means, providing easy access to each of the instruments when use thereof is desired and storing and substantially concealing the instruments and hose means when use thereof is not desired. The mechanism includes a stationary housing including vertically-extending access means on the front thereof, and unitary, partitioned, compartmented means providing a plurality of individual compartments adapted to separately and removably carry the instruments and connecting hose means such that each instrument may be manually withdrawn therefrom and replaced therein. The compartmented means is slidably mounted on the interior of the housing for horizontal linear movement to and from a storage position completely within the housing when use of the instruments is not desired to and from an access position protruding out of the housing when use and manual withdrawal of the instruments are desired.

3,514,172
LOCKING DEVICE FOR PORTABLE EQUIPMENT
Gerald Buchman, 2821 W. 12th St., Brooklyn, N.Y. 11223
Original application Apr. 24, 1967, Ser. No. 633,028, Divided and this application Oct. 22, 1968, Ser. No. 769,632
Int. Cl. E05b 73/00, 65/44; F16b 41/00
U.S. Cl. 312—215 11 Claims



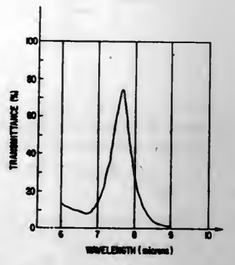
To prevent the theft of portable equipment such as typewriters and cameras by a locking device that is easily attachable to portable equipment and in particular the desk or other surface on which the equipment normally rests. The locking device is operated by a key that is required for the removal of the portable equipment. A display cabinet on which cameras are positioned and locked in place in a manner in which they cannot be removed by rotating them, but at the same time are open to inspection, is also provided for.

3,514,173
COMBINED ARTIST'S PAINT BOX AND EASEL
Thomas E. Ford, 150—24 6th Ave., Whitestone, N.Y. 11357
Filed June 25, 1968, Ser. No. 739,872
Int. Cl. A47b 27/00, 97/04
U.S. Cl. 312—231 4 Claims



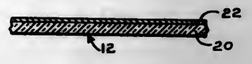
A combined artist's paint box and easel having a compartmented box body open at the top with a hinged cover for closing the opening therein, the hinged cover serving as an easel when in open position. A sliding cover is provided for the open top of the compartments in the body when the box cover is in open position. The hinged box cover is provided with a perforated peg board adapted to receive and support removable brackets. An upright slat having a crosspiece is adapted to coact with the brackets for removably supporting the canvas to be painted upon. A tripod is removably secured to the box body for supporting the box body in horizontal position. A pair of legs is telescopically hinged to the box cover and when the cover is in open position is adapted to engage the supporting surface for steadying the paint box in erected condition. A tray is removably supported in the box body for holding a supply of pigments in spaced compartments therein.

3,514,174
INFRARED INTERFERENCE FILTERS
François F. Ganz, Gif-sur-Yvette, and Jacqueline J. Priou, Paris, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a corporation of France
Filed May 10, 1966, Ser. No. 548,930
Claims priority, application France, May 11, 1965, 16,627
Int. Cl. G02b 1/10
U.S. Cl. 350—1 5 Claims



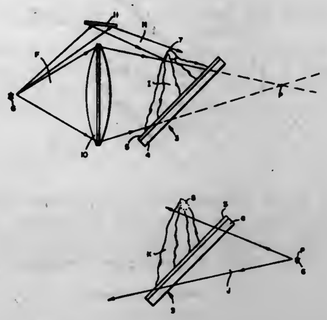
In a multilayer interference transmittance filter for use in the infrared region of the spectrum which includes a high refraction index material and a low refraction index material, the high refraction index material consisting of arsenic telluride and the low refraction index material being selected from the group consisting of silver chloride, lead chloride and zinc sulphide.

3,514,175
STRUCTURAL CLOSURE MEMBERS WITH ABSORPTION AND REFLECTION FILMS
Weston H. Jenkins, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 432,938, Apr. 28, 1966. This application June 24, 1966, Ser. No. 565,032
Int. Cl. G02b 5/20
U.S. Cl. 350—1 10 Claims



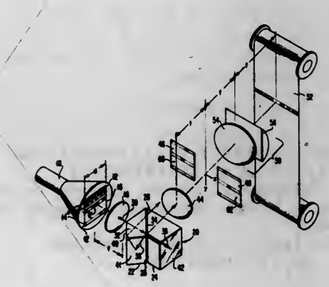
A structural closure member for absorbing a substantial amount of solar radiation, particularly in the near infra-red portion of the solar spectrum, which comprises a first body, which is a substantially transparent sheet of heat-absorbing glass or a glass bearing a heat absorbing material on the outer surface exposed to solar radiation, the first body absorbing solar radiation at one wave length and emitting secondary radiation of a longer wave length, and a substantially transparent second body on the side of the first glass sheet body which faces in towards the enclosure, the second body being preferably a film of a metal oxide having a lower emissivity for secondary radiation than the surface of the first glass sheet body which is directly exposed to solar radiation.

3,514,176
HIGH RESOLUTION HOLOGRAPHIC BEAM REVERSAL TECHNIQUE
Robert E. Brooks, Redondo Beach, and Lee O. Heflinger, Torrance, Calif., assignors to TRW, Inc., Redondo Beach, Calif., a corporation of Ohio
Filed June 20, 1967, Ser. No. 647,374
Int. Cl. G02b 27/22
U.S. Cl. 350—3.5 3 Claims



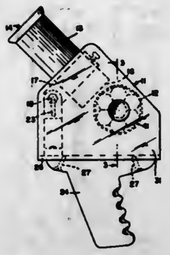
This invention is a method of reversing the direction of the reference beam with respect to a hologram during reconstruction to provide an accessible, aberration-free image which can be viewed with a conventional high-magnification microscope. If a collimated beam is used for construction, the beam reversal can be accomplished simply by turning the hologram plate over during the reconstruction. If a diverging beam is used in the recording step, it is necessary to use a converging beam during the reconstruction step and to ensure that the points of divergence and convergence coincide. Similarly, a convergent beam can be used for recording and a divergent beam for reconstruction.

3,514,177
HOLOGRAPHY OF NON-COHERENTLY ILLUMINATED OBJECTS
Adolf W. Lohmann, Los Gatos, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 11, 1967, Ser. No. 666,861
Int. Cl. G02b 27/00
U.S. Cl. 350—3.5 3 Claims



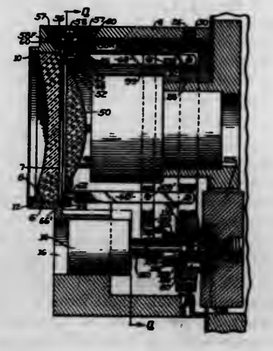
A holographic storage system for non-coherently illuminated objects in which a prism-pair doubler receives the illumination from the object and generates a pair of virtual, symmetrical, conjugate, inverted images. The images are focussed onto film by a spherical-cylindrical lens combination also used for the reconstruction.

3,514,178
KALEIDOSCOPE
Jack Toney, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed July 10, 1967, Ser. No. 652,288
Int. Cl. G02b 27/08
U.S. Cl. 350—4 3 Claims



A kaleidoscope having a viewing tube coated with a light reflecting material and a rotatable display. The display is a generally cylindrical object having multicolored portions or printed matter on the viewed part of the display. The display is easily changeable so that it can act as a teaching aid for colors, words, letters and the like.

3,514,179
STABILIZED OPTICAL SYSTEM AND METHOD OF STABILIZING IMAGES
Henry J. Koeber, Jr., Deerfield, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 12, 1966, Ser. No. 578,798
Int. Cl. G02b 23/00
U.S. Cl. 350—17 18 Claims



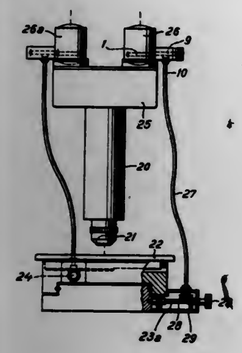
A movie camera including an optical wedge has one element of the wedge affixed to the camera housing and a second element thereof gyroscopically spatially stabilized inside the camera. The adjacent surfaces of the two wedge elements are planar and compensating motion of the movable element is restricted to a plane perpendicular to the optical axis of the wedge.

3,514,180
DEVICE FOR SIMULTANEOUSLY VIEWING THE OBJECT AND COORDINATES OF THE OBJECT PLANE IN MICROSCOPES AND THE LIKE

Klaus D. J. Haefner, Richardson, Tex., assignor to Ernst Leitz GmbH, Wetzlar, Germany

Filed Mar. 7, 1968, Ser. No. 711,288
Claims priority, application Germany, Mar. 11, 1967, H 62,095
Int. Cl. G02b 21/40, 27/32, 27/02
U.S. Cl. 350—90 5 Claims

In an intermediate image plane of a microscope there are provided a rotatable scale and a stationary index which

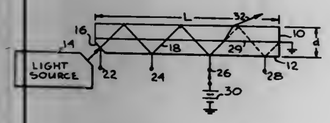


can be seen in the field of view together with the object to be observed. The scale is provided with a toothed rim by means of which it is connected via a suitable gear train to the set screw of the mechanical stage of the microscope, so as to be rotated through a proportional angle whenever the stage is displaced.

3,514,181
HIGH SPEED LIGHT SCANNING SYSTEM

Albert Macovski, Palo Alto, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California

Filed May 31, 1966, Ser. No. 554,173
Int. Cl. G02f 3/00, 1/26
U.S. Cl. 350—150 4 Claims

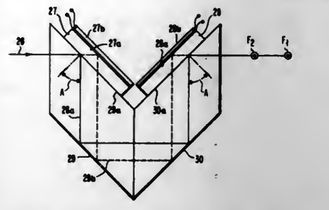


A high speed light scanning system is provided by joining together a slab of a birefringent material and a slab of an electro-optic material. Light from a source such as a laser or polarized light source, is directed at a corner of the electro-optic material. It is then reflected back and forth at the air interfaces of the crystals. At spaced points along the length of the electro-optic material, provision is made for applying a potential to establish an electric field thereacross whereby the polarization of light passing through that region of the electro-optic material is rotated. This causes the polarized light to be emitted as a light ray from the birefringent material at a point adjacent to the location from which it would otherwise be reflected back through the birefringent material. Scanning is achieved by successively establishing the electric field at spaced locations along the electro-optic material.

3,514,182
LIGHT FOCUS SHIFTING SYSTEM

Willard K. Banks, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 6, 1967, Ser. No. 680,804
Int. Cl. G02f 1/28
U.S. Cl. 350—160 3 Claims

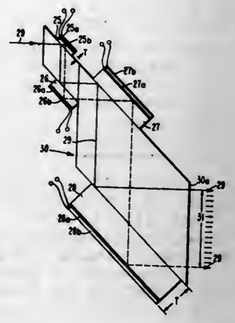


A light focus shifting system is provided wherein a light beam focus can be shifted in response to electrical signals, thereby to enable the quick and precise focusing of the beam to preselected locations.

3,514,183
LIGHT DEFLECTOR SYSTEM

Melbourne E. Rabedeau, Saratoga, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 6, 1967, Ser. No. 680,805
Int. Cl. G02f 1/28
U.S. Cl. 350—160 21 Claims



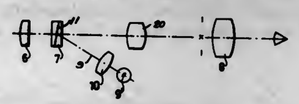
A light deflector system is provided wherein a light beam can be positioned in response to electrical signals, thereby to enable the quick and precise positioning of the beam to preselected locations.

3,514,184
BEAM-PATH SPLITTING ELEMENT FOR AN OPTICAL INSTRUMENT

Georg Vogl, Saltsjobaden, Sweden, assignor, by mesne assignments, to Jungner Instrument Aktiebolag, Stockholm, Sweden

Filed Jan. 17, 1967, Ser. No. 609,869
Int. Cl. G02b 27/10, 27/32
U.S. Cl. 350—173 2 Claims

An optical instrument for merging two light beams into one light beam in which a beam merging body, made up of two transparent wedge-shaped glasses which form a thin flat wedge and between which a figure such as a reticle made of reflecting material is interposed, is positioned in the optical instrument in a position such that one of the two light beams will enter and be reflected

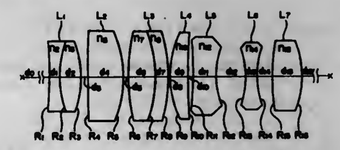


through one and the same parallel face of the flat plate and the other of the two light beams will pass through the flat plate.

3,514,185
MICROSCOPE OBJECTIVE OF HIGH RESOLVING POWER

Keiji Matsuki, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan

Filed Jan. 20, 1967, Ser. No. 610,583
Claims priority, application Japan, Jan. 24, 1966, 41/3,698
Int. Cl. G02b 21/02, 11/34
U.S. Cl. 350—176 2 Claims

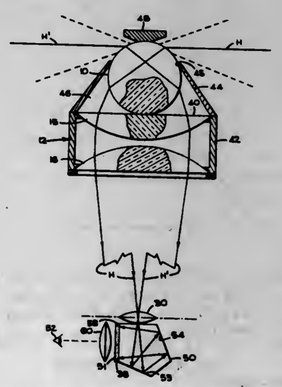


A microscope objective comprising a front convergent group having a positive Petzval sum and a rear divergent group having a negative Petzval sum. The rear group comprises a first and second divergent members, the first member consisting of a positive meniscus single lens element and a negative biconcave single lens element, and the second member consisting of a negative biconcave single lens element and a positive biconvex single lens element. In order to correct the Petzval sum, the first and second members act as a thick meniscus component and the air space between the two elements of the second member acts as meniscus air lens.

3,514,186
WIDE ANGLE OPTICAL APPARATUS

Eugene F. Poncelet, 1560 Mariposa Ave., Palo Alto, Calif. 94306

Filed Apr. 10, 1968, Ser. No. 720,238
Int. Cl. G02b 13/06
U.S. Cl. 350—176 5 Claims

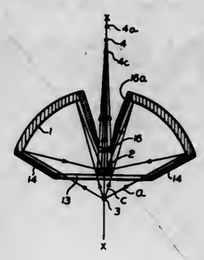


An optical system having a very wide angle of view, greater than 180°, is constituted by a sphere of high index of refraction followed by a closely adjacent positive lens of large diameter, such that a perimeter band seen by the sphere is convertible to an annular image of the band on a flat surface, by a camera-type lens in optical sequence with the system. Normal distortion of the sphere is inherently corrected by the system, which is useful in a periscopic or like viewer, for observing or recording objects both above and below the horizon around a perimeter of 360°.

3,514,187
REFLECTIVE OPTICAL SYSTEMS

Harry S. Jones, 50 Navesink Drive, Monmouth Beach, N.J. 07750

Continuation-in-part of application Ser. No. 327,763, Dec. 3, 1963, and a division of application Ser. No. 407,586, Oct. 29, 1964. This application Apr. 27, 1967, Ser. No. 634,326
Int. Cl. G02b 17/02
U.S. Cl. 350—200 6 Claims



This specification discloses a novel reflective optical system particularly well adapted to use as a microscope. This system employs a large concave circular mirror and a small convex circular mirror with the object located behind the convex mirror. In a similar manner the mirror system described herein can be used as a telescope if the object is placed in front of the convex mirror whereupon the image will be behind such convex mirror.

There is herein disclosed that the radii of curvature of the concave to convex mirror should be at least about 8; that the optical axes of the two mirrors should be substantially coincident; that where the object is located behind the convex mirror as in a microscope configuration, such object should be positioned at least two radii of curvature from the convex mirror surface; that, where the object is located behind the convex mirror as in a microscope configuration, the image should be spaced from the convex mirror surface at least about five radii of said convex mirror; and that the centers of the two mirrors are both located behind the convex mirror and are spaced apart from each other a substantial distance.

In a preferred embodiment disclosed there is provided an aspheric corrector lens element positioned, where the system is intended for use as a microscope, between the convex mirror and the image.

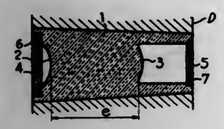
3,514,188
OPTICAL SPYGLASS

Jean Charles Joseph Blosse and Michel Jean Joseph Blosse, both of 48 Boulevard Charles de Gaulle, Sannois, Val-d'Oise, France

Filed Feb. 1, 1966, Ser. No. 524,093
Claims priority, application France, Feb. 5, 1965, 4,483, 4,484
Int. Cl. G02b 1/04; G02h 25/04
U.S. Cl. 350—212 1 Claim

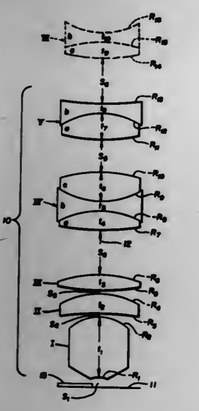
Combination of a door or wall and a telescopic spyglass. The feature of the combination is that the spyglass con-

sists of a transparent plastics block having a convergent lens portion at one end and a divergent lens portion at the



other end. These lens portions are in one piece with the block. A hard wear-resistant transparent element secured to the block protects at least one of the lens portions.

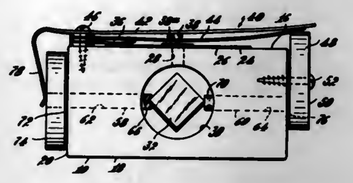
3,514,189
FLAT FIELD APOCHROMATIC OBJECTIVE 25×, .65 N.A.
George H. Aklin, Fairport, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Apr. 1, 1968, Ser. No. 717,768
Int. Cl. G02b *1/00, 9/64*
U.S. Cl. 350—215 7 Claims



An apochromatic microscope semi-objective having substantially 5× magnification per se, which is designed for use with an associated negative field flattening lens having substantially 5.0× magnification per se, so as to produce cooperatively a total magnification of substantially 25× per se, and a numerical aperture of 0.65. The semi-objective is one of a set of such semi-objectives of different powers which are used interchangeably with the field flattening lens.

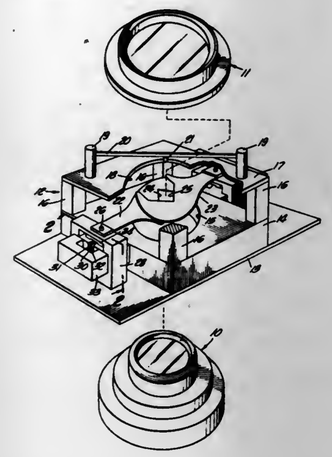
3,514,190
MICROSCOPE
Martin Annis, Newtonville, George W. Clark, Brookline, and Edwin C. Williams, Jr., Southboro, Mass., assignors to American Science and Engineering, Inc., Cambridge, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 393,665, Sept. 1, 1964, now Patent No. 3,391,975, dated July 9, 1968. This application July 8, 1968, Ser. No. 745,081
The portion of the term of the patent subsequent to July 9, 1985, has been disclaimed
Int. Cl. G02b *3/00*
U.S. Cl. 350—238 11 Claims

A microscope includes a block formed with a large opening accommodating a mirror pivotally mounted about an axis orthogonal to the axis of a small opening formed in the block that intersects with the large opening so that the mirror may reflect light into the small opening. A lens means is supported above the small opening. Cam means controls the positioning of the lens means in a direction



along the axis of the small opening to permit focusing of the lens along a slide plane adjacent to the top of the opening. A slide support helps keep a slide in position in the slide plane between the small opening and the lens means.

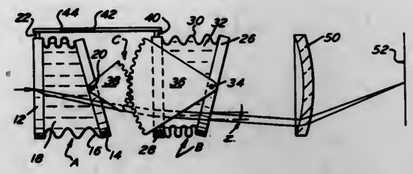
3,514,191
LIGHT VALVE WITH AUTOMATIC CLOSURE CONTROL
Richard Keith Hoskin, Gardena, Calif., assignor to Thompson Optical Engineering Co., Los Angeles, Calif., a corporation of California
Filed Nov. 10, 1966, Ser. No. 593,546
Int. Cl. G02f *1/30*; H01h *47/32, 47/00*
U.S. Cl. 350—269 13 Claims



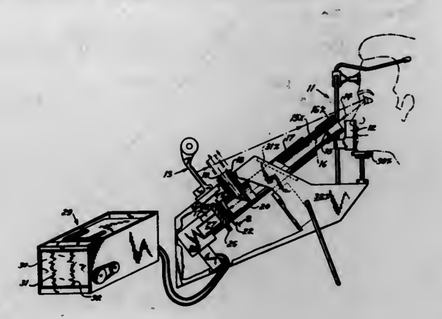
A light valve in which the movement of a pair of relatively movable blades are electromagnetically controlled, the blades being positively driven to block a light path after a predetermined amount of light has been transmitted through it.

3,514,192
ACHROMATIC VARIABLE-ANGLE FLUID PRISM
Juan de la Cierva, Oreland, Pa., assignor to Dynasciences Corporation, Blue Bell, Pa., a corporation of Pennsylvania
Filed Apr. 11, 1967, Ser. No. 630,090
Int. Cl. G02b *5/06*
U.S. Cl. 350—286 6 Claims

This invention comprises a first variable-angle or changeable geometry fluid prism for deviating a beam of multi-chromatic light in compensation of angular motion of an optical system with respect to its axis of collimation upon an object and a second variable-angle fluid prism having a liquid encapsulated of a different index of refraction from the first prism. The second prism element is coupled to the first element to compensate for chromatic dispersion of the various wave length individual rays which have been bent into divergence in passing through the first element.



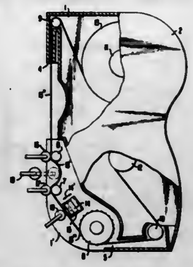
3,514,193
DEVICE FOR RECORDING EYE MOVEMENT
Siegfried Himmelmann, 3 Trent Lane, Smithtown, N.Y. 11787
Filed Sept. 30, 1968, Ser. No. 763,899
Int. Cl. A61b *3/14*
U.S. Cl. 351—7 4 Claims



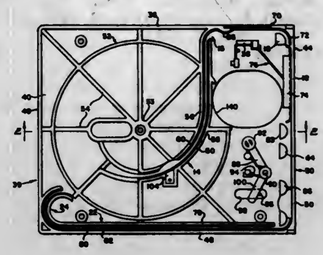
This invention relates to a device for recording the separate movements of each of two reading eyes. Light reflected from the eyeballs while reading, is reflected down separate telescopic tubes to respective photosensitive cells that convert the light pulses to voltage pulses. These light pulses are made by the light beams traveling down said telescopic tubes being intermittently intercepted by suitable serrations disposed in the edge of the respective rotating discs. The serrations on the edge of said discs give varying voltage corresponding to the duration of exposed light beam between adjacent serrations.

3,514,194
MOVIE FILM MAGAZINE FOR SYNCHRONOUS RECORDING AND REPRODUCING
Kenji Ariyasu and Akira Tsuji, Kanagawa, and Masashi Yanagida, Tokyo, Japan, assignors to Fuji Photo Film Co., Ltd., Minami-Ashigara-machi, Kanagawa, Japan
Filed Jan. 9, 1968, Ser. No. 696,640
Claims priority, application Japan, Jan. 9, 1967, 42/2,387
Int. Cl. G03b *23/02*
U.S. Cl. 352—72 11 Claims

A movie film magazine for use with a camera or projector having a body portion and a cover portion, a film feed out hub and a film take up hub. A portion of the body portion is left exposed by the cover portion, that part which is exposed carries a loop maintaining roller and a sound recording and reproducing head.



3,514,195
FILM HANDLING SYSTEM
Otto R. Nemeth, Los Angeles, Calif., assignor, by mesne assignments, to A. B. Dick Company, Chicago, Ill.
Continuation-in-part of application Ser. No. 637,779, May 1, 1967. This application Apr. 19, 1968, Ser. No. 722,646
Int. Cl. G03b *23/02*
U.S. Cl. 352—72 29 Claims

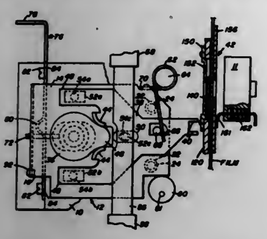


The present invention relates to a combination of motion picture projector and film cartridge in which the cartridge forms a part of the projector housing. More particularly, the invention relates to a projector for endless film in which there is a minimum of friction between the adjacent coils of the film and a minimum of scratching and mutilation of the film surface. The film is fed from the inner convolution of a loosely wound storage roll of film through the projector and back to the outer convolutin of the storage roll and throughout its movement, the film is pushed rather than pulled. The film is contained in an interchangeable cartridge and is frictionally fed from the inner convolution of the roll to the motion picture intermittent. The friction feed is faster than the intermittent and excess film between the roll and intermittent frictionally engages fixed guides and overcomes the friction feed from the roll so that there is always enough film for the intermittent with no excess.

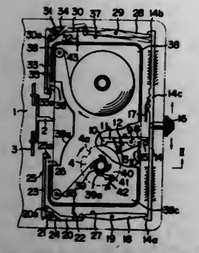
3,514,196
MOTION PICTURE PROJECTOR
Robert J. Roman, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 567,724, July 25, 1966. This application May 5, 1969, Ser. No. 824,733
Int. Cl. G03b *1/22*
U.S. Cl. 352—79 20 Claims

A projector for accommodating both regular 8 and super 8 movie film is provided wherein the spacing of a

pivot for a single pull-down mechanism is varied from the film gate to change the pull-down stroke. The pull-down mechanism is laterally shifted at the same time to align it with the film perforations. A film gate is provided which is movable by a film rewind mechanism from a film feed position to a film rewind position. The film gate also includes an aperture mask which is resiliently biased to one of two positions.



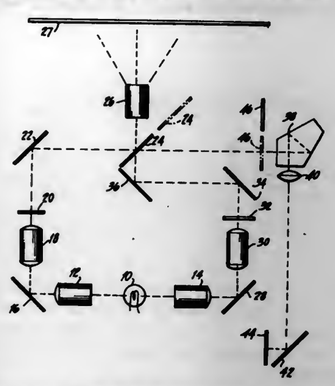
3,514,197
REWINDING MEANS IN A MAGAZINE TYPE MOTION PICTURE CAMERA
Koji Sho, Yokohama-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Nov. 16, 1967, Ser. No. 683,583
Claims priority, application Japan, Nov. 19, 1966 (utility model), 41/106,101; Dec. 12, 1966, 41/82,096
Int. Cl. G03b *21/36*
U.S. Cl. 352—91 7 Claims



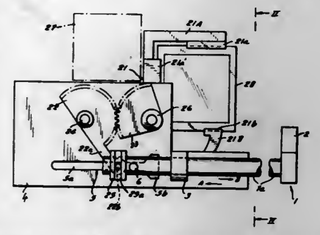
This invention provides a rewinding means used for film magazines equipped with means for preventing the reverse movement of the film at the core of the film take-up, to enable double exposure or reverse photography. According to this invention a predetermined amount of the film is loosely fed on the take-up core of the magazine in advance by operating the feed claw while the rotation of the take-up core is stopped, and then this loosely stored film is rewound. Furthermore, according to the invention, auxiliary pawls are provided for regulating the rest position of the film, which otherwise tends to be turned back during the rewinding process.

3,514,198
APPARATUS FOR PREVIEWING SLIDES
William F. Schacht, Cherry Hill, N.J., and William F. Fisher, Philadelphia, Pa., assignors to RCA Corporation, a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 712,713
Int. Cl. G03b *21/00*
U.S. Cl. 353—21 3 Claims

In a slide projector two modulated light beams are projected along paths that intersect. A double faced mirror is moveable between two positions, one, in the intersecting portion of the paths and the second, entirely out of said paths. In the first position of the mirror, one slide beam is deflected to a viewing screen by the front of the mirror and the other slide beam is deflected to a previewing screen by the back of the mirror. In the second position of the mirror the other slide beam continues to a viewing screen and the one slide beam continues to the previewing screen.



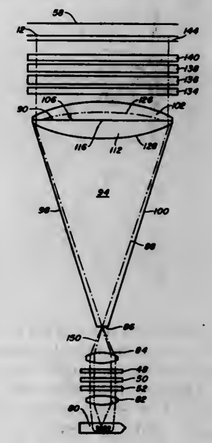
3,514,199
SLIDE PROJECTOR
Hans Werner Johannsen, Frankfurt am Main, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany
Filed July 31, 1967, Ser. No. 657,280
Claims priority, application Germany, July 30, 1966, B 88,273
Int. Cl. G03b *23/04*
U.S. Cl. 353—115 16 Claims



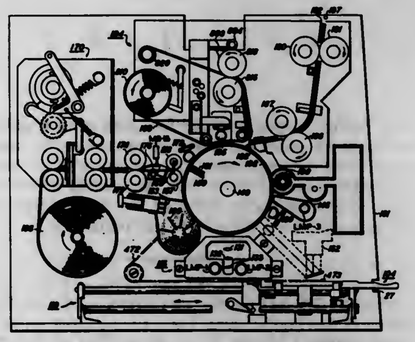
The slide changer of a slide projector is operated by a longitudinally movable actuating member at least a portion of which is also turnable or pivotable to move the magazine forwards or backwards when the slide changer returns a slide into the magazine. The actuating member cannot turn or pivot when the slide changer grips a slide, and such pivoting or turning of the actuating member is prevented by a stationary guide which has a recess a first section of which snugly receives a follower of the actuating member when a slide is removed from the magazine and a second section of which permits the follower to turn or pivot when the slide changer returns a slide into the magazine and is disengaged from such slide.

3,514,200
COLOR PRINTING LAMP SYSTEMS
John Kent Bowker, Marblehead, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Nov. 7, 1967, Ser. No. 681,210
Int. Cl. G03b *27/00, 27/32, 27/52*
U.S. Cl. 355—1 23 Claims

Optical apparatus including a condensing lens for collimating light from a primary source, a second condensing lens for focusing the collimated light on a first face of a light pipe, color filters movable in the collimated light to control the spectral intensity of the light, the light pipe having a pair of parallel walls for conducting the light diverging from the first face internally reflected in a first dimension and a pair of diverging walls for conducting the light diverging from the first face unreflected in a second dimension to a second face elongated in the second dimension, transition sections associated with the light pipe for providing within the light pipe a curved transition aperture which curves convexly, inwardly, of the second face creating a secondary curved, uncorrected, elongated, light source, and a condenser lens for creating from the secondary curved, uncorrected, elongated, light source, a tertiary, flat, corrected, elongated source of light diverging in the first dimension and for collimating the light from said tertiary light source in the second dimension.

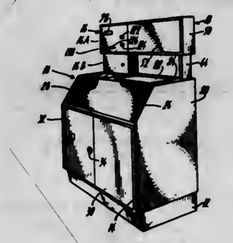


3,514,201
RECORDING APPARATUS
Armistead Wharton, Henrietta, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 25, 1967, Ser. No. 677,959
Int. Cl. G03g *15/04*
U.S. Cl. 355—3 5 Claims



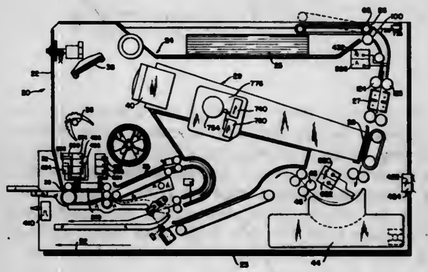
A compact, self-contained recording apparatus which produces multiple cut sheet copies of an original and at the same time produces a record tape which is stored inside of the machine. A cut sheet transport mechanism and a record tape transport mechanism are located at different stations around a drum-type photo-receptor to receive a developed image in response to a control circuit which is programmed for the number and type of copies to be recorded by the machine.

3,514,202
COIN-OPERATED ELECTROSTATIC COPIER FOR SELECTIVELY MAKING COPIES OF DIFFERENT LENGTHS
Kenneth M. LiDonnici Brooklyn, Gerald Post, Kew Gardens, and Henry G. Man, East Northport, N.Y., assignors, by mesne assignments, to Ing. C. Olivetti & C., S.p.A., Ivrea, Turin, Italy, a corporation of Italy
Filed Feb. 23, 1967, Ser. No. 618,029
Int. Cl. G03g *15/00*
U.S. Cl. 355—7 3 Claims



A coin-operated electrostatic copier having a movable masking device located at is exposure window for selectively making copies of different lengths. A plurality of light sources and apparatus for selectively turning on certain of the light sources depending upon the location of the masking flap to assure the exposure window is properly illuminated. The apparatus for selectively turning on the light sources is actuated by either the position of the masking flap or the length of copy selected. The copier casing comprises several sections secured to its frame which are removable only by gaining access to the interior of the casing, and coin apparatus positioned in the casing to afford maximum protection against tampering.

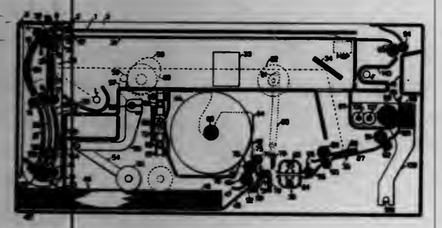
3,514,203
AUTOMATIC TONER REPLENISHER
Arthur S. Zerfahs, Elk Grove, Ill., assignor to SCM Corporation, New York, N.Y., a corporation of New York
Original application May 11, 1964, Ser. No. 366,268, now Patent No. 3,330,179, dated July 11, 1967. Divided and this application May 17, 1967, Ser. No. 639,115
Int. Cl. G03g *15/10*
U.S. Cl. 355—10 12 Claims



An apparatus having a valve operated by the movement of copy paper through a photocopying machine for auto-

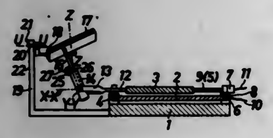
matically replenishing pigment materials in the liquid developer or toner solution which is contained in a tank for developing the final image on the copy paper. A solenoid mechanism operated by the moving copy paper actuates the valve to deliver a solution of the pigment material from a storage container in amounts controlled by the length of the copy paper passing through the developer in the tank.

3,514,204
PHOTOCOPYING MACHINE
Carlo Trombetta, Caluso, Torino, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Continuation of application Ser. No. 415,681, Dec. 3, 1964. This application June 7, 1967, Ser. No. 644,400
Int. Cl. G03g *15/00*
U.S. Cl. 355—14 3 Claims



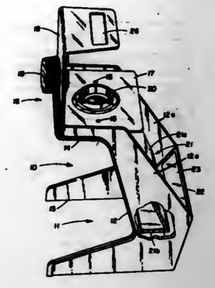
A photocopying machine having a supply of copy sheets and a supply roll of copy paper therein, a sensing means to sense the leading edge of a document being inserted into the machine to operate the feeding of copy paper from either source of supply and a selector means to move the sensing means to alternately operate the respective sensing means.

3,514,205
ANCILLARY DEVICE FOR THE DETERMINATION OF THE INSTANTANEOUS CAMERA CONSTANT
Wilfried Müller and Klaus Szingolies, Jena, Germany, assignors to VEB Carl Zeiss Jena, Jena, Germany
Filed Jan. 19, 1968, Ser. No. 699,990
Int. Cl. G03b *27/68*
U.S. Cl. 355—52 4 Claims



The ancillary device is used for determining the instantaneous camera constant, essential in the process of rectifying inclined photograms. The device is attachable to a known plotter or to a known differential rectifier, or is a self-contained unit between both. A stop plate rotatable in two or three dimensions cooperates with a feeler which is of variable length and whose inclination to a base may be changeable. On this base, the stop plate and the feeler are displaceable relatively to each other in planes which include the same angle as did the photogram and a horizontal plane at the moment of exposure.

3,514,206
APPARATUS FOR MAKING CLOSE-UP PHOTOGRAPHS WITH A PHOTOFLASH CAMERA
Donald M. Harvey and John W. Schmitz, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 14, 1967, Ser. No. 653,489
Int. Cl. G03b *27/76*
U.S. Cl. 355—67 15 Claims



Apparatus for facilitating the making of close-up photographic exposures with a photoflash camera such as one employing a flashcube. The apparatus includes means for attenuating and reflecting light from the camera photoflash onto the subject of photographic interest, thereby indirectly, uniformly and non-glaringly illuminating the photographic subject at an appropriate level for exposure. An auxiliary lens is incorporated in the apparatus for adjusting the camera focus to a plane substantially coincident with that of the photographic subject.

3,514,207
DEVICE FOR DETERMINING THE DISPLACEMENT OF A REFLECTING MOVABLE OBJECT RELATIVE TO A FIXED OBJECT WITH THE USE OF AN OPTICAL MASER
Hendrik de Lang, Gijsbertus Bouwhuis and Eric Tapley Ferguson, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,010
Claims priority, application Netherlands, Sept. 9, 1965, 6511751
Int. Cl. G01n *21/40*; H01s *3/02*
U.S. Cl. 356—116 6 Claims

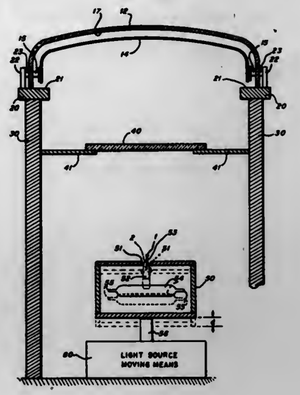


An isotropic optical maser for generating a polarized wave with an indefinite plane of orientation is optically coupled to a moving object and a photo cell with a polarizer mounted in the beam path. Movement of the object results in discontinuous shifts of the polarization which is transduced by the photo cell into usable signals.

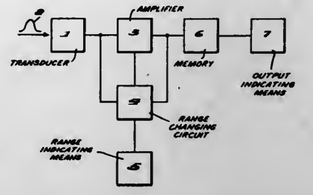
3,514,208
APERTURE MASK INSPECTION APPARATUS
Nathan D. Levin, Highland Park, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 30, 1967, Ser. No. 612,533
Int. Cl. G01b *11/26*; H01j *9/42*
U.S. Cl. 356—154 7 Claims

Apparatus for indicating the suitability of a mated aperture mask and face panel combination for assembly

into a finished color television picture tube. A support table positions the mated aperture mask and face panel combination above a light source and collimator with a diffusing tip and an intermediate dispersion light diverging lens. Apparatus provides motion of light source and collimator with respect to lens and mask-panel combination to register and misregister light rays on a set of color phosphor dots on the face panel.

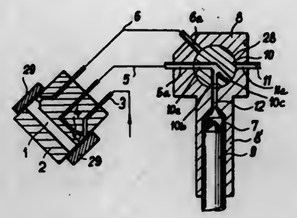


3,514,209
DEVICE FOR MEASURING THE MAXIMUM INTENSITY OF A PULSE OF ENERGY
John D. McGhee, Plymouth Meeting, Pa., and Raymond W. Tabeling, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 9, 1968, Ser. No. 704,445
Int. Cl. H01j *39/12*; G01j *1/42, 1/44*
U.S. Cl. 356—224 12 Claims



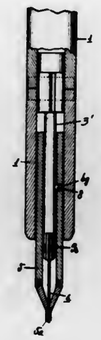
A device employed to measure the maximum intensity of a pulse of energy, e.g., a pulse of light produced by a Chemiluminescent reaction, comprising, preferably, a photomultiplier tube which produces a dark current and a current proportional to the incident light, a variable-resistance filter connected to the output of the photomultiplier tube, an operational amplifier connected to the filter, an automatic range changing circuit coupled in feedback relation across the operational amplifier adapted to attenuate stepwise the voltage output of the amplifier as the current input to the amplifier increases, range lights connected to the range changing circuit for indicating the range of the output of the amplifier, an automatic dark current compensating circuit coupled in feedback relation across the amplifier for suppressing the effect of the dark current at the output of the amplifier, a capacitor connected to the output of the amplifier adapted to hold a bias representative of the voltage output of the amplifier, and an indicating means, digital or analog, for indicating the magnitude of the bias on the capacitor.

3,514,210
DEVICE FOR PROGRAMMED DRAWING OFF OF GAS BUBBLES FROM A MEASURING CELL SEPARATOR AND THE LIQUID FROM THE EXTINCTION CELL SPACE
Jiri Hrdina, 8 Na Stahlavce, Prague, Czechoslovakia
Filed Jan. 15, 1968, Ser. No. 697,881
Int. Cl. G01n *3/03*
U.S. Cl. 356—246 2 Claims



A colorimeter flow cell has a single inlet and two outlets, a first for removing a sample to be tested and a second for removing gas bubbles positioned between segments of sample to be tested. A pump with a multi-way value is provided to exhaust the segmented sample and bubbles, so that there is a maximal reduction of all idle spaces between the working space of the pump and the multi-way value.

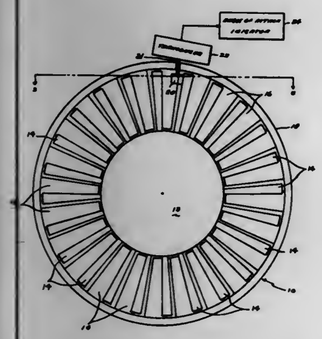
3,514,211
PENCIL
Yasuyuki Hashimoto, 8 Kanno-cho, Nishinomiya Hyogo Prefecture, and Osamu Torii, 1 Kaminoki-cho, Sangno, Ukyo-ku, Kyoto, Japan
Filed Mar. 12, 1968, Ser. No. 712,491
Int. Cl. B43k *21/02*
U.S. Cl. 401—53 11 Claims



There is disclosed a pencil of simplified construction comprising a tubular barrel of a length and external diameter suitable for grasping by the fingers for writing purposes, a lead receiving spindle within the barrel, fixed relative thereto and having a lead holding end disposed at least adjacent the end of the barrel for replaceably receiving a length of lead that would project beyond the end of the barrel and a tubular sleeve having a con-

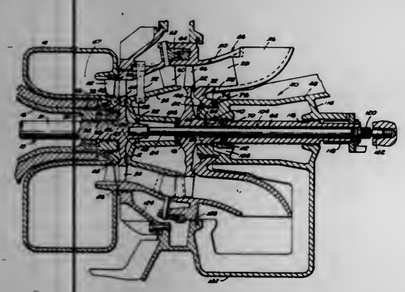
structed tip portion slidably surrounding such length of lead and a major portion surrounding said spindle and slidably accommodated within the barrel so as to gradually retract therein as the lead is worn during writing, thus maintaining the tip of the lead exposed during writing.

3,514,212
INCIPIENT STALL SENSOR
Robert S. Herbst, Marblehead, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 11, 1968, Ser. No. 736,215
Int. Cl. F04d 27/00
U.S. Cl. 415—23 1 Claim
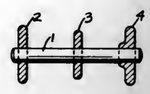


A freely movable sensing vane is located between two compressor stator vanes to determine the aerodynamic angle of attack of the air stream flowing over the stator vanes to provide a signal to an indicator to show an incipient stall condition.

3,514,213
GAS TURBINE ENGINE SHROUD SUPPORT
Thomas R. Stockton, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 26, 1968, Ser. No. 762,931
Int. Cl. F01d 25/28
U.S. Cl. 415—198 7 Claims



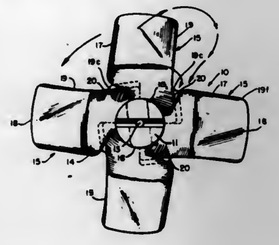
The entire stationary turbine shroud assembly consisting of radially spaced inner and outer interconnected shrouds and the combustor plenum is supported only at its ends on pivotal joints so that as the rotor supports flex, all elements move as a unit thereby maintaining the same relative running clearance therebetween as initially provided.

3,514,214
AGITATOR MEMBER FOR A MAGNETIC AGITATOR
Fritz Vogtle, 88 Winkelhofer Strasse, 7930 Ehingen (Danube), Germany, and Wilhelm Schmitt, Chemisches Institut, 6900 Heidelberg, Germany
Filed Mar. 1, 1968, Ser. No. 709,694
Claims priority, application Germany, Mar. 2, 1967, V 33,124
Int. Cl. B01f 7/16
U.S. Cl. 416—3 24 Claims



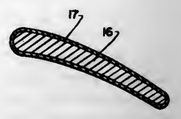
An agitating member adapted to be rotated and guided by magnetic forces, which includes rod means and also includes flow resistance increasing means, for instance disc means, extending from said rod means in the radial direction thereof and increasing the flow resistance of said rod means in the longitudinal direction thereof.

3,514,215
HYDROPROPELLER
Paul E. Williams, Purcellville, Va.
Continuation-in-part of application Ser. No. 658,532, Aug. 4, 1967. This application Feb. 20, 1969, Ser. No. 800,937
Int. Cl. B63h 1/00; B64c 11/18
U.S. Cl. 416—200 5 Claims



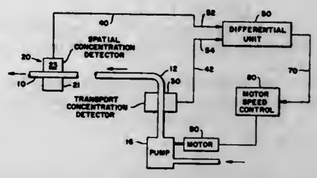
A hydropropeller characterized by a blade shape involving a particular shape relationship of adjacent blade portions, including a negative angular incidence at the blade tip which creates a recirculation of individual water particles in a cascade effect enhancing propeller efficiency.

3,514,216
COATED COMPRESSOR BLADES
Herbert A. McAninch, Auburn, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 6, 1968, Ser. No. 710,942
Int. Cl. F04d 19/00, 29/38; F01d 5/28
U.S. Cl. 230—120 2 Claims



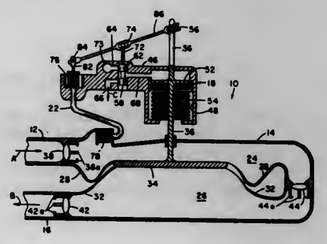
The blades of a gas turbine compressor are coated with tetrafluoroethylene resin to reduce the deposition and build up of salt on the blades when the turbine is operating in a salt spray environment.

3,514,217
METHOD OF CONTROLLING PIPELINE SLURRIES
L. Philip Reiss, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Feb. 23, 1968, Ser. No. 707,776
Int. Cl. F04b 49/00
U.S. Cl. 103—35 3 Claims



A method of controlling the flow of a slurry through a pipeline at a velocity greater than a critical velocity below which solids settle on the bottom. It consists of measuring the spatial concentration and the transport concentration of the slurry, generating an error signal proportional to the difference of the spatial concentration and transport concentration measurements, and controlling a critical parameter such as slurry velocity with the error signal.

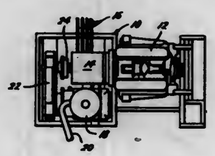
3,514,218
SINGLE ACTING FOLLOWER HEART ASSIST DEVICE
Charles A. Maher, Jr., Wakefield, Mass., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 24, 1968, Ser. No. 786,559
Int. Cl. F04b 17/00
U.S. Cl. 417—43 5 Claims



A series connected single acting follower heart assist device for connection in series between the output of the left ventricle and the aorta. The device contains inlet and outlet chambers controlled by check valves into and out of them, respectively, and a check valve for controlling flow from the inlet chamber to the outlet chamber. A hydraulically actuated control system senses pressure in the inlet chamber and controls movement of a piston in the wall separating the two chambers to control pumping action through the device.

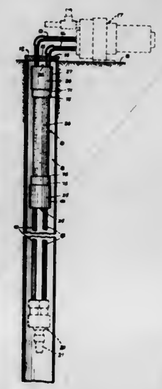
3,514,219
COMBINATION ELECTRICAL AND PNEUMATIC POWER SUPPLY AND METHOD
Robert W. Mitchell and Billy J. Dodds, Houston, Tex., assignors to Stewart & Stevenson Services, Inc., Houston, Tex., a corporation of Texas
Filed Aug. 28, 1968, Ser. No. 755,931
Int. Cl. F04b 49/02; H02p 9/04; F02c 7/26
U.S. Cl. 417—53 8 Claims

A method and apparatus for simultaneously providing electrical and pneumatic power from a single minimum rated power source for utilizing the power source to power a generator for providing electrical power, and alternately engaging and disengaging a clutch connected to an air compressor at short intervals to start and gradually increase the speed and output of an air compressor without adversely decreasing the frequency output of the electrical generator until the air compressor is brought up to full speed and then fully engaging the clutch. A control system for controlling the actuation of the clutch including an air supply, a timing valve for alternately supplying exhausting air to and from the clutch for short intervals of time and valve means for connecting the air supply con-



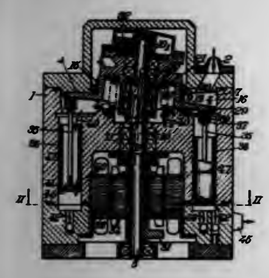
tinuously to the clutch. A combination electrical ground power supply and air start unit for a jet aircraft engine having a diesel engine, an electrical generator connected to the diesel engine, an air actuated clutch connected between the diesel engine and the air compressor and a first time valve alternately supplying and disconnecting the air supply to the clutch at approximately one second intervals and a quick dump air valve connected to the clutch for exhausting air from the clutch when the air supply is disconnected, and a second timing valve supplying a constant air supply to the clutch and actuated only after the compressor is operating at substantially full speed.

3,514,220
WATER STORAGE AND PRESSURE MAINTAINER FOR WELL PUMPS
Charles E. Hahn, Jr., 5138 Red Cedar Court, St. Louis, Mo. 63128
Filed Oct. 24, 1968, Ser. No. 770,218
Int. Cl. E03b 11/16; F04b 11/00
U.S. Cl. 417—151 10 Claims



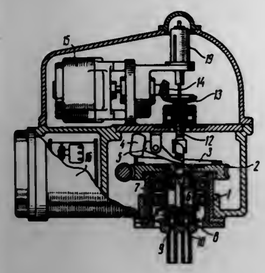
A water storage and pressure maintainer for a jet-type well pump having a pipe for conveying high speed water from the pump into the well and an expandable tube surrounding the pipe for expanding and storing water pumped from the well, with upper and lower manifolds to which the pipe and tube are connected, the manifolds each having isolated chambers so that the high speed water is kept isolated from the well water.

3,514,221
PUMP
Jean Hasquenoph, Lagny, and Marc Pouliquin, Paris, France, assignors to Commissariat a l'Energie Atomique, Paris, France, an organization of France
Filed June 7, 1968, Ser. No. 743,577
Claims priority, application France, Sept. 7, 1967, 109,459
Int. Cl. F04b 23/04, 1/14; F04c 15/00
U.S. Cl. 417—206 3 Claims



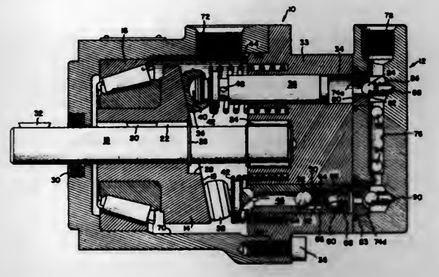
A first stage of pumping or compression is achieved by the wobbling (without rotation) of a wobble member in a chamber. Successive stages are formed by parallel pistons and cylinders disposed on the opposite side of the wobble member from the chamber, with the pistons connected to the wobble member. Means are provided for making the outlet of the first stage communicate with at least one of the cylinders, preferably through appropriate openings provided in the wobble member and in the piston(s) of the cylinder(s) in question.

3,514,222
METERING PISTON PUMP
Georgy Petrovich Korotkov, Ul. 51, korp. 5, kv. 90, and Ernst Yakovlevich Sapozhnikov, Ul. Boitsova 2a, korp. 3, kv. 71, both of Moscow, U.S.S.R.
Filed Dec. 13, 1967, Ser. No. 690,240
Int. Cl. F04b 49/00, 7/06, 9/04
U.S. Cl. 417—214 2 Claims



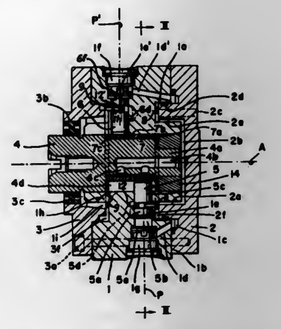
A metering piston pump is provided in which a cylinder rotates on a distributing plate through the intermediary of a rigidly connected gear wheel cooperating with a driving shaft, there being a spring-biased piston reciprocating in the cylinder under the action of a leverage essentially constituted as a two-arm lever coupled to the piston and to a follow-up end roller displaceable on a guide block mounted concentrically with respect to the cylinder. A stop is provided to control the piston stroke and the stop is connected with a capacity indicator and an automatic control system, including a metering sensor, an amplifier, an electric motor turnable through a preset angle upon receiving a mismatch signal from the sensor and displacing the stop through a toothed gear, and a feedback means fashioned as a differential transformer coupled to the movable stop and rigidly connected with the mechanism of the capacity indicator.

3,514,223
HYDRAULIC PUMP
Richard C. Hare, Wauwatosa, Wis., assignor to Applied Power Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 545,321, Apr. 26, 1966. This application Aug. 19, 1968, Ser. No. 757,519
Int. Cl. F04b 9/00, 1/14, 7/00
U.S. Cl. 417—269 4 Claims



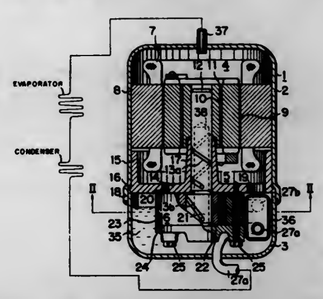
A hydraulic pump of the type having a plurality of parallel cylinders with pistons therein driven by a rotating wobble plate. The pump includes a removable end plate assembly having a plurality of outlet bores communicating with the cylinders and further having check valve units wholly disposed within the end plate between the cylinders and the outlet bores, whereby said end plate is removeable as a unit.

3,514,224
RADIAL PISTON PUMP WITH PISTON-COUPLING MEANS
Ludwig Budecker, Frankfurt, Germany, assignor to Alfred Teves GmbH, Frankfurt am Main, Germany, a corporation of Germany
Filed June 6, 1968, Ser. No. 735,149
Claims priority, application Germany, June 24, 1967, T 34,175
Int. Cl. F04b 1/04, 23/04; F16h 25/08
U.S. Cl. 417—273 6 Claims



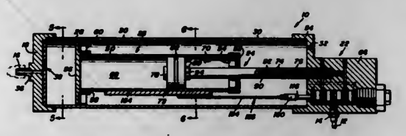
A radial-piston pump with a coupling-ring assembly wherein each coupling ring interconnects two diametrically opposite pistons for joint operation by an eccentric shaft; the rings have bifurcated lugs received in circumferential recesses provided in the pistons, and in form-fitting engagement with the pistons.

3,514,225
MOTOR DRIVEN COMPRESSORS FOR REFRIGERATING MACHINES
Tuneo Monden, Tokyo, and Makoto Watanabe, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed June 19, 1968, Ser. No. 738,189
Claims priority, application Japan, June 21, 1967, 42/39,811
Int. Cl. F04c 29/02
U.S. Cl. 230—207 2 Claims



In a motor driven compressor for a refrigerator comprising a hermetically sealed casing containing the motor compressor and lubricant a suction cup is connected in series with a suction pipe and is maintained in heat exchange relationship with the lubricant.

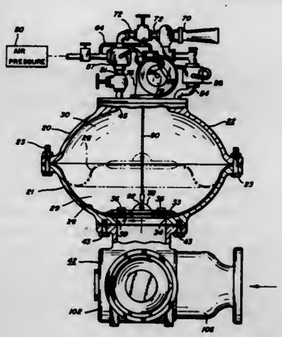
3,514,226
AIR POWERED VACUUM PUMP
Howard L. Wood, Wolf Point, Mont., assignor to Wood's Powr-Grip Co., Inc., a corporation of Montana
Filed July 9, 1968, Ser. No. 743,341
Int. Cl. F04b 17/00, 19/02
U.S. Cl. 103—50 15 Claims



A piston assembly is reciprocated within a vacuum pump housing to produce a vacuum pressure in a suction chamber having a one-way intake valve. Air under pressure is admitted through a control valve assembly for effecting movement of the piston assembly. A reversal in movement at the ends of the piston stroke is produced by a snap action valve actuator operating through the valve assembly to control the flow of air under pressure to the piston assembly.

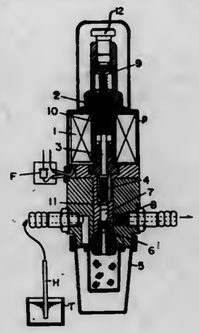
3,514,227
PUMP
Warren E. Rupp, Mansfield, Ohio, assignor to The Warren Rupp Company, a corporation of Ohio
Continuation-in-part of application Ser. No. 614,143, Feb. 6, 1967, which is a continuation-in-part of application Ser. No. 499,282, Oct. 21, 1965. This application Feb. 14, 1968, Ser. No. 705,438
Int. Cl. F04b 17/00
U.S. Cl. 417—395 14 Claims

A pump having an essentially rigid housing with a free flexible membrane therein which divides the housing into two chambers. The free membrane is caused to move back and forth only by the introduction and removal of motivating fluid into one of the chambers and fluid is drawn into and expelled from the other chamber on a pumping cycle by the movement of the membrane. The pump is provided with mechanism for sensing the position of the free membrane within the housing and this in turn controls the introduction and removal of motivating fluid from the first mentioned chamber. The means shown for sensing the position of the membrane is a steel cable, connected at one end to the membrane and at the other end to a sheave mounted on a shaft. The shaft also carries cams engageable with air valves which in turn control the motivating fluid. The cable does not urge



or move the membrane but rather only continually senses its position. The introduction and removal of motivating fluid in one embodiment is alternately caused by a pressure fluid source being directed to the first chamber and then being passed through an ejector means or venturi to create a vacuum. In the other embodiment the exhaust and suction side of an auxiliary pump are alternately connected to the first mentioned chamber. The membrane under some conditions may be replaced with a rigid piston and the inlet and outlet of the pump in some instances are provided with valves whose positions are determined by sensing means responsive to the position of the membrane or piston in the housing.

3,514,228
SOLENOID TYPE ELECTROMAGNETIC PUMP
Akira Toyoda, 13–16 4-chome, Minamimagone, Ohta-ku, Tokyo, Japan
Filed Jan. 15, 1968, Ser. No. 697,821
Int. Cl. F04b 17/04
U.S. Cl. 417—416 1 Claim



A solenoid type electromagnetic pump comprising solenoid type electromagnetic plungers including an elec-

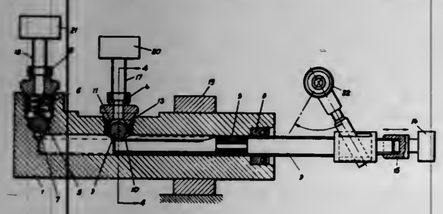
tromagnetic plunger and a discharge plunger an upper and lower spring operatively connected to the plungers for causing both of the plungers to be in contact with each other and a semi-wave rectifier to which the solenoid coil is connected in series.

3,514,229
BLOWER ASSEMBLY FOR ELECTRONIC INSTRUMENT
Donald V. Walker, Concord, and Harrison Doyle, Oakland, Calif., assignors to Systron-Donner Corporation, Concord, Calif., a corporation of California
Filed Mar. 1, 1968, Ser. No. 709,633
Int. Cl. F04b *39/00*; F04d *25/06*
U.S. Cl. 417—424 9 Claims



Blower assembly for electronic instrument having a squirrel-cage blower mounted in a housing with the motor for driving the blower being disposed in the opening in one end of the blower and having an output shaft with means mounted on the other end of the blower for mounting the same on the output shaft so that the motor is disposed on an axis concentric with the axis of rotation of the blower.

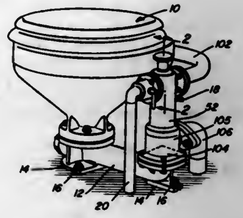
3,514,230
PROPORTIONING PUMP
Gosta R. Nordforss, Sikvagen 7, Tyreso 1, Sweden
Filed Dec. 19, 1968, Ser. No. 785,136
Int. Cl. F02b *53/00*; F04b *7/06*; F01l *21/02*
U.S. Cl. 417—506 4 Claims



A reciprocating plunger pump for proportioning or dispensing a fluid, wherein a section of the plunger has been removed so that the quantity of fluid drawn into the pump and portioned out therefrom may be controlled by the rotative position of the pump plunger and by the stroke of the latter in conjunction.

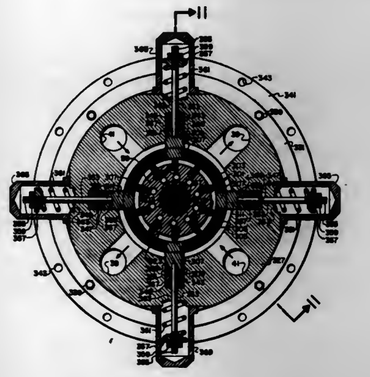
3,514,231
RECIPROCATING PUMP FOR MARINE TOILETS
Perry Belden, Millville, N.J.; Katherine Arnel Belden, executrix of said William Perry Belden, also known as Perry Belden, deceased
Filed Dec. 1, 1967, Ser. No. 687,369
Int. Cl. F04b *19/22*; E03d *1/00*
U.S. Cl. 417—565 2 Claims

A commode water inlet supply is delivered through a reciprocating pump section, the intake and exhaust ports of the pump include a circular diaphragm valve. A ring shaped slit is formed within the body of the diaphragm valve concentric with the center thereof. A first washer is positioned against the outward surface of the intake diaphragm valve and a second washer is positioned against



the inward surface of the exhaust diaphragm valve thereby rendering alternate valves operative during the intake and exhaust cycles.

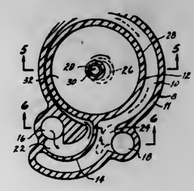
3,514,232
VARIABLE DISPLACEMENT TURBINE-SPEED HYDROSTATIC PUMP
Robert K. Mitchell, Hilliard, and James C. Swain, David L. Thomas, and John P. Wilcox, Columbus, Ohio, assignors to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Continuation-in-part of application Ser. No. 549,679, May 12, 1966. This application Oct. 28, 1968, Ser. No. 771,239
Int. Cl. F04c *1/02, 5/00, 15/02*
U.S. Cl. 418—27 7 Claims



A sliding-vane rotary pump operating at high rotational speeds and constructed for variable displacement. The pump housing includes two lobes that are enlargeable or reducible to provide variable displacement while maintaining all portions of the cam surface (that surface along which the vane tips track very closely) in tangency. In one embodiment movable lap spaces are connected by a plurality of bridges across the pump ports to nonmovable lap spaces. In a second embodiment the cam surface is constructed of a deformable ring or cylinder that is controllably deformed into circular or elliptical shapes to provide the variable displacement feature. The ports preferably are positioned along the cam surface rather than in the end plates and the ratio of rotor length to rotor diameter is considerably greater than in conventional sliding-vane rotary pumps. The vane tips are pivotally mounted and supported by a hydrodynamic film of

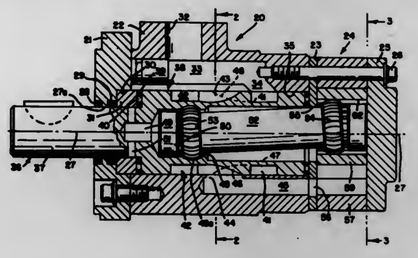
oil between the vane tip and vane-tip track which is desirable for the high rotational speeds at normal operating conditions. The tip, vane, and vane slot in the rotor are constructed to react to and control various forces acting on the rotating vanes as centrifugal force, pressures in front of and behind the vane, socket pressures, bending moments, tipping forces, hydrostatic pressures, etc.

3,514,233
WOBBLE PUMP
Arthur R. Braun, 209 E. Mildred, Cary, Ill. 60013
Filed May 14, 1968, Ser. No. 728,954
Int. Cl. F04c *1/02, 5/00, 23/00*
U.S. Cl. 418—56 9 Claims



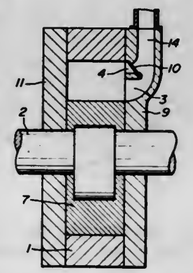
A pump with a rotary motion piston having a flexible separator vane integral therewith and with the chamber wall with ports on either side of said separator vane. The piston is rotated by an eccentric cam driver which causes the pumping action. If desired, a plurality of vanes or a battery of pumps is used to minimize pulsating effect.

3,514,234
FLUID OPERATED DEVICES
Kenneth A. Albers, Bloomington, and Willard P. Aronson, Edina, Minn., assignors to Char-Lynn Company, Eden Prairie, Minn., a corporation of Minnesota
Filed June 10, 1968, Ser. No. 735,814
Int. Cl. F01c *1/10*; F04c *1/06*
U.S. Cl. 418—61 4 Claims



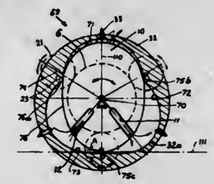
An improvement in fluid operated devices of the type which utilize an external-internal gear displacement mechanism, including reversible motors and motors operable as pumps, the improvement comprising a valve therefor having a valve timing deviation wherein the valve provides early closing of exhaust from predetermined displacement mechanism cells and late pressurizing of predetermined cells in either direction of shaft rotation when the device is utilized as a motor and, when the device is utilized as a pump, providing early closing of pressure ports to predetermined cells and late opening of exhaust ports from predetermined cells, thereby increasing efficiency of the device by compensating for manufacturing errors and component wear.

3,514,235
INTAKE MEANS FOR A ROTARY PISTON TYPE ENGINE
Ryoichi Yamauchi, Nagahama-shi, Japan, assignor to Yanmar Diesel Engine Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Oct. 24, 1968, Ser. No. 770,194
Claims priority, application Japan, Nov. 6, 1967, 42/93,602
Int. Cl. F02b *55/16*
U.S. Cl. 418—61 1 Claim



Intake means for a rotary piston type engine having a main intake port and an auxiliary intake port adapted to be put into an overlapped relation with an exhaust port, a check valve being disposed only in said auxiliary intake port so as to prevent the exhaust gas from flowing back through the auxiliary intake port.

3,514,236
ROTARY ENGINE WITH EPICYCLIC ROTOR
Mihail Stoyanov Rashev, Sofia, Bulgaria, assignor to Vish Machinno-Elektrotechnitcheski Institut, Sofia, Bulgaria
Filed Mar. 13, 1968, Ser. No. 712,820
Claims priority, application Bulgaria, Mar. 13, 1967, 7,493
Int. Cl. F02b *55/08, 55/06, 55/16*
U.S. Cl. 418—144 9 Claims

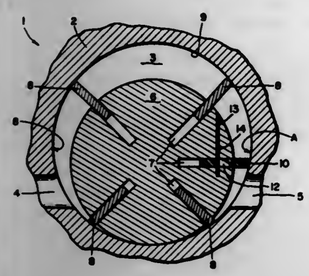


An improved rotary engine is provided with three combustion chambers each having a variable volume and relatively fixed angular bondaries defined by adjacent pairs of inwardly directed cusps spaced at 120° around the periphery of the engine stator. The stator is drivingly coupled to the engine rotor in such a manner that the rotation of the rotor causes the cusps to oscillate over spaced portions of an epicyclic path identical to that defined by an epicyclic outer surface of the rotor, thereby maintaining the rotor surface in engagement with each of the three cusps at all times.

3,514,237
FLUID MOTION DEVICE
Emanuel G. Spyridakis, Belle Mead, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed July 25, 1968, Ser. No. 747,759
Int. Cl. F01c *1/00*; F04c *3/00, 17/00*
U.S. Cl. 418—152 4 Claims

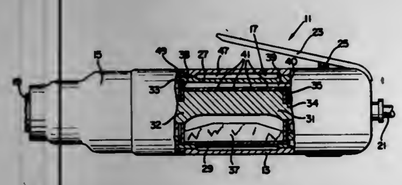
A fluid motion device, such as a motor, pump, compressor, and the like, of the sliding vane type, having at

least one additional "lubrication vane" for reducing the effects of friction between the vanes, cylinder walls, and vane slots. The lubricating vane has relieved areas, on its longitudinal extremities; this avoids pressurization of



its one surface and, consequently, minimizes the force and incidence of frictional contact between the lubricating vane and its slot.

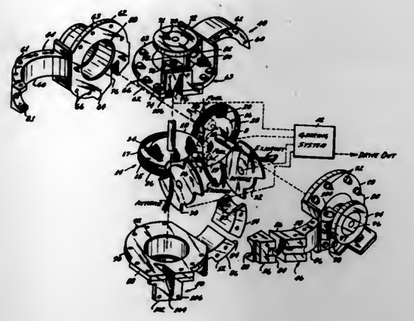
3,514,238
CYLINDER FOR FLUID PUMP MOTOR AND THE LIKE AND METHOD OF MAKING
Stanley K. Smith, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Sept. 16, 1968, Ser. No. 760,036
Int. Cl. F04c 1/00; F04b 21/08; F01c 1/00
U.S. Cl. 418—153 **6 Claims**



There is disclosed herein a fluid powered, rotary device which includes a cylinder having a vane carrying rotor rotatably disposed therein. Pressurized fluid is admitted to the cylinder and acts on the vane or vanes causing the rotor to turn and the vane or vanes to ride along the inner wall of a cylinder liner. The liner has a novel construction formed in a novel manner which contributes significantly to its useful life and efficiency, its physical properties, and enhances the overall performance of the device.

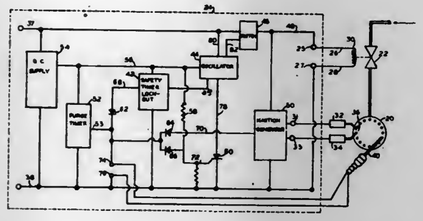
3,514,239
MODULAR HOUSING FOR ROTARY ENGINE
James C. Hambric, Los Angeles, Calif., assignor to K.M.F. Development Corporation, a corporation of California
Filed June 20, 1968, Ser. No. 738,528
Int. Cl. F02b 53/00; F01c 3/02
U.S. Cl. 123—13 **7 Claims**

A housing is disclosed for a rotary engine in which a pair of intermeshed, segmented disks are perpendicularly mounted to revolve and develop spaces of compression and expansion therebetween. The perpendicular disks are carried on transversely-related shafts and include radially-extending lobes between which the intermeshed relationships are developed within the housing. The housing includes: one pair of matingly-opposed components defining an annulus about one of the disk members and also defining side walls axial of the other disk member to afford a bearing surface that supports the disk member; the housing further includes another somewhat-similar pair of matingly-opposed components which provide annulus and side wall closure portions of the housing supplemental to those of the first pair of components.



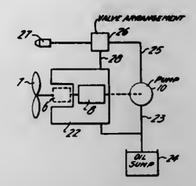
The two pairs of face-opposing components are fastened together to provide an integral unit, enclosing the engine and providing the spaces for compression and expansion. The individual housing components are disclosed to be of two different types, one of which also defines a combustion chamber for utilization of the present system as an internal combustion engine.

3,514,240
FLUID FUEL IGNITION CONTROL SYSTEM
William F. Potts, Liverpool, N.Y., assignor to Liberty Combustion Corporation, Syracuse, N.Y., a corporation of New York
Filed July 6, 1967, Ser. No. 651,541
Int. Cl. F23n 5/14
U.S. Cl. 431—26 **2 Claims**



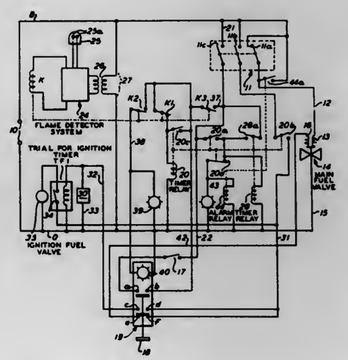
A control for the ignition and safe operation of a fluid fuel burner having a spark gap ignitor and a flame sensor and supplied with a fuel through an electrically operated fuel valve, and the provision of a direct current operating voltage derived from a source of alternating current voltage responsive to the closing of a thermostatically operated switch, to open the valve and to energize the ignitor in response to the direct current voltage only when the flame sensor is neither sensing flame nor defective in a manner simulating response to flame, to discontinue the operation of said ignitor in response to the flame sensor sensing flame and to allow recurrence of the operation of the ignitor when the flame sensor senses the absence of flame, and to close the valve and de-energize the ignitor upon any failure of the burner either to ignite or re-ignite before a pre-determined period of time.

3,514,241
MOTOR, PUMP, AND BLOWER SYSTEM FOR OIL BURNER
Kyrre Guttorm Sjotun, Nordborg, and Leif Viggo Sturlason, Sonderborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Feb. 12, 1968, Ser. No. 704,677
Claims priority, application Germany, Feb. 18, 1967, D 52,327
Int. Cl. F23n 5/24
U.S. Cl. 431—30 **5 Claims**



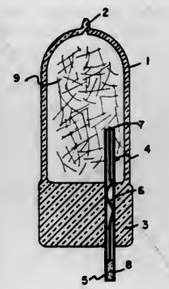
An oil burner system in which a fuel oil pump and the air blower are independently driven by a common motor having a single stator and two independently driven rotors. One rotor is connected to the pump and the other to the air blower so that the intertia of the pump drive is reduced and it comes to a stop quicker. The rotor for driving the pump is disposed in an oil-filled compartment so that it is damped. When the motor is deenergized the pump stops relatively quickly and the blower continues to blow air to ensure burning of all oil supplied from the burner and avoid coking.

3,514,242
FLAME MONITORING SYSTEM
Raymond L. Collins, Jr., Denville, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Oct. 1, 1968, Ser. No. 764,286
Int. Cl. F23n 5/08
U.S. Cl. 431—79 **5 Claims**



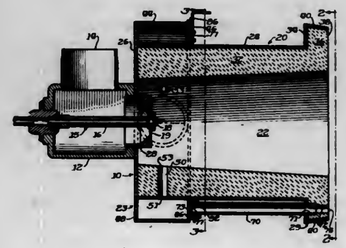
A flame monitoring system is provided for detecting the flame of a fuel burner and for initiating the closing of the fuel valve if a flame failure occurs for any reason. A special feature of the system is that the burner will remain operative through limited periods of power interruption. If a flame failure occurs and the power is restored within the limited period the system will shut down the burner after power is restored. If no flame failure occurs and the power is interrupted for a longer duration than the limited period, the system leaves the burner running but without supervision of the flame monitoring system.

3,514,243
FLASHLAMP
Warren H. Hay, South Hamilton, and Bernard Kopelman, Salem, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 694,275, Dec. 28, 1967. This application Oct. 25, 1968, Ser. No. 770,775
Int. Cl. F21k 5/02
U.S. Cl. 431—93 **7 Claims**



A percussively-ignited flashlamp housing a glass envelope containing a filling of fulminating material, such as shredded zirconium, and a combustion supporting gas, such as oxygen. At one end of the envelope is a press seal, through which a hollow metal tube extends, the tube being closed at its outside end and open at its inside end. A wire having the percussive material coated on the end thereof is fixedly disposed in the tube.

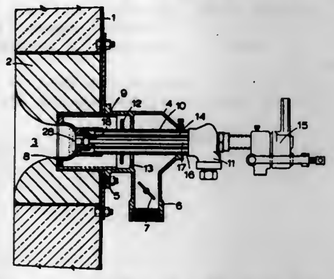
3,514,244
ASPIRATOR BURNER
David Meyer, Kankakee, and Sidney Greenberg, Monee, Ill., assignors to Radiant International Incorporated, a corporation of Illinois
Filed May 27, 1968, Ser. No. 732,268
Int. Cl. F23d 11/44
U.S. Cl. 431—164 **13 Claims**



An aspirator burner having a pressurized primary air supply for increased burner temperature and improved fuel efficiency. The aspirator burner also includes means for equalizing the air flow in the secondary supply and means facilitating retention of the refractory lining within the burner shell.

3,514,245
BURNER ASSEMBLY FOR FLUID FUELS
Dennis Ronald Adcock, Amersham, England, assignor to Airoil Burner Company (GB) Limited, West Drayton, Middlesex, England, a British company
Filed Apr. 10, 1968, Ser. No. 720,205
Claims priority, application Great Britain, Apr. 11, 1967, 16,645/67
Int. Cl. F23d 17/00
U.S. Cl. 431—348 7 Claims

A burner assembly for the combustion of liquid fuel, or gaseous fuel or a combination of liquid and gaseous fuel, adapted to be fitted to the wall of a furnace. The burner assembly has a curved funnel-shaped shroud into which fuel and air is emitted for combustion. The shroud has circumferential air passages in its enlarged portion disposed so that the air passed into the shroud is mixed with the fuel and swirled and further air passages in its narrowest portion which emit an air stream which flows over a fuel emitting nozzle so as to clean this part and prevent the formation of carbon deposits. Where the assembly burns both liquid and gaseous fuel gas supply passages extend through the narrowest portion of the



shroud and also disposed so that when fuel gas is emitted it also swirls and mixes with the liquid fuel/air mixture.

CHEMICAL

3,514,246
METHOD OF DYEING SHAPED POLYCARBONATE RESINS
Joseph Bianco, Lock Haven, Pa., and Victor T. Humphreys, Hinsdale, Ill., assignors to American Aniline Products, Inc., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 535,669, Mar. 21, 1966. This application July 11, 1969, Ser. No. 841,113
Int. Cl. D06p 3/54
U.S. Cl. 8—4 6 Claims

Polycarbonate resin is dyed by immersing the polymer in an emulsified dye liquor, which comprises a water-insoluble, oil-soluble dyestuff, an oil-soluble surface active agent dissolved in an aliphatic hydrocarbon solvent, and sufficient water to provide a dyestuff concentration of up to one percent by weight.

3,514,247
METHOD FOR SIMULTANEOUSLY SCOURING AND BLEACHING TEXTILE FABRICS, PORTIONS OF WHICH ARE DYED WITH A SENSITIVE DYESTUFF
Bernard C. Lawes and Howard L. Potter, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 24, 1967, Ser. No. 662,880
Int. Cl. D06l 3/02
U.S. Cl. 8—111 7 Claims

Textile fabrics containing portions dyed with a sensitive dyestuff, such as a vat or a naphthol dye, are simultaneously scoured and bleached by saturating the fabric with a bleaching solution containing 0.7 to 3% hydrogen peroxide and sufficient alkali to bring the pH of the solution to 10.5 to 13, then heating the saturated fabric to a temperature of 180 to 220° F. for 0.5 to 4 minutes.

3,514,248
PRODUCTION OF BULKED YARN FROM THERMOPLASTIC HIGH POLYMERS
Wolfgang Martin, Lucia Buechs, and Friedrich Wenger, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed June 8, 1966, Ser. No. 556,017
Claims priority, application Germany, June 12, 1965, 1,289,240
Int. Cl. D06c 29/00
U.S. Cl. 8—115.5 6 Claims

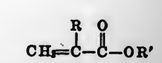
Process for bulking a fibrous yarn or bundle of filaments of synthetic high molecular weight thermoplastic fiber-forming polymers, especially nylon 6 and nylon 66, by texturing to provide a durably or permanently crimped or textured bulk yarn, said process being improved by treatment of the fibrous yarn with a cross-linking agent, especially an aliphatic or isocyclic dialkylenediurea, and subjecting the treated yarn to a temperature of about 120° C. to 190° C.

3,514,249
STRETCHABLE WOVEN FABRICS
John W. Bullington, Athens, and John H. Gustafson and Julian J. Hirshfeld, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 20, 1966, Ser. No. 521,813
Int. Cl. D06m 5/12, 9/12, 9/14
U.S. Cl. 8—130.1 10 Claims

Stretch characteristics are imparted to fabrics having filling yarns comprised of polyester fiber by contacting the fabric with a swelling agent, applying a tension force in the direction of the warp yarns of the fabric, and vaporizing the swelling agent while the fabric is under the tension force.

3,514,250
PROCESS OF INHIBITING CORROSION
Brian M. Rushton, Edina, Minn., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Original application Mar. 25, 1965, Ser. No. 442,793, now Patent No. 3,445,441, dated May 20, 1969. Divided and this application Jan. 8, 1969, Ser. No. 789,924
Int. Cl. C23f 11/00, 11/08
U.S. Cl. 21—2.5 6 Claims

Process for inhibiting corrosion characterized by treating a system with an amino-amidopolymer characterized by being a reaction product of at least a polyamine and an acrylate-type compound having the formula

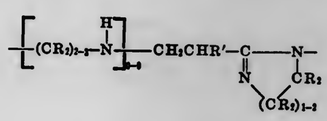


where R is hydrogen or methyl and R' is methyl, ethyl, propyl, isopropyl, butyl, sec-butyl, tert-butyl, aryl or hexyl, or a cross-linked reaction product.

3,514,251
USE OF HETEROCYCLIC POLYMERS AS CORROSION INHIBITORS
Robert R. Annand, St. Louis, and Derek Redmore, Ballwin, Mo., and Brian M. Rushton, Edina, Minn., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Original application Oct. 22, 1965, Ser. No. 502,447, now Patent No. 3,450,646, dated June 17, 1969. Divided and this application Jan. 21, 1969, Ser. No. 792,799
Int. Cl. C23f 11/00, 11/08
U.S. Cl. 21—2.5 7 Claims

The use as a corrosion inhibitor of heterocyclic polymers, such as polymers containing a heterocyclic group in the main polymeric chain; and more particularly to the use as a corrosion inhibitor of heterocyclic polymers containing a cyclic amidine group, or a related group, as a unit of the polymeric chain.

These heterocyclic polymers are illustrated by polymers containing repetitive units of the following formula



where R and R' are hydrogen on a lower alkyl such as methyl, ethyl, etc.

3,514,252
PROCESS FOR THE PREPARATION OF STABILIZED ZIRCONIA POWDERS
Newton Levy, Jr., Ellicott City, and Milton C. Vanik, Severna Park, Md., assignors to W. R. Grace & Co., a corporation of Connecticut
No Drawing. Filed July 7, 1967, Ser. No. 651,667
Int. Cl. C22b 59/00; C01g 25/02
U.S. Cl. 23—22 6 Claims

Zirconia particles of sub-micron size stabilized in the cubic phase are prepared by mixing precursor solutions of zirconia and the stabilizer, coprecipitating the hydroxides, decomposing and grinding the hydroxides in a fluid energy mill operated at a temperature of 500° F. to 1400° F. The salt solutions or hydroxide slurries can be decomposed directly in the fluid energy mill.

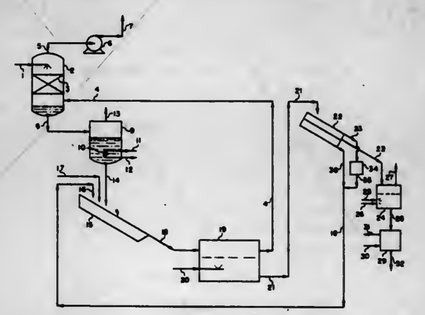
3,514,253
METAL-ALUMINUM-FLUORINE COMPLEXES
Stephen Robota, North Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Continuation of application Ser. No. 420,129, Dec. 21, 1964, which is a continuation-in-part of application Ser. No. 384,518, July 22, 1964. This application Aug. 14, 1968, Ser. No. 757,515
Int. Cl. C01b 9/08; C01d 9/50; B01j 11/78
U.S. Cl. 23—88 6 Claims

The metal-aluminum-fluoride composition, particularly useful as a catalyst for the fluorination of organic halides, by replacement of other halogens with fluorine, comprises particular significant proportions of aluminum, fluorine and metal, the metal being either of Group I-B, II-B, VI-B, or VIII. The catalyst is made by coprecipitating a metal-alumina composition from an alkaline solution of alumina by acidification thereof in the presence of a metal halide and fluorinating the coprecipitated composition with hydrogen fluoride at a temperature in the range of about 0 degrees centigrade to about 600 degrees centigrade.

3,514,254
PROCESS FOR PREPARING A SOLUTION CONTAINING HYDROXYLAMMONIUM SALT
Abraham Hermanus de Rooij, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
No Drawing. Filed May 3, 1965, Ser. No. 452,925
Int. Cl. C01b 25/00; C01g 1/10
U.S. Cl. 23—105 7 Claims

A process for preparing a solution containing hydroxylammonium salt which includes catalytically reducing nitrate ions in an aqueous solution using molecular hydrogen in the presence of a weakly acidic material selected from the group consisting of phosphoric acid, the alkali or ammonium salts thereof, alkali metal bisulfates and ammonium bisulfate so that the pH is buffered between 0–3.

3,514,255
PRODUCTION OF GRANULAR DIAMMONIUM PHOSPHATE
Richard S. Wiener, Stamford, Conn., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 580,082, Sept. 16, 1966. This application Apr. 30, 1969, Ser. No. 820,682
Int. Cl. C01b 25/28; C05b 11/00
U.S. Cl. 23—106 5 Claims



Ammonium phosphate fertilizer is produced by mixing phosphonic acid with a recycled stream of acid-free solid diammonium phosphate fines, derived as a component of the product stream. All of the resulting acid-wetted solid granules are ammoniated with an ammonia feed stream, to evolve water vapor and produce granules of solid diammonium phosphate of low water content. The granules are screened to separate acid-free diammonium phosphate fines from the product diammonium phosphate granules, and the fines are recycled for mixing with further phosphoric acid.

3,514,256
FIBROUS CORUNDUM AND ITS PREPARATION
Kenneth L. Berry, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 15, 1957, Ser. No. 696,595
Int. Cl. C01f 7/02
U.S. Cl. 23—141 8 Claims

1. Corundum in the shape of fibers, filaments, and ribbons having at least one dimension less than 50 microns and one dimension greater than 50 microns, the average ratio of the longest to the shortest dimension being at least 500:1.

4. Process for preparing corundum which comprises reacting at a temperature of at least 1100° C., but less than the melting point of corundum, aluminum and an

inorganic silicon compound having Si—O bonds at the reaction temperature, said aluminum and inorganic silicon compound being spaced apart and in contact with hydrogen during the reaction.

3,514,257
PROCESS FOR PRODUCING METABORIC ACID BY DEHYDRATING ORTHOBORIC ACID
Rudolph Rosenthal, Broomall, and Giovanni A. Bonetti, Wynnewood, Pa., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Jan. 19, 1968, Ser. No. 699,054
Int. Cl. C01b *35/00*
U.S. Cl. 23—149 9 Claims

Method for the dehydration of orthoboric acid to metaboric acid by heating the acid in the presence of a hydrocarbon solvent and a C_2 to C_6 monocarboxylic acid and removing the water as an azeotropic mixture.

3,514,258
METHOD FOR PREPARING CARBONYLS OF RUTHENIUM AND OSMIUM
Michael Ian Bruce and Francis Gordon A. Stone, Bristol, England, assignors to Alfa Inorganics, Inc., Beverly, Mass., a corporation of Massachusetts
No Drawing. Filed June 12, 1967, Ser. No. 645,465
Int. Cl. C01g *1/04, 55/00*
U.S. Cl. 23—203 12 Claims

Method of preparing carbonyls of the formula

$$M_3(CO)_{12}$$

where M is ruthenium or osmium wherein a solution of a halide of ruthenium or osmium, such as the chloride, bromide or iodide, or a halide derivative of these metals such as ammonium hexabromoosmate, or the carbonyl halides, in methanol, ethanol, 1,2-dimethoxyethane, 2-methoxyethane or higher aliphatic alcohols, is heated in a confined zone with carbon monoxide under a pressure of about 4 to 25 atmospheres and in the presence of zinc until the salt has reacted substantially completely to form the desired carbonyl.

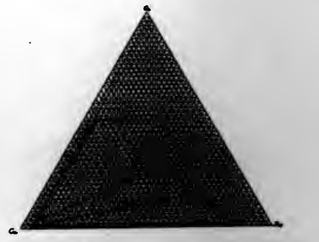
3,514,259
CARBON BLACK REACTOR AND PROCESS
Ivan Cerenna, Houston, Tex., assignor to Ashland Oil & Refining Company, Houston, Tex., a corporation of Kentucky
Filed Jan. 30, 1968, Ser. No. 701,768
Int. Cl. C09c *1/50*
U.S. Cl. 23—209.4 7 Claims

The application discloses a tangential entry precombustion type carbon black producing furnace fitted with a burner having a burner chamber with perforate side walls, a fuel inlet conduit having an outlet port in the chamber, and means for forcing combustion-supporting gas through the perforate side walls into the chamber. The furnace/burner combination has utility in the production of carbon black of enhanced structure.

3,514,260
HYDROGEN PRODUCTION
Robert A. Ballie, Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Oct. 20, 1967, Ser. No. 676,721
Int. Cl. C01b *1/03*
U.S. Cl. 23—213 8 Claims

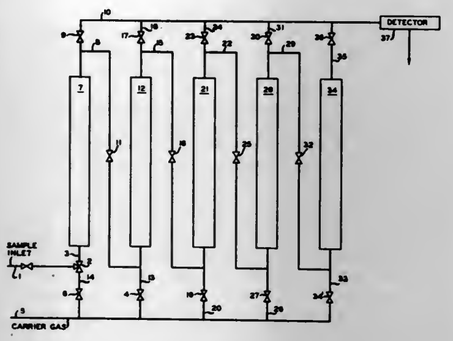
A high pressure process for the production of hydrogen which comprises in combination a steam-hydrocarbon reforming step at a temperature of about 1900°–2100° F. and a pressure of about 1500–3000 p.s.i.g. over a reforming catalyst to form hydrogen and carbon monoxide, charging said carbon monoxide to a shift reaction carried out at a temperature of about 350° F.–900° F. and a pressure of about 1500–3000 p.s.i.g. over a shift reaction catalyst. At the foregoing pressures the carbon dioxide by-product of the shift reaction can be removed by a hot water absorption technique at a temperature of about 60°–400° F.

3,514,261
PROCESS FOR PRODUCING CARBON DIOXIDE AND HYDROGEN FROM CARBON MONOXIDE AND STEAM USING MIXED OXIDES OF COPPER, ZINC AND CHROMIUM AS CATALYST AND PROCESS FOR PRODUCING SAID CATALYST
George Walter Bridger, David Owen Hughes, and Philip William Young, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Continuation of application Ser. No. 284,860, June 3, 1963. This application June 3, 1968, Ser. No. 738,372
Claims priority, application Great Britain, Aug. 24, 1962, 32,617/62
Int. Cl. C01b *1/03*; B01j *11/00, 11/32*
U.S. Cl. 23—213 12 Claims



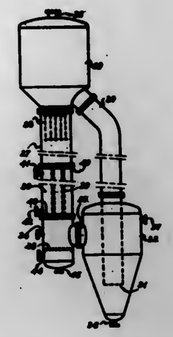
Process of producing carbon dioxide and hydrogen by reacting carbon monoxide with steam in the presence of a catalyst comprising the product obtained by reducing the mixed oxides of copper, zinc and chromium.

3,514,262
CHROMATOGRAPHIC SEPARATION METHOD
Buell O. Ayers and Francis W. Karasek, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 29, 1967, Ser. No. 664,014
Int. Cl. G01n *31/08*
U.S. Cl. 23—230 7 Claims



Multi-component vaporizable mixtures are more effectively separated in multiple separation zones by passing the mixture serially through the several separation zones to retain a fraction in each zone, removing the lowest boiling fraction from the terminal zone, eluting the next lowest boiling fraction from the terminal zone, causing the partial separation of each fraction to at least the next immediate downstream zone, removing a fraction from the next to the last zone, bypassing the terminal separation zone and repeating the cycle until samples have been eluted from each zone.

3,514,263
FLUIDIZED BED CRYSTALLIZATION DEVICE
Jan Michal Malek, 11 Rue Spontini, Paris, France
Continuation of application Ser. No. 430,434, Feb. 4, 1965. This application June 23, 1969, Ser. No. 838,039
Int. Cl. B01d *9/00, 9/02*
U.S. Cl. 23—273 13 Claims

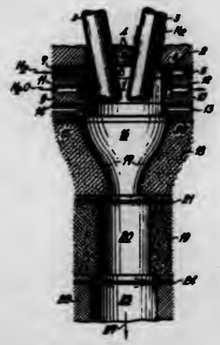


A fluidized bed crystallization device consisting of a column into which is introduced a liquor to be evaporated and crystallized. An assembly of spaced vertical walls is disposed in the upper part of the column for avoiding hydraulic hammer effects and for impeding the interfusion of upwardly moving vapor bubbles. A chamber is positioned at the head of the column for separating liquid and vapor phases, and an outlet is provided for the exhaust of the separated vapors. A pipe is connected to the base of the chamber for recycling liquid separated in the above-noted chamber. There is further provided a vertical classifying vessel communicating with the recycling pipe and of a particular form and connected to the recycling pipe to permit classification of crystallized grains in suspension in the treated liquid under the action of liquid current from the recycling pipe. Outlets are provided for the heavy crystalline grains and for decanted mother-liquor. The head of the classifying vessel is connected to the base of the column.

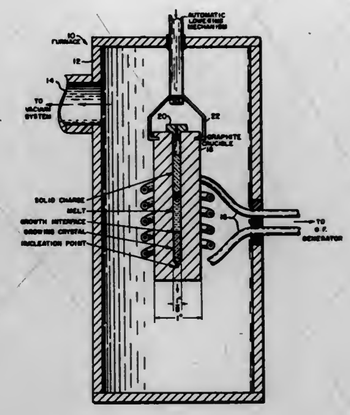
3,514,264
APPARATUS FOR ELECTRIC ARC-CRACKING OF HYDROCARBONS
Kurt Sennewald, Knapsack, near Cologne, Ludwig Bender, Brühl, near Cologne, Klaus Gehrmann, Knapsack, near Cologne, Erich Schallus, Cologne, Hans-Werner Stephan, Cologne-Klettenberg, and Lothar Strie, Knapsack, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany
Original application Aug. 2, 1965, Ser. No. 476,422, now Patent No. 3,409,695, dated Nov. 5, 1968. Divided and this application Aug. 3, 1967, Ser. No. 658,259.
Claims priority, application Germany, Aug. 5, 1964, K 53,671
Int. Cl. H05b *7/18*; C07c *11/24*
U.S. Cl. 23—284 7 Claims

Alternatively, apparatus comprises in coaxial arrangement a conventional arc chamber, an axially symmetrical preliminary reaction chamber with the larger diameter thereof facing the arc chamber and with the smaller diameter thereof facing a reaction chamber, and a quenching zone following the reaction chamber serving to quench cracked product.

Apparatus comprises in coaxial arrangement a conventional arc chamber, an axially symmetrical reaction chamber with the larger diameter thereof facing the arc chamber and with the smaller diameter thereof facing a post-reaction chamber following the reaction chamber, and a quenching zone following the post-reaction chamber and serving to quench cracked product.



3,514,265
METHOD OF GROWING STRAIN-FREE SINGLE CRYSTALS
John R. Pastore, Long Branch, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 5, 1967, Ser. No. 628,795
Int. Cl. B01j *17/24*; C01g *11/00*; C01f *11/22*
U.S. Cl. 23—301 2 Claims



Small diameter, strain-free single crystals are grown from a melt of powder in a high density crucible having a high ratio of outer diameter to inner diameter by gradu-

ally lowering the crucible through an RF coil contained in an evacuated furnace.

3,514,266
SEPARATION OF ALUMINUM, CALCIUM, AND MAGNESIUM FROM THE ALKALI METALS BY SOLVENT EXTRACTION

Ivan L. Nichols and Karl C. Dean, Salt Lake City, Utah, assignors to the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Oct. 27, 1966, Ser. No. 590,101
Int. Cl. B01d *11/04*; C01f *1/00*
U.S. Cl. 23—312 8 Claims

A method for separating aluminum, calcium and magnesium from alkali metals is disclosed. The separation is effected by extraction with an alkylphosphoric acid which has been pre-washed with ammonium carbonate.

3,514,267
BATCH SEPARATOR OF YTTRIUM AND RARE EARTHS UNDER TOTAL REFLUX

Leonard George Sherrington and William Palmer Kemp, Vicars Cross, Chester, England, assignors to Thorium Limited, London, England, a British company

No Drawing. Filed Feb. 2, 1967, Ser. No. 613,428
Claims priority, application Great Britain, Feb. 4, 1966, 4,952/66
Int. Cl. B01d *11/04*
U.S. Cl. 23—312 8 Claims

Yttrium is separated from an initial rare earth mixture by a two-stage method employing multi-stage counter-current liquid-liquid extraction systems operated at total reflux in each case, all solutes being returned, during processing, to that end of the system from which they were derived. Preferred pairs of solvent for the two stages are aqueous nitric acid/tertiary branched-chain carboxylic acid with 8 to 20 carbon atoms per molecule, and aqueous nitric acid/tributyl phosphate. Multi-stage counter-current liquid-liquid extraction at total reflux employing tertiary branched-chain carboxylic acids is also described.

3,514,268
NOVEL PROCESS FOR THE MANUFACTURE OF DIMAGNESIUM ALUMINOSILICATE FOR MEDICAL USES

Hidetaka Uoda, Shinminato-shi, Matajiro Osaka, Imizugun, Toyama-ken, and Minoru Okuda, Toyama-shi, Japan, assignors to Fuji Kagaku Kogyo Kabushiki Kaisha, Kamiichi-machi, Naka-Niikawa-gun, Toyama-ken, Japan, a company of Japan

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,611
Claims priority, application Japan, Dec. 27, 1965, 40/81,132
Int. Cl. C01g *57/00*; C01b *33/28*
U.S. Cl. 23—315 6 Claims

A process for the manufacture of dimagnesium aluminosilicate by reacting 4 mols of caustic soda with an aqueous solution of a water soluble aluminum salt, equivalent to 1 mol of Al_2O_3 whereby a dibasic aluminum salt is obtained, reacting the so obtained product sequentially with 1 mol of sodium silicate to obtain tetrabasic dialuminum silicate, then with 4 mols caustic soda to convert the product into the neutral salt, and finally with an aqueous solution of a water soluble magnesium salt equivalent to 2 mols of MgO. The product is used in medicine as an antacid.

3,514,269
PROCESS FOR MANUFACTURE OF DIMAGNESIUM ALUMINOSILICATE FOR MEDICAL USES

Hidetaka Uoda, Shinminato-shi, Matajiro Ohsaka, Daimon-machi, and Minoru Okuda, Toyama-shi, Japan, assignors to Fuji Kagaku Kogyo Kabushiki Kaisha, Kamiichi-machi, Naka-Niikawa-gun, Toyama-ken, Japan, a company of Japan

No Drawing. Filed Jan. 17, 1967, Ser. No. 609,755
Claims priority, application Japan, Jan. 26, 1966, 41/4,734
Int. Cl. C01g *57/00*; C01b *33/28*
U.S. Cl. 23—315 4 Claims

A process for the manufacture of dimagnesium aluminosilicate for medical use, having the structure

OAl—O—Mg—O—Si(O)—O—Mg—O—AlO

which comprises reacting one mol of an aqueous solution of sodium metasilicate while stirring with an aqueous solution of a water-soluble magnesium salt and then reacting the product obtained with an aqueous solution of 2 mols of sodium aluminate equivalent to 2 mols of MgO. The product is used in medicine as an antacid.

3,514,270
MANUFACTURE OF BISMUTH MAGNESIUM ALUMINOSILICATE

Teizaburo Tomita, Naruto-shi, Japan, assignor to Tomita Pharmaceutical Co., Ltd., Naruto-shi, Tokushima-ken, Japan

No Drawing. Filed June 9, 1967, Ser. No. 644,772
Claims priority, application Japan, June 10, 1966, 41/37,670, 41/37,671
Int. Cl. C01f *57/00, 2/02*
U.S. Cl. 23—315 8 Claims

Bismuth magnesium aluminosilicate is manufactured by adding with stirring at 5–60° C. an acidic solution of a bismuth salt dissolved in an inorganic acid of less than pH 2 to an alkaline aqueous slurry of a magnesium aluminate of pH 8–12 in such a ratio that the mixture retains a pH 8–10.5 and molar ratio of Al_2O_3:Bi_2O_3 is in the range of 1:0.03–1:0.1, further adding with stirring at 5–60° C. to the resultant aqueous slurry an aqueous solution of a silicate in a molar ratio of Al_2O_3:SiO_2 between 1:0.3 and 1:3, and separating the resultant bismuth magnesium aluminosilicate from the mother liquid.

3,514,271
IRON-, NICKEL-, AND COBALT-BONDED NITRIDE CUTTING TOOLS

Paul C. Yates, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 593,001, Nov. 9, 1966. This application July 23, 1968, Ser. No. 746,742
Int. Cl. B22f *3/00, 5/00, 7/00*; C22c *29/00, 31/04*
U.S. Cl. 29—182.5 1 Claim

Cutting tools comprising a cutting edge of a dense interdispersion consisting essentially of one part by volume of a binder metal such as iron, cobalt, nickel and their alloys and from 3 to 50 parts by volume of a refractory phase consisting essentially of 20 to 95 volume percent of an essential nitride such as titanium, zirconium, hafnium, niobium, or vanadium nitride or their mixtures and from 5 to 80 volume percent of a wear-resistant additive such as alumina, aluminum nitride, or tantalum nitride are exceptionally useful in cutting, shaping and turning metal.

3,514,272
PROCESS FOR VANADIDING METALS

Newell C. Cook, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 10, 1966, Ser. No. 593,301
Int. Cl. B23p *3/00*; C13b *5/30*
U.S. Cl. 29—194 14 Claims

A vanadide coating is formed on specified base metal compositions by forming an electric cell containing certain metal compositions as a cathode joined through an external electrical circuit to a vanadium anode using a specified fused salt electrolyte maintained at a temperature of at least 800° C., up to the melting point of the metal composition. This cell generates electricity, but, if desired, an external E.M.F. may be impressed providing the current density does not exceed 10 amperes/dm.^{2}. The vanadium diffuses into the base metal to form a tight, adherent coating composed of vanadium and the base metal. This process is useful for forming such compositions on the base metal.

3,514,273
FUEL OIL ADDITIVE

George K. Lee and Earland R. Mitchell, Ottawa, Ontario, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada

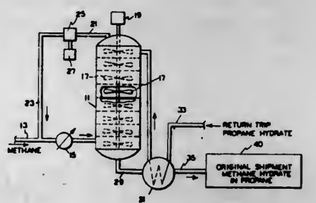
No Drawing. Continuation-in-part of application Ser. No. 648,241, June 23, 1967. This application Nov. 25, 1968, Ser. No. 778,799
Int. Cl. C10l *1/32*
U.S. Cl. 44—51 13 Claims

A fuel oil additive, which is designed to reduce slagging, to facilitate removal of slag and like deposits from the fireside of boiler tubes, to reduce acid smut pollution, to eliminate low temperature corrosion and to improve the electrical resistivity of particulate emission from a fuel oil flame, comprising a dispersion of finely divided particles or partially dehydrated hydroxides of magnesium and aluminum in a hydrocarbon oil.

3,514,274
TRANSPORTATION OF NATURAL GAS AS A HYDRATE

Robert P. Cahn, Millburn, and Robert H. Johnston, Morris Plains, N.J., and James A. Plumstead, Jr., The Hague, Netherlands, assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Feb. 18, 1965, Ser. No. 434,739
Int. Cl. F17c *7/02*; F25j *3/00*
U.S. Cl. 48—190 4 Claims

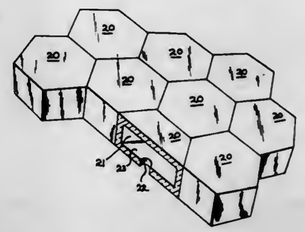


Natural gas is advantageously transported by ship from a loading point to a point of delivery remote from said loading point by first contacting the natural gas with a propane hydrate in the form of solid particles under appropriate temperature and pressure conditions. As a result there is formed a natural gas hydrate, also as a slurry of crystals, which is carried in the liquid menstrum, in this case liquid propane. The hydrate is transported by said ship at temperatures and pressures suitable to maintain it in its hydrated condition and upon reaching its point of destination, it is dehydrated, while at the same time rehydrating the propane.

3,514,275
LIGHTWEIGHT TELESCOPE MIRROR BLANK PRODUCT AND PROCESS OF PRODUCING THE SAME FROM GLASS

Thomas F. Bray, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Oct. 18, 1965, Ser. No. 496,966
Int. Cl. C03b *29/00, 31/00*; G02b *5/08*
U.S. Cl. 65—33 8 Claims

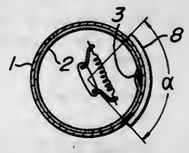


Lightweight glass or glass-ceramic plates, especially telescope mirror blanks, are formed by thermally uniting a plurality of self-fitting glass or glass-ceramic units, each unit having at least one cavity disposed between its face surfaces and one of the face surfaces being provided with at least one opening communicating with the cavity and the atmosphere and smaller in cross-sectional area than the cross-sectional area of the cavity. Thermally crystallizable self-fitting glass units can be used and these can be thermally crystallized before or after the units are joined to form the lightweight article.

3,514,276
METHOD OF MANUFACTURING NONLINEAR FLUORESCENT LAMPS

Hinomaru Fujio, Osaka, and Kazunori Fukunaga, Kyoto-shi, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan

Filed May 17, 1967, Ser. No. 639,180
Claims priority, application Japan, May 27, 1966, 41/34,019
Int. Cl. C03b *23/06*
U.S. Cl. 65—103 5 Claims

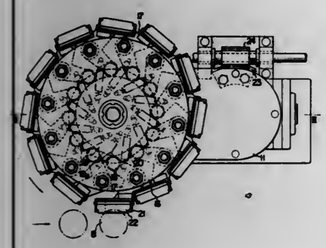


Method of manufacturing nonlinear rapid start fluorescent lamps of the type having a starting strip positioned along the inside wall of the lamp and extending along the length of the lamp. The glass tube which forms the lamp is heated and then shaped after a thermal ray-reflecting film is applied on the outside surface of the tube covering the starting strip over the entire length of the strip to protect the strip from the action of the thermal ray during heating and shaping.

3,514,277
GLASS BULB KNOCKOUT DEVICE OF A RIBBON MACHINE

Takaaki Kurokawa, Chigasaki-shi, and Noboru Inoue, Fuzisawshi-shi, Japan, assignors to Tokyo Shibaura Denki Kabushiki Kaisha, Kawasaki-shi, Kanagawa-ken, Japan, a joint-stock company of Japan

Filed May 19, 1967, Ser. No. 639,898
Claims priority, application Japan, Sept. 30, 1966, 41/64,504
Int. Cl. C03b *9/12, 33/00*
U.S. Cl. 65—181 8 Claims



A knockout device for knocking out glass bulbs formed by a ribbon type glass blowing machine is provided with a rotating disc to carry a plurality of pivoted arms each including a hammerhead and with a cam adapted to rotate each arm in a direction perpendicular to the pass line of the bulbs. Means are also provided to bodily move said disc and cam toward and away from the pass line to adjust the overlap between the hammerhead and bulbs.

3,514,278
SLIME CONTROL AGENT AND METHODS OF APPLICATION

Robert H. Brink, Jr., Swarthmore, Pa., assignor to Betz Laboratories, Inc., Trevose, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 8, 1968, Ser. No. 696,153
Int. Cl. A01n *9/00*
U.S. Cl. 71—67 5 Claims

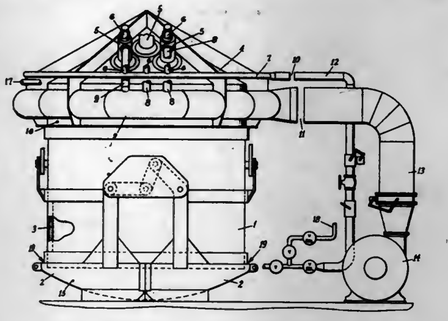
The present invention concerns a biocidal composition comprising tertiary butyl hydroperoxide and its use as a biocide, and particularly concerns the control of industrial slimes caused by microorganisms with tertiary butyl hydroperoxide. In addition, the invention concerns the use of biocidal materials which do not contribute to the pollution of streams or bodies of water into which industrial effluents containing the biocidal material may be dumped or disposed of. The invention also concerns the use of peroxidic biocides which avoid many of the hazards commonly associated with the use, storage and handling of this type of compound.

3,514,279
PREHEATING SCRAP WITH CONTROLLED OXIDATION

Ronald F. Jensen, Houston, Tex., and Paul E. Phillips, Independence, Mo., assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Continuation of application Ser. No. 410,592, Nov. 12, 1964. This application Feb. 9, 1968, Ser. No. 706,748
Int. Cl. C21b *1/00;* C22b *7/00*
U.S. Cl. 75—43 7 Claims

A process for preheating scrap metal for use in electric furnaces, basic oxygen furnaces and the like wherein scrap is charged into a refractory lined vessel and heated

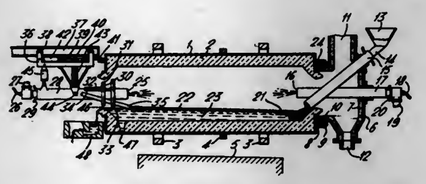


at a rate of 28,000 B.t.u.'s per minute per ton or more for not more than about one-half hour.

3,514,280
CONTINUOUS STEELMAKING METHOD

William Lyon Sherwood, P.O. Box 2161, West Vancouver 3, British Columbia, Canada

Continuation of application Ser. No. 398,519, Sept. 23, 1964. This application Oct. 19, 1967, Ser. No. 676,654
Int. Cl. C21b *13/08*
U.S. Cl. 75—43 18 Claims



Steel is produced continuously by introducing pieces of metallic iron, along with fluxing materials and alloying materials, into an elongated steelmaking zone. The steelmaking zone is heated directly at the charge end to form a melting zone and also directly at the discharge end to form a refining zone. The charge materials are fused in the melting zone to form liquid metal and slag phases in close contact. The metal and slag are further advanced into the refining zone where the refining reactions take place between metal and slag until liquid steel of the desired composition and temperature is obtained prior to discharge and subsequent casting. Firing is preferably countercurrent to the flow of metal which enables completely independent control of temperature for refining and discharge. The method is most appropriately conducted in an elongated rotary furnace having a burner at each end directed through a restricted annular opening. The rotary furnace walls thereby provide continual agitation and advancing action for the charge, and also increase rate of heat transfer and chemical reactions.

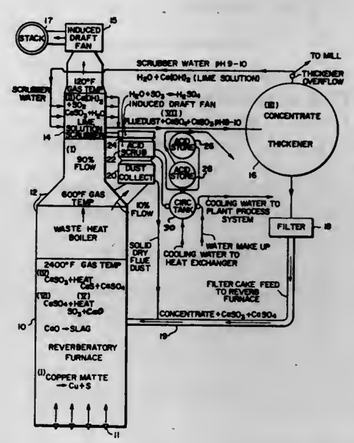
3,514,281
PRODUCTION OF PYRITE AND/OR SULFURIC ACID AS BY-PRODUCT OF COPPER SMELTING PROCESS

Robert T. McKie, Marenisco, Mich., assignor to Copper Range Company, New York, N.Y., a corporation of New York

Filed Jan. 11, 1968, Ser. No. 697,195
Int. Cl. C22b *15/04;* C01b *17/52*
U.S. Cl. 75—73 6 Claims

During extraction of copper from sulfide ore, smelter reverberatory smoke, which ordinarily is discarded as

waste, is treated by a high efficiency multi-stage wet dust scrubber operating with an alkaline solution of lime, in



order to produce, as a useful by-product, a sulfide matting agent and sulfuric acid or sulfuric only.

3,514,282
PROCESS FOR NICKEL-COBALT SEPARATION

Tunis L. Holmes, Deerfield, and Robert N. Moore, Des Plaines, Ill., assignors to Meta Chemical, Inc., Chicago, Ill., a corporation of Delaware

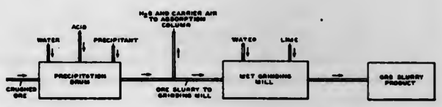
No Drawing. Filed June 19, 1967, Ser. No. 647,243
Int. Cl. C22b *23/04*
U.S. Cl. 75—82 6 Claims

A process for separation of nickel from cobalt found in mixtures and compounds containing both wherein same are: first heated to a temperature level of about 1000° F.; treated with a suitable solvent to dissolve the soluble nickel fraction, and separated by filtration. The insoluble fraction is then heated to a temperature level of about 1300° F.; treated with a suitable solvent to dissolve the soluble nickel portion of this as-heated insoluble fraction, and the remaining insoluble cobalt portion is separated by filtration.

3,514,283
PROCESS FOR ABSORPTION OF UNDESIRABLE GASEOUS EFFLUENTS

William A. Griffith, Morenci, Ariz., assignor to Phelps Dodge Corporation, New York, N.Y., a corporation of New York

Filed Jan. 30, 1968, Ser. No. 701,725
Int. Cl. C22b *3/00*
U.S. Cl. 75—101 5 Claims



A process for the absorption of undesirable acidic gaseous effluents produced during the treatment of ores. The undesirable acidic gases, such as hydrogen sulfide, are introduced into an alkaline slurry grinding operation and absorbed therein thus eliminating the need for separate absorption columns or scrubbers.

3,514,284
AGE HARDENABLE NICKEL-IRON ALLOY FOR CRYOGENIC SERVICE

Herbert L. Eiselstein, Huntington, W. Va., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

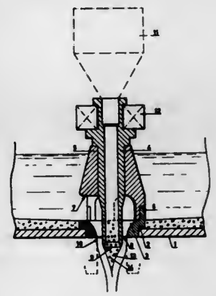
No Drawing. Filed June 8, 1966, Ser. No. 555,968
Int. Cl. C22c *39/40*
U.S. Cl. 75—123 19 Claims

Iron-base alloys having controlled expansivity, high strength and ductility in the age-hardened condition containing controlled amounts of nickel, columbium and titanium and the method for heat treating the same.

3,514,285
METHOD FOR FEEDING ADDITIVE MATERIALS INTO A STREAM OF MOLTEN METALS

Hermanus Bakkerus, Voorburg, Netherlands, assignor to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten behoeve van Nijverheid, Handel en Verkeer, The Hague, Netherlands, a corporation of the Netherlands

Original application Oct. 5, 1964, Ser. No. 401,612, now Patent No. 3,357,692, dated Dec. 12, 1967. Divided and this application Aug. 15, 1967, Ser. No. 660,795
Claims priority, application Netherlands, Oct. 15, 1963, 299,266
Int. Cl. C21c *7/00;* C22b *7/00*
U.S. Cl. 75—129 7 Claims



A method for feeding additive materials into a stream of molten metals in which a free-falling closed tubular stream is provided which contracts about the lower rim of a feeding chute without being able to penetrate into the chute. The surface tension in the stream is sufficiently strong to receive the increase in pressure caused by the evaporation of the additional material into the core stream without the stream exploding.

3,514,286
WEAR-RESISTING ALUMINUM ALLOYS

Yataro Unai, Tokyo, Makoto Komatsu, Akita-ken, and Yasushi Hoshi, Niigata-ken, Japan, assignors to Riken Piston-Ring Kogyo Kabushiki Kaisha, Tokyo, Japan

Continuation-in-part of application Ser. No. 495,109, Oct. 12, 1965. This application June 23, 1969, Ser. No. 835,416
Int. Cl. C22c *21/02*
U.S. Cl. 75—148 2 Claims

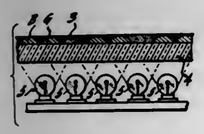
A wear-resisting aluminum alloy containing silicon from about 12% to about 25%, lead from about 3% to about

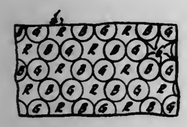
10%, tin from about 3% to about 20% and the balance



consisting essentially of aluminum.

3,514,287
PHOTOGRAPHIC METHOD FOR MAKING TRI-COLORED CATHODE RAY SCREEN
Daniel J. Donahue, Somerville, N.J., and Austin E. Hardy, Lancaster, Pa., assignors to RCA Corporation, a corporation of Delaware
Filed Oct. 9, 1961, Ser. No. 143,927
Int. Cl. G03c 5/16; H01j 29/18
U.S. Cl. 96—36.1 **6 Claims**





1. Method of laying down the last color-phosphor of a multicolor phosphor mosaic upon a glass screen-plate having a target-surface upon which the elemental areas of the mosaic that are allotted to other than the last of said color-phosphors have previously been applied, said method comprising: covering said target surface and the previously applied elemental phosphor covered areas thereon with a layer of photosensitized light-hardenable organic gel containing particles of said last color-phosphor, exposing the entire obverse surface of said glass screen-plate to actinic rays to harden those parts of said layer that are not shielded from said rays by said previously applied phosphors, and thereafter washing said screen-plate to remove the unexposed portions of said layer.

4. Method of laying down the third color-phosphor of a 3-color phosphor-mosaic upon a glass screen-plate having a target-surface upon which the elemental areas of the mosaic that are allotted to two of said three color-phosphors have already been applied, said method comprising: subjecting said elemental areas of said mosaic to the action of an organic dye to render said elemental areas opaque to actinic rays, covering said target-surface with a layer of photosensitized light-hardenable organic gel containing phosphor particles of the other of said three colors, exposing the entire obverse surface of said glass screen-plate to actinic rays whereby to harden those parts of said layer which are not shielded from said rays by said opaque elemental areas of said mosaic, and thereafter baking said screen-plate to remove said organic gel and said organic dye therefrom.

3,514,288
POSITIVE PLANOGRAPHIC PRINTING PLATES
Julius L. Silver, Franklin Township, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 685,211, Nov. 22, 1967. This application May 14, 1968, Ser. No. 728,921
Int. Cl. G03f 7/02
U.S. Cl. 96—33 **21 Claims**

A positive printing plate consisting of an olephilic composition of an association product of a phenolic resin and an ethylene oxide polymer, a chromium trioxide component and a photosensitizing agent.

3,514,289
PHOTOGRAPHIC MATERIALS CONTAINING METAL SALTS
Charles A. Goffe, Brockport, and Robert C. Harvey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Application Nov. 24, 1965, Ser. No. 509,616, which is a continuation-in-part of application Ser. No. 395,913, Sept. 11, 1964. Divided and this application Jan. 21, 1969, Ser. No. 792,801
Int. Cl. G03c 1/04
U.S. Cl. 96—67 **12 Claims**

Photographic silver halide emulsions comprising a water-soluble, poly-N-vinyl pyrrolidone or polysaccharide and a water-soluble zinc or calcium salt. In one aspect, the above combination of ingredients in a silver halide emulsion provides improved resistance to the formation of dark ring water spots on rewetting of the emulsion.

3,514,290
WRAPPING PAPER FOR PHOTOGRAPHIC MATERIAL
Albert Emiel van Hoof, Berchem-Antwerp, Belgium, assignor to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company
No Drawing. Filed Apr. 29, 1966, Ser. No. 546,218
Claims priority, application Great Britain, Apr. 30, 1965, 18,334/65
Int. Cl. G03c 1/72
U.S. Cl. 96—78 **4 Claims**

An opaque backing paper for photographic film composed of a single sheet of very thin flexible black paper, preferably kraft paper, which is itself pervious to light, the surface of the sheet facing the film being uncoated with the other surface carrying a layer of actinic-light-absorbing pigment in a polymer latex binder and an exterior layer of a transparent protective coating, the overall film being opaque to light and of a thickness not exceeding 0.1 mm. For panchromatic film, the pigment is preferably carbon black and printing ink is applied between the pigment layer and protective coating for giving visible markings. For X-ray film, the pigment is preferably a yellow, orange or red organic pigment and the protective coating is waterproof.

3,514,291
PROCESS FOR REDUCING THE TENDENCY OF ELECTROSTATIC CHARGING OF PHOTOGRAPHIC MATERIAL
Johannes Camiel Vanpoecke, Berchem, Lodewijk Felix de Keyser, Mortsel, and Luc Trudo Berben, Berchem, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company
No Drawing. Filed Mar. 31, 1967, Ser. No. 627,320
Claims priority, application Great Britain, Oct. 4, 1966, 44,274/66
Int. Cl. G03c 1/82
U.S. Cl. 96—87 **7 Claims**

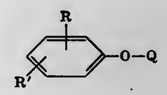
A process for reducing electrostatic charging of a photographic material comprising applying to the back side of the support a first layer comprising a mixture of (A) a partially neutralized copolymer of a hydrophobic monomer and a mono- or dicarboxylic acid or half-ester or half-amide derivative thereof, and (B) a compatible hydrophobic polymer, and thereupon applying a protective layer of a non-tacky hydrophobic polymer.

3,514,292
SILVER HALIDE EMULSION CONTAINING PYRROLIDINE PROLINE OR HYDROXYPROLINE SENSITIZERS
Raymond Joseph Le Strange, Middletown, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 19, 1967, Ser. No. 639,655
Int. Cl. G03c 1/28
U.S. Cl. 96—107 **7 Claims**

A gelatino silver halide emulsion of increased sensitivity to radiation is obtained by adding a sensitizing amount of pyrrolidine, 2-pyrrolidine carboxylic acid (proline), or 4-hydroxy-2-pyrrolidine carboxylic acid (hydroxyproline).

3,514,293
PHOTOGRAPHIC SURFACTANT COMPOSITIONS
William J. Knox, Jr., Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 515,179, Dec. 20, 1965. This application Nov. 26, 1968, Ser. No. 779,236
Int. Cl. G03c 1/38
U.S. Cl. 96—114.5 **17 Claims**

This invention relates to compositions which are used in layers of photographic elements or element combinations, said compositions comprising a hydrophilic colloid and an alkylphenoxypoly-(hydroxypropylene oxide) having from about 3 to about 15 hydroxypropylene units. In one aspect of this invention, the alkylphenoxypoly(hydroxypropylene oxide) is a compound having the formula:



wherein R represents an alkyl group having from about 6–18 carbon atoms, R' represents a hydrogen atom or an alkyl group having from 1 to 18 carbon atoms and Q represents a polyether group comprising from about 3 to 15 units of hydroxypropylene oxide said polyether group comprising n-propylene and isopropylene moieties. In another aspect, the composition comprises a hydrophilic colloid and the reaction product of an alkylphenol and a glycidol.

3,514,294
METHOD FOR PRODUCING FRIED COATED COMESTIBLES
Sigmund L. Klug, Bronx, N.Y., Gilbert Finkel, South Amboy, N.J., and Monroe Sherain, Brooklyn, N.Y., assignors to DCA Food Industries, Inc., New York, N.Y.
No Drawing. Filed May 26, 1966, Ser. No. 553,026
Int. Cl. A23l 1/00
U.S. Cl. 99—1 **7 Claims**

A foodstuff is prepared for frying by successively alternately applying to the foodstuff dry powder coatings and batter coatings. Each coating contains 60 to 90 parts starch, 1 to 9 parts leavening, 1 to 15 parts sugar and 1 to 15 parts salt, the batter containing, in addition, 85% to 200% water based on the weight of the dry ingredients. The coatings may contain additives such as dry milk solids. Synergism exists at ratios of 1 to 8 parts sugar to 2 to 12 parts salt, 2 to 12 parts salt to 1 to 4 parts leavening, and 1 to 8 parts sugar to 1 to 4 parts leavening.

3,514,295
PROCESS FOR PREPARING A BASE FOR BAKING DARK BREADS
John Hauk, Glendale, N.Y., assignor to Hamale Process Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,188
Int. Cl. A21d 8/02
U.S. Cl. 99—90 **3 Claims**

A process for preparing a base for baking dark breads such as pumpernickel, datenut bread, Boston bread and the like by a natural process without the use of any chemical additives. Wheat or rye flour is mixed with water and heated to predetermined temperatures for specified times, to prepare the initial base for the dough.

3,514,296
SALT SUBSTITUTE
Robert L. Frank, Lake Geneva, Wis., and Olaf Mickelsen, Okemos, Mich., assignors to Morton International, Inc., Chicago, Ill., a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 609,396
Int. Cl. A23l 1/22
U.S. Cl. 99—143 **7 Claims**

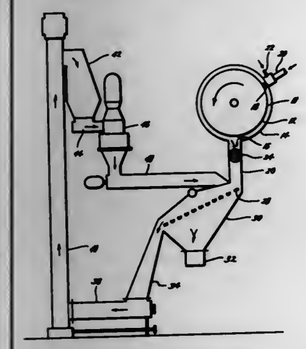
Table salt can be substituted with a palatable composition consisting essentially of, on a relative proportion basis, about 20 to 80 percent by weight of potassium chloride and about 80 to 20 percent by weight of sodium chloride. The composition is characterized in having a bitter taste to not more than about 20 percent of the population and in having a saltiness taste greater than an equal quantity of the sodium chloride component alone.

This invention relates to edible compositions comprising potassium chloride and sodium chloride for use as palatable condiments for comestibles, as substitutes for common table salt, as a convenient means of introducing potassium into the diet where medically indicated, and to the process for producing said compositions.

3,514,297
CONTINUOUS PROCESS OF PREPARING POWDERED FAT
Robert L. Campbell, Jr., Sherman, and Charles H. Wood, Dallas, Tex., and Albert E. Brust, Deerfield, Ill., assignors to Anderson, Clayton & Co., Houston, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 523,449, Jan. 27, 1966. This application Jan. 10, 1969, Ser. No. 797,328
Int. Cl. A23d 5/02
U.S. Cl. 99—118 **10 Claims**

A continuous process for preparing powdered fats by spraying liquid droplets of fat onto a cool surface, solidifying the liquid droplets on the cool surface by cooling

prior to the droplets being able to run together and form a sheet of film of liquid on the cool surface, removing



the solid fat from the cool surface, and grinding at least a portion of the solid fat into powder.

3,514,298
SPRAY DRYING A FAT-CARBOHYDRATE COMPOSITION

Peter P. Nozmick, Evanston, and Charles W. Tatter, Homewood, Ill., assignors to Beatrice Foods Co., Chicago, Ill., a corporation of Delaware

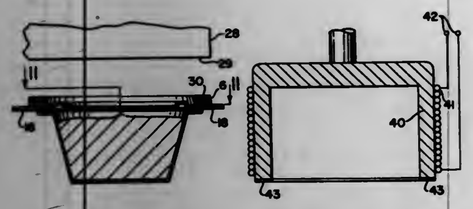
No Drawing. Continuation-in-part of application Ser. No. 356,058, Mar. 31, 1964. This application Mar. 29, 1968, Ser. No. 717,370
Int. Cl. A23d *5/04*
U.S. Cl. 99—123 7 Claims

Stable aqueous emulsions of a carbohydrate and fat containing large amounts of fat are obtained by employing a partial ester of a higher fatty acid and a polyglycerol even without the use of a protein. A small amount of protein, up to 2%, can be included. There can also be employed a colloidal carbohydrate stabilizer in amount up to 5%. The products can be spray dried.

3,514,299
PACKAGING METHOD

Albert S. Thanhauser, Stamford, Conn., assignor to The Pantasote Company of New York, Inc., New York, N.Y., a corporation of New York

Filed Dec. 8, 1967, Ser. No. 689,169
Int. Cl. A23d *3/04*; B65b *51/22*
U.S. Cl. 99—171 2 Claims

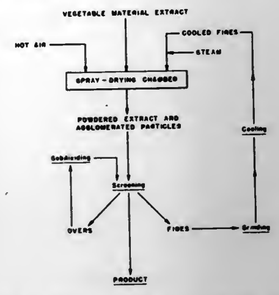


Heat-sealed packages of semi-solid material, such as margarine, etc. having conveniently removable and replaceable covers of thermoplastic vinyl resin are made by forming from a sheet of said resin a web comprising a plurality of connected cup-shaped containers having a generally horizontal surface around the upper periphery of their sides, coating said horizontal surface before separation of containers in said web with a dispersion of meltable adhesive that dries to a hard flexible nontacky film having a softening point at least 10° C. below that of said vinyl resin and above 30° C. and a tensile strength less than that of said resin, filling said containers having dried film thereon with said margarine applying to said filled containers cooperating covers having a peripheral portion adapted to overlie and bear against said dry film, and heating only the peripheral edges of said containers and covers to soften said film, and pressing said covers against said film with a surface comprising porous chromium having Teflon powder in the pores thereof.

3,514,300
DRYING PROCESS

Abraham Rudolf Mishkin and William Cornelius Marsh, Marysville, Ohio, assignors to Afico S.A., Lausane, Switzerland, a corporation of Switzerland

Continuation-in-part of application Ser. No. 643,823, June 6, 1967. This application May 15, 1968, Ser. No. 729,366
Int. Cl. B01d *1/18*
U.S. Cl. 99—199 16 Claims

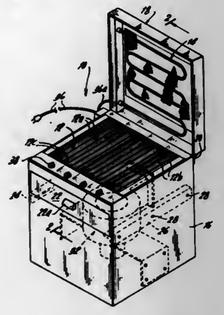


A method for simultaneously drying and agglomerating coffee or tea extracts is provided. The aqueous extract is spray dried, fine particles are separated by screening and are recycled into the spray-drier through agglomeration nozzles supplied with steam. The resulting powdered extracts are in the form of large, coarse-textured agglomerates.

3,514,301
COOKING UNIT

Victor M. Berger, 200—17 50th Ave., Bayside, N.Y. 11364

Filed June 4, 1968, Ser. No. 734,305
Int. Cl. A47j *37/06*
U.S. Cl. 99—390 2 Claims



A cooking unit uniquely employing several combined techniques of heat transfer to efficiently cook foods, namely, a conduction heat source which actually supports the food during the cooking interval and, located in a clearance position above the food, a radiation and convection heat source. The latter heat source is rendered effective by a downdraft which, in addition to providing numerous noteworthy advantages and benefits, produces a continuous current of heated air which envelops and is thereby effective in cooking the food in conjunction with the conduction heat source.

3,514,302
REFRACTORY COMPOSITIONS

Tracy A. Willmore and Alfred W. Allen, Urbana, Ill., assignors to AMSTED Industries Incorporated, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed Apr. 27, 1967, Ser. No. 634,135
Int. Cl. C04b *35/44, 35/48*
U.S. Cl. 106—57 4 Claims

Magnesia or zirconia, or combinations of both, are used as addition agents to stoichiometric or non-stoichiometric magnesium aluminate to provide a ceramic body exhibiting high strength qualities at elevated temperatures.

3,514,303
PRODUCTION OF ZIRCONIUM SILICATE PIGMENTS

Eugen Meyer-Simon, Herbert Mann, and Geert Gnutzmann, Frankfurt am Main, and Horst Low, Eschborn, Taunus, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Mar. 13, 1967, Ser. No. 622,451
Claims priority, application Germany, Mar. 12, 1966, D 49,581
Int. Cl. C09c *1/00*
U.S. Cl. 106—299 4 Claims

Process of producing zirconium silicate pigments comprising heating a mixture of sodium-zirconium silicate with an ammonium salt and a color imparting metal compound to temperatures of 750 to 1300° C. and washing out the sodium released thereby.

3,514,304
CORROSION-INHIBITING TITANIUM DIOXIDE PIGMENTS

Kenneth Binnis, London, England, assignor to British Titan Products Company Limited, Billingham, Durham County, England, a British company

No Drawing. Original application June 9, 1965, Ser. No. 462,744, now Patent No. 3,345,187, dated Oct. 3, 1967. Divided and this application June 22, 1967, Ser. No. 647,955
Claims priority, application Great Britain, July 31, 1964, 30,361/64
Int. Cl. C09c *1/36*
U.S. Cl. 106—300 10 Claims

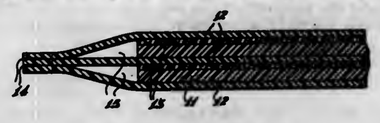
Corrosion-inhibiting surface coating compositions, and in particular, primers, normally require the use of pigments which are highly colored. By coating titanium dioxide pigment particles with triisopropanolamine or the benzoates thereof or with the phosphates of trialkanolamines such as triethanolamine or triisopropanolamine, an improved pigmentary product is obtained which may be used in primer coatings without the problems associated with the use of highly colored pigments.

3,514,305
REPRODUCTION OF IMAGES FROM PRINTED SURFACES

William P. Taylor, Hamilton, Ohio, assignor to U.S. Plywood-Champion Papers Inc., a corporation of New York

Filed Oct. 20, 1965, Ser. No. 498,821
Int. Cl. B44c *3/00*; B65d *75/30*
U.S. Cl. 117—1.7 37 Claims

The reproduction of images from printed surfaces, such as printed paper, by placing a moistened copy sheet against the printed surface to reproduce the image on the copy sheet. The reproduction of images can be effected in the absence of special heat and light. A packaged moistened copy sheet ready for use by merely removing it from its package and placing it in contact with a printed document

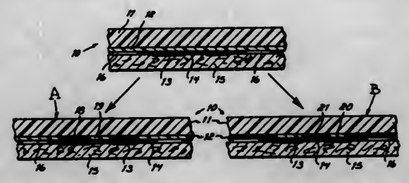


to reproduce the printed sheet image in the copy sheet. A copy sheet image is formed either as a latent developable image or as a permanently visible image and in either instance, can be transferred to a final sheet to produce a right reading image.

3,514,306
REPRODUCTION OF IMAGES FROM PRINTED SURFACES

William P. Taylor, Hamilton, Ohio, assignor to U.S. Plywood-Champion Papers Inc., a corporation of New York

Filed Aug. 4, 1966, Ser. No. 570,294
Int. Cl. B41m *5/00*
U.S. Cl. 117—1.7 9 Claims



The reproduction of images from printed surfaces, such as printed paper, by placing a moistened copy sheet against the printed surface to reproduce the image on the copy sheet. The reproduction of images can be effected in the absence of special heat and light and in a matter of seconds. Water moisture alone is suitable for use in moistening the copy sheet and the copy sheet can be packaged for use by merely removing it from its package and placing it in contact with a printed document to reproduce the printed image in the copy sheet in a permanent form.

3,514,307
ARTIFICIAL SUEDE FROM SANDED POLYMER CONTAINING TEXTILE FLOCK AND METHOD FOR PRODUCING THE SAME

Victor L. Hallenbeck, Brecksville, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 3, 1966, Ser. No. 583,990
Int. Cl. D06m *3/14*; B44c *1/44*
U.S. Cl. 117—8 5 Claims

A permeable artificial suede leather is made by dispersing textile fibers into an essentially linear polyurethane in solution, spreading the dispersion on a substrate, drying and sanding the polymer surface.

3,514,308
BONDING POLYOLEFINS TO METALLIC SUBSTRATES

John N. Scott, Jr., Bartlesville, Okla., and Robert P. Slicker, Titusville, Pa., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed May 16, 1966, Ser. No. 550,134
Int. Cl. C23c *3/00*; C09j *5/00*
U.S. Cl. 117—21 7 Claims

Polyolefins are bonded to metal surfaces by contacting the polymer with the metal surface at a temperature in

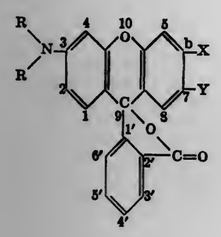
excess of the melting point of the polymer, subjecting the metal substrate and adherent polymer to vacuum treatment while maintaining the temperature in excess of the melting point of the polymer for a period of time sufficient to remove substantially all of the volatile material present in the polymer and at the interface, and then cooling below the melting point of the polymer, preferably while maintaining a vacuum.

3,514,309
COATING PROCESS
Arthur Kong, Kearny, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 19, 1967, Ser. No. 654,390
Int. Cl. B44d *1/094*
U.S. Cl. 117—21 10 Claims

Fluidized bed coating method for coating an article with a heat fusible resinous material, which includes providing a coating zone bounded by sidewalls and a floor containing heat fusible resin particles with the volume ratio of the resin particles to that of the coating zone being between 1:100 and about 1:1000. The resin particles may comprise an oxymethylene polymer.

3,514,310
PRESSURE SENSITIVE FLUORAN DERIVATIVE COPYING PAPER
Shiro Kimura, Teruo Kobayashi, and Sadao Ishige, Kanagawa, and Shizuo Katayama, Shizuoka, Japan, assignors to Fuji Photo Film Co., Ltd., Ashigara-Kamigun, Kanagawa, Japan
No Drawing. Filed Nov. 16, 1967, Ser. No. 683,491
Claims priority, application Japan, Nov. 18, 1966, 41/75,936; Nov. 19, 1966, 41/76,038, 41/76,039
Int. Cl. B41c *1/06*
U.S. Cl. 117—36.2 2 Claims

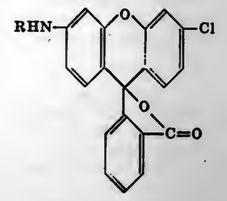
A pressure-sensitive transferring sheet, adapted to be used in conjunction with another sheet having an electron accepting layer, comprising a support and, coated on said support, a layer containing pressure-rupturable microcapsules, said microcapsules containing as a color former, at least one fluoran derivative represented by the general formula:



wherein R represents a lower alkyl group,
when Y is a hydrogen atom, X is a radical selected from the group consisting of a lower alkyl group, a lower alkoxy group and a benzyloxy group,
when X is a hydrogen atom, Y is a radical selected from the group consisting of a chlorine atom, a lower alkyl group, a lower alkoxy group, a benzyloxy group, an acetoamino group, a N-acetyl-N-lower alkylamino group, and a N-acetyl-N-benzylamino group, and
when X is a methyl group, Y is a chlorine atom.

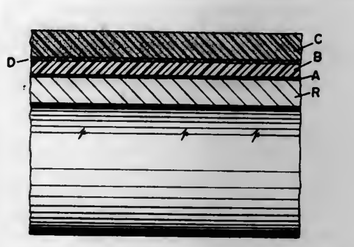
3,514,311
PRESSURE SENSITIVE 3-SUBSTITUTED AMINO - 6 CHLOROFLUORAN CONTAINING COPYING PAPER
Shizuo Katayama, Kanagawa, and Rikio Goto, Toshiyuki Nita, and Satoshi Ogawa, Tokyo, Japan, assignors to Fuji Photo Film Co., Ltd., Ashigara-Kamigun, Kanagawa, Japan
No Drawing. Filed Oct. 31, 1968, Ser. No. 772,387
Claims priority, application Japan, Oct. 31, 1967, 42/70,040
Int. Cl. B41c *1/06*
U.S. Cl. 117—36.2 4 Claims

A color forming paper for use in pressure sensitive copying papers which comprises a support bearing a layer of microcapsules which contain at least one 3-substituted amino-6-chlorofluoran compound represented by the general formula:



wherein R represents a compound which is a hydrogen atom, a lower alkyl group, an aryl group, and an aralkyl group. Conventional color forming materials may also be present in the microcapsules.

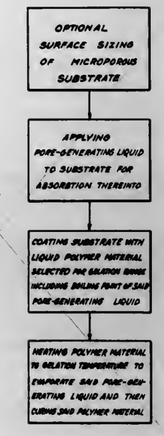
3,514,312
PROCESS FOR COATING A METAL SURFACE
Peter Gardiner, Mineral Wells, Tex., assignor to The Barrier Corporation, Mineral Wells, Tex., a corporation of Texas
Continuation-in-part of application Ser. No. 515,514, Dec. 3, 1965. This application July 12, 1967, Ser. No. 659,268
Int. Cl. B44d *1/09, 1/14, 1/34*
U.S. Cl. 117—49 4 Claims



A process for making a plastic roller wherein a metallic cylindrical core is covered with a layer of hard plastisol material adjacent to the core and with a layer of relatively soft plastisol material on the outer surface. The process comprises applying an adhesive to the metal, heating the metal, applying a first layer of plastisol to allow the heated metal to gel a first layer of plastisol of minimum thickness of about 1/16 inch immediately adjacent to the adhesive surface, applying a second plastisol layer, and heating to cure the layers. As a modification, the heating of the metal may be omitted, whereby a highly thixotropic first layer of plastisol is applied to form a film

of minimum thickness of 1/16 inch, a second relatively soft plastisol layer is applied, and the layers are cured by heating, which may be performed in a mold.

3,514,313
MICROPOROUS COATED STRUCTURES AND METHOD OF PRODUCING SAME
George E. Martel, Westfield, and Michael C. Herrick, South Hadley, Mass., assignors to Texon, Inc., South Hadley, Mass., a corporation of Massachusetts
Filed May 16, 1967, Ser. No. 638,952
Int. Cl. B44d *1/092, 1/46*
U.S. Cl. 117—60 7 Claims



Microporous coated structures comprising a microporous substrate coated with a microporous coating, such as a microporous polyvinyl coating, wherein the overall permeability of the resulting microporous structure is at least a substantial fraction of the permeability of the microporous substrate, are obtained by applying a pore-generating material to the microporous substrate for absorption thereinto, followed by applying a coating of a polymeric material onto the microporous substrate and then heating the resulting structure or assembly to activate the pore-generating material and curing the applied polymeric material on said substrate. During heating of the polymeric material the pore-generating material is activated or otherwise converted into a gas, e.g. evaporated in the instance where the pore-generating material is a liquid, so as to produce a microporous coating of said polymeric material on said substrate.

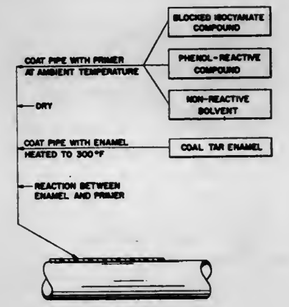
3,514,314
METHOD FOR COATING POLYTETRAFLUOROETHYLENE ON MATERIAL
John B. Nemeth, Cheshire, Conn., assignor to RDM Inc., Meriden, Conn., a corporation of Connecticut
No Drawing. Filed Apr. 10, 1967, Ser. No. 629,366
Int. Cl. B44d *1/22, 1/46, 1/36*
U.S. Cl. 117—61 3 Claims

An elastomeric or metallic article is placed in an evacuated chamber and a Teflon dispersion is introduced into the chamber so that the dispersion enters the pores and/or follicles in the surface of the article. With the article submerged in this dispersion, the chamber is pressurized, after which the article is removed and immediately washed to remove the excess dispersion. The article is then dipped in a dilute aqueous solution of Teflon particles (15% by weight) after which it is dried to evaporate the liquid, and then heated to sinter the Teflon into a wear resistant coating on the article surface.

3,514,315
SPRAY PACK DIFFUSION COATINGS FOR REFRACTORY METALS
Richard A. Jefferys, Euclid, and John D. Gadd, Willowick, Ohio, assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 26, 1966, Ser. No. 581,733
Int. Cl. C23c *11/02*
U.S. Cl. 117—71 9 Claims

Process for providing a protective coating on columbium or tantalum based metals which involves applying a slurry of a coating composition including chromium, titanium, an inorganic halide activator, and a thermally depolymerizable resin over the surface to be treated, and heat treating the article under non-oxidizing conditions until the chromium and titanium are diffused into the refractory metal surface. This may be followed by a similar application of a silicon slurry.

3,514,316
METHOD OF COATING METAL WITH COAL TAR PITCH AND ARTICLE PRODUCED THEREBY
Woodrow E. Kemp, Pittsburgh, and Lawrence F. Flaherty, Verona, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 610,895
Int. Cl. B44d *1/14;* B32b *15/08*
U.S. Cl. 117—75 9 Claims

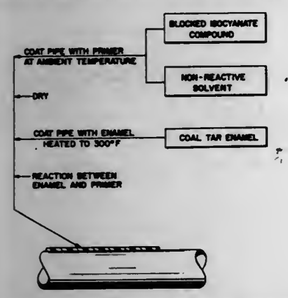


A reactive primer containing phenol-blocked isocyanate molecules and a compound capable of reacting with a phenol is applied to a metal substrate at ambient temperatures. Subsequent application of a coal tar enamel at a temperature above 300° F. causes the isocyanate groups to unblock releasing the phenol which then reacts with the other compound. The unblocked isocyanate bonds the enamel to the substrate.

3,514,317
METHOD OF COATING A METAL SUBSTRATE WITH COAL TAR ENAMEL AND PRODUCT PRODUCED THEREBY
Woodrow E. Kemp, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 610,950
Int. Cl. B44d *1/14;* B32b *15/04*
U.S. Cl. 117—75 10 Claims

A reactive primer containing phenol-blocked isocyanate molecules having a molecular weight over 200 is applied to a metal substrate at ambient temperatures. Subsequent application of a coal tar enamel at a temperature above

300° F. causes the isocyanate groups to unblock and to bond to the substrate and the enamel. The phenol-blocked



isocyanate compound is essentially the sole constituent of the primer.

3,514,318
STRUCTURES FORMED OF GLASS FIBER-ELASTOMER SYSTEMS AND METHOD OF PRODUCING SAME

Alfred Marzocchi, Cumberland, and Nicholas S. Janetos, Providence, R.I., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 470,407, July 8, 1965, which is a continuation of application Ser. No. 750,253, July 22, 1958. This application May 16, 1968, Ser. No. 729,566
Int. Cl. C03c 25/02; B44d 1/06, 1/22
U.S. Cl. 117—76 3 Claims

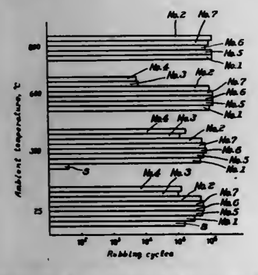


The combination of elastomeric products with glass fibers present as a reinforcement in which the glass fibers have a coating containing an organo silicon compound formed of a carboxy silane to enhance the bonding relationship between the elastomeric material and the reinforcing glass fibers.

3,514,319
BEARING ELEMENTS CARRYING A CERAMIC COATING

Toshio Hata, % Kobayashi, 789 3-chome, Magome-Higashi, Ota-ku, Tokyo, Japan, and Keimin Kawasaki, 8–7 2-chome, Sanno, Ota-ku, Tokyo, Japan

Filed May 25, 1966, Ser. No. 552,830
Int. Cl. B44d 1/097, 1/34; C23d 5/04
U.S. Cl. 117—105.2 4 Claims



A bearing element is provided formed on an iron-base metal and carrying on its surface a film of a material consisting primarily of molybdenum trioxide and small percentages of materials from the group comprising calcium fluoride, lead oxide, triiron tetraoxide, or the like.

3,514,320
METHOD OF FORMING SINGLE CRYSTAL FILMS BY NONEPITAXIAL GROWTH

William H. Vaughan, 5209 Manor Drive, Oxon Hill, Md. 20021

Continuation of application Ser. No. 517,863, Dec. 30, 1965. This application Feb. 10, 1969, Ser. No. 800,036
Int. Cl. C23c 13/04; B44d 1/02; B01j 17/30
U.S. Cl. 117—106 8 Claims

A single crystal film of a material is grown from a single crystal nucleus on a smooth substrate which is in non-epitaxial relationship with the material. The material is vapor deposited under vacuum onto the substrate having a single crystal nucleus of the material thereon at a rate which promotes growth of a single crystal film on the substrate but below that at which nucleation of the material takes place on the substrate.

3,514,321
DURABLE-TO-WASHING FINISH FOR THE INHIBITION OF GAS FADING OF SPANDEX FIBERS AND FABRICS

John Julian Duncan, Easton, Pa., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Filed May 20, 1966, Ser. No. 551,559
Int. Cl. C08d 13/24; C08g 51/24, 37/32
U.S. Cl. 117—138.8 2 Claims

An aqueous textile finish composition, particularly adapted for the prevention of gas fading or yellowing on age of spandex blend fabrics comprising from 0.1 to 10 parts by weight of a hydrolyzed vinyl ether-maleic anhydride copolymer, from 1 to 20 parts by weight of a thermosetting melamine type resin, from 0.2 to 5 parts by weight of an acidic catalyst, from 0 to 10 parts by weight of an acrylic latex, from 0 to 0.5 parts by weight of ammonium zirconyl carbonate, from 0 to 10 parts by weight of fabric softener selected from the group consisting of anionic and nonionic fabric softeners, and the remainder water.

3,514,322
NATURAL AND SYNTHETIC FIBROUS MATERIALS TREATED WITH A FLUOROAMIDOMETHYLPYRIDINIUM COMPOUND

William C. Sheehan, Birmingham, Ala., and George R. Thomas, Framingham, Mass., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army

No Drawing. Original application Apr. 20, 1965, Ser. No. 449,620, now Patent No. 3,423,417, dated June 21, 1969. Divided and this application July 30, 1968, Ser. No. 767,552
Int. Cl. D06m 13/34; C07d 31/34
U.S. Cl. 117—138.8 4 Claims

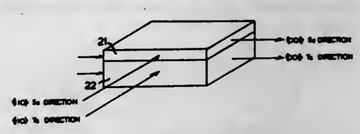
Treatment of articles with novel fluoroalkylamidomethylpyridinium compounds to impart hydrophobic and oleophobic properties thereto.

3,514,323
EPITAXIAL SELENIUM COATING ON TELLURIUM SUBSTRATE

Clifford H. Griffiths, Pointe Claire, Quebec, Canada, assignor to Noranda Mines Limited, Toronto, Ontario, Canada

Filed Apr. 11, 1966, Ser. No. 541,551
Claims priority, application Great Britain, Apr. 20, 1965, 16,596/65
Int. Cl. C23c 13/04
U.S. Cl. 117—201 6 Claims

A film of precisely oriented selenium is produced by effecting epitaxial growth of selenium on a substrate of single-crystal tellurium. The deposition of selenium from selenium in the vapour phase is effected on a selected

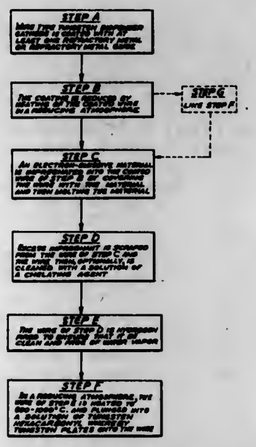


face of the tellurium crystal, the face chosen determining the plane of the selenium film so produced.

3,514,324
TUNGSTEN COATING OF DISPENSER CATHODE

Otto G. Koppius, Florence, Ky., assignor to Kopco Industries, Florence, Ky., a corporation of Kentucky

Filed May 1, 1967, Ser. No. 635,178
Int. Cl. C23c 11/02; H01j 1/14; H01k 1/04
U.S. Cl. 117—217 7 Claims

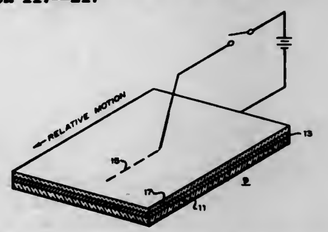


A coating of tungsten is formed on a dispenser cathode by decomposing tungsten hexacarbonyl in the presence of the dispenser cathode.

3,514,325
ELECTROSENSITIVE RECORDING ARTICLE AND METHOD OF MAKING THE SAME

Dale R. Davis, Mountain View, and Robert W. Kingston, Palo Alto, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Nov. 17, 1966, Ser. No. 595,117
Int. Cl. G03g 5/00; B44d 1/09
U.S. Cl. 117—217 4 Claims

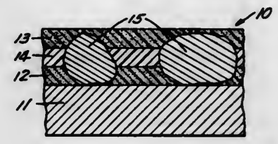


An improved electrosensitive recording medium and method of making the same provides a matrix of conductive particles in a cross-linked binder disposed on a conductive backing layer for improved resistance to surface abrasion by a surface-contacting writing electrode.

3,514,326
TAPE

Robert H. Stow, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Nov. 17, 1967, Ser. No. 683,902
Int. Cl. H05k 1/02
U.S. Cl. 117—227 6 Claims



An electrically conductive adhesive transfer tape comprising first and second exterior adhesive layers and an intermediate support layer between the two adhesive layers; electrically conductive particles, arranged essentially in a monolayer, are located in the support layer and extend close to the adhesive surfaces.

3,514,327
ISOMERIZATION OF GLUCOSE, MALTOSE, AND LACTOSE WITH AMINO COMPOUNDS

Frederick W. Parrish, Natick, Mass., assignor to the United States of America as represented by the Secretary of the Army

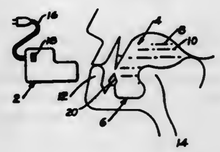
No Drawing. Filed Sept. 27, 1967, Ser. No. 671,162
Int. Cl. C13k 9/00, 1/00; C07c 47/18
U.S. Cl. 127—42 10 Claims

Process for converting glucose to fructose, lactose to lactulose, and maltose to maltulose in good yield and without undesirable side products using triethylamine, N-(3 - aminopropyl)cyclohexylamine, N - ethylcyclohexylamine, N-(2-hydroxyethyl)cyclohexylamine or N-isopropylcyclohexylamine to effect the rearrangement.

3,514,328
METHOD FOR CLEANING TEETH

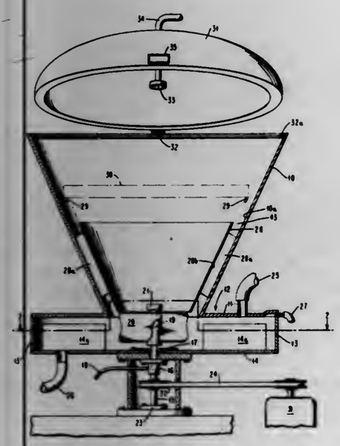
Eugene F. Malin, 1920 S. Ocean Drive, Fort Lauderdale, Fla. 33301

Filed Sept. 27, 1967, Ser. No. 671,001
Int. Cl. B08b 7/00; A61c 17/00
U.S. Cl. 134—1 5 Claims



A teeth cleaning method and apparatus. The method comprises the placing of material susceptible to a magnetic field in a mouth cavity and thereafter subjecting the material to a varying magnetic field in order to impart motion to the material to clean the teeth in the mouth cavity. The apparatus comprises a material including a fluid, having particles therein that are susceptible to a varying magnetic field that will impart motion to the particles, and a magnetic field-producing device including a transducer for producing a varying magnetic field that imparts motion to the particles in order to clean the teeth in the mouth cavity.

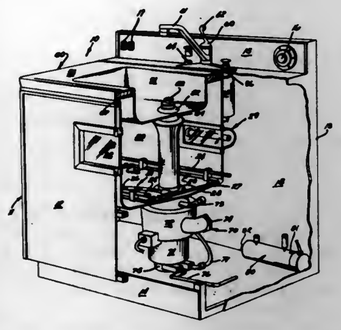
3,514,329
SOLID SMOOTH-SURFACE ARTICLE WASHING DEVICE
Charles Amory Hull, Lake Pleasant, N.Y.
(98 Royal Palm Ave., Ormond Beach, Fla. 32074)
Filed Mar. 27, 1968, Ser. No. 716,549
Int. Cl. B08b *3/00*
U.S. Cl. 134—58 7 Claims



A solid smooth-surface article washing device comprising a flat top wash fluid reservoir with two inverted frusto-conical casings mounted one inside the other on the top surface of the reservoir. A wash fluid impeller is arranged within the reservoir with the body thereof substantially below the liquid level of the wash fluid therein and in vertical alignment with the relatively narrow end of the inner casing. The article to be washed is suspended above the relatively wide end of the inner casing. When activated, the impeller moves the wash fluid upwardly within the inner casing in a spiraling rotary pattern to flow outwardly over the surface of the article being washed. On leaving the peripheral edge of the article being washed, the fluid continues to move outwardly until it contacts the inner side wall of the outer casing whereupon it drains back into the fluid reservoir through a chamber formed between the casings.

3,514,330
MULTI-PURPOSE KITCHEN UNIT
Theodore Schaap, Grand Rapids, Charles D. Leedy, Sparta, and Henry Timmer, Grand Rapids, Mich., assignors to Arthur W. Carlson, Muskegon, and Theodore Schaap and Henry Timmer, Grand Rapids, Mich.
Filed Jan. 9, 1967, Ser. No. 607,948
Int. Cl. B08b *3/02*; B65f *7/00*
U.S. Cl. 134—115 17 Claims

A multi-purpose kitchen unit combining in a single compact cabinet a garbage disposal, an automatic dishwasher and a general purpose sink such as finds ordinary usage in kitchens and the like. The dishwashing chamber is formed from an opened top tub and the sink is hingedly mounted at the top of the cabinet to provide, when in its raised position, access to the dishwasher and, when in its lowered position, a water-tight seal for the dishwashing chamber. The disposal unit is located beneath the dishwashing chamber and the water from the dishwasher drains thereinto. A breakaway communicating standpipe is provided between the sink drain and the dishwashing chamber drain for channeling garbage, water and the like from the kitchen sink directly into the disposal unit through the dishwashing chamber. Thus,

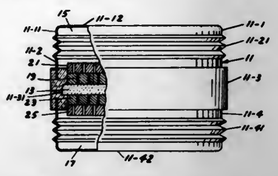


the sink and disposal may be utilized despite operation of the dishwashing unit.

3,514,331
BATTERY ELECTRODE SEPARATION
Earl B. Cupp and Alton L. Cook, Joplin, and Wallace F. Payne, Carthage, Mo., assignors to Eagle-Picher Industries, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed July 22, 1968, Ser. No. 746,475
Int. Cl. H01m *3/00, 35/00*
U.S. Cl. 136—6 3 Claims

A battery including a plurality of pairs of opposite polarity planar electrodes arranged in closely spaced parallel relation and immersed in a liquid electrolyte, and wrappers or jackets associated with each electrode for separating adjacent electrodes of opposite polarity, each wrapper including electrically insulative structure completely enclosing its associated electrode except for one lateral or side edge thereof which is left exposed. The exposed side edges of all positive electrodes are aligned and face oppositely from the exposed side edges or the negative electrodes which also are aligned.

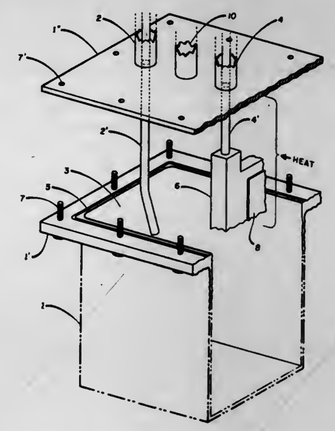
3,514,332
SECONDARY BATTERY WITH ALKALI-SULFUR ELECTRODES AND MOVABLE SOLID ELECTROLYTE
Robert W. Minck, Lathrup Village, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 3, 1967, Ser. No. 628,026
Int. Cl. H01m *35/00*
U.S. Cl. 136—6 5 Claims



An electrically-rechargeable, secondary battery comprising cells in series electrical connection, a unit cell of said battery comprising a closeable cell housing which when closed forms an internal compartment and has oppositely disposed, electronically-conductive, rigid, wall surfaces electronically insulated from each other which respectively serve as anode and cathode of the cells, an electronically-insulative, cationically-conductive, solid electrolyte interposed between said anode and said cathode,

dividing said compartment into an anodic reaction zone and a cathodic reaction zone, and separating the anodic half-cell reactions of said reaction zone from the cathodic half-cell reactions, said solid electrolyte being movable in relation to at least one electrode of the cell when the cell housing is closed and said anodic reaction zone and said cathodic reaction zone are charged with their respective reactants through motion of an axially collapsible and expandable wall member interposed between said anode and said cathode, an alkali metal within said anodic reaction compartment, in contact with said solid electrolyte and in electrical connection with said anode, and within said cathodic reaction zone, in contact with said solid electrolyte, and in electrical connection with said cathode, a sulfur-comprising cathodic reactant-electrolyte that is electrochemically reversibly reactive with ions of said alkali metal; and the aforedescribed cell.

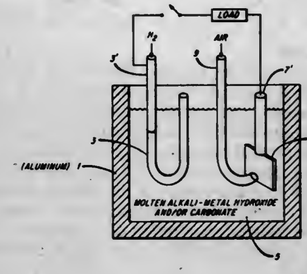
3,514,333
METHOD OF HOUSING CORROSIVE ELECTROLYTIC MEDIUM
Robert Lee Novack, Hanover, Mass., assignor to Prototech Company, division of Bolt Beranek and Newman Inc., Cambridge, Mass., a corporation of Massachusetts
Filed June 20, 1967, Ser. No. 647,479
Int. Cl. H01m *1/02, 27/00*; B65d *53/00*
U.S. Cl. 136—86 6 Claims



The problem of sealing a removable wall (such as a top cover) of a corrosive electrolytic medium—containing housing, as in fuel cells and similar apparatus, has been solved through a novel use of a thin aluminum sealing gasket maintained at a temperature sufficient to soften the aluminum without melting the same and high enough to maintain the electrolytic medium molten and essentially anhydrous, with the gasket being subjected to appropriate uniform sealing pressure.

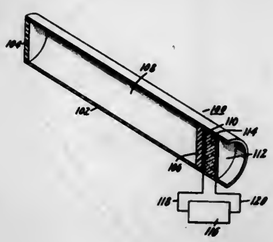
3,514,334
METHOD OF MAINTAINING ALUMINUM IN CONTACT WITH MOLTEN ALKALI-METAL HYDROXIDES AND CARBONATES
Robert L. Novack, Arlington, Mass., assignor to Prototech Incorporated, Cambridge, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 376,917, June 22, 1964. This application Dec. 19, 1967, Ser. No. 691,912
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 4 Claims

This disclosure deals with the discovery that aluminum can be maintained in continuous contact with molten alkali-metal hydroxide and carbonate media without corrosive attack, by appropriate initial preparation of and



maintenance of the molten media in a substantially anhydrous state, while insuring such contact only in such state.

3,514,335
PROCESS AND APPARATUS FOR ELECTROCHEMICALLY OXIDIZING ALCOHOL TO GENERATE ELECTRICAL ENERGY
Willard T. Grubb, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 30, 1966, Ser. No. 606,096
Int. Cl. H01m *27/00, 27/30*
U.S. Cl. 136—86 7 Claims



An alcohol permeable element is provided to control the rate at which alcohol is supplied to a fuel cell anode. This restricts the rate of alcohol supply to a value at which it would control the value of the limiting current obtained if the electrodes of the fuel cell were short circuited. By then maintaining an electrical load connected between the electrodes at a resistance value chosen to draw an electrical current only slightly less than the limiting current, the alcohol is almost entirely electrochemically utilized.

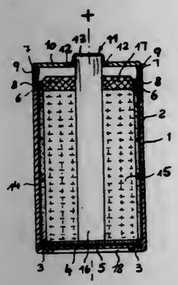
3,514,336
FUEL CELL COMPRISING AN ION-EXCHANGE MEMBRANE HAVING ELECTROLYTE CHANNELS THEREIN
Jose D. Giner, Sudbury, Mass., and Kurt S. Spiegler, Berkeley, Calif., assignors, by mesne assignments, to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
No Drawing. Filed Oct. 4, 1965, Ser. No. 492,855
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 4 Claims

An electrochemical cell for the direct generation of electrical energy is described which utilizes an ion-exchange resin matrix having macro-porous channels containing a free aqueous electrolyte in the channels.

3,514,337
HIGH ENERGY DENSITY BATTERY
Klaus Brenner, Long Branch, and Karen R. Moyes, Eatontown, N.J., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed June 6, 1968, Ser. No. 734,872
Int. Cl. H01m 17/00
U.S. Cl. 136—100 2 Claims

A high energy density organic electrolyte containing electrochemical system or battery is provided in which lithium is the anode. The cathode includes as the cathode active material intercalation compounds of graphite and fluorine of the general formula $(C_xF)_n$ wherein x is a numerical value between about 3.5 and about 7.5 and wherein n refers to the presence of an infinite number of recurring (C_xF) groups in the intercalation compound. The organic electrolyte is a solution of an inorganic lithium salt such as lithium perchlorate or lithium bromide in an organic solvent such as propylene carbonate, dimethyl carbonate, butyrolactone, ethylacetate, nitromethane, dimethyl formamide, or tetrahydrofuran.

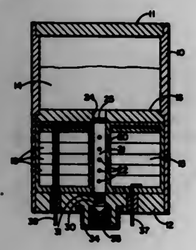
3,514,338
ELECTRICAL PRIMARY ELEMENT
Kornelieke Shakour, nee Eekma, 14 Hubertusstrasse, 8000 Munich, Germany
Filed Apr. 12, 1968, Ser. No. 720,898
Int. Cl. H01m 17/00
U.S. Cl. 136—102 5 Claims



The invention relates to a primary cell having a cup-like zinc negative electrode.

The cell casing has a transparent portion and an indicator for water is viewable through same.

3,514,339
DEFERRED ACTION BATTERY
Gerald P. Powers, Philadelphia, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 29, 1968, Ser. No. 724,780
Int. Cl. H01m 21/10
U.S. Cl. 136—113 3 Claims

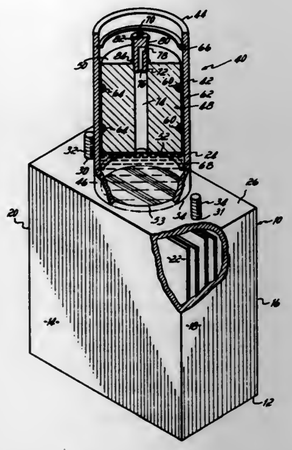


An activation means for a deferred-action electrochemical current-producing device wherein prior to activation electrolyte is held away from the electrodes by a frangible wall. Activation is achieved by explosively propelling an activation projectile towards the frangible wall causing the wall to collapse upon the impact with the ball.

3,514,340
METHOD OF MAKING AND FUEL CELL ANODE CATALYST COMPRISING NICKEL, MOLYBDENUM, BORON AND PHOSPHORUS
Theodore L. Larson and Dirk Pouli, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
No Drawing. Filed June 5, 1967, Ser. No. 643,385
Int. Cl. H01m 27/04; C23c 23/02; B01j 11/82
U.S. Cl. 136—86 14 Claims

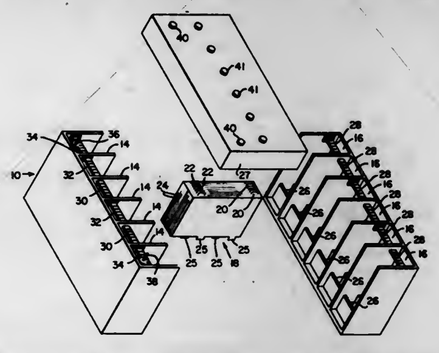
A fuel cell anode catalyst comprising an electrically conductive powder, the particles of which are coated with a mixture of nickel, boron, phosphorus and molybdenum. The catalyst is produced by adding the conductive powder and an alkali borohydride initiating agent to an aqueous solution containing a dissolved nickel salt, a dissolved molybdenum compound, a condensed polyphosphate complexing agent, a reducing agent such as an alkali hypophosphite, and a suitable base to render a pH of about 11.5. The mixture is then vigorously agitated for about 10 minutes while the coating is reduced onto the powder particles. The powder is then filtered from the solution, washed, and dried.

3,514,341
BATTERY CELL CASE WITH PRESSURE EQUALIZER
Alton L. Cook, Joplin, Mo., assignor to Eagle-Picher Industries, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed May 31, 1968, Ser. No. 733,366
Int. Cl. H01m 1/00
U.S. Cl. 136—166 4 Claims



A case for a battery cell having electrodes immersed in a liquid electrolyte, including casing structure configured and dimensioned to completely enclose the electrodes and liquid electrolyte, and a pressure equalization and gas venting device communicating with both the interior of the casing structure and the environment in which the cell is utilized for equalizing the environmental and internal cell pressures while simultaneously venting to the environment gas generated within the cell case.

3,514,342
METHOD OF MAKING A BATTERY
George J. Brennan, Blackwood, N.J., assignor to ESB Incorporated, a corporation of Delaware
Filed May 2, 1968, Ser. No. 726,069
Int. Cl. H01m 35/18
U.S. Cl. 136—176 10 Claims



A battery has a container consisting of a first side portion and a second side portion sealed together in any convenient manner. The cover may be separate from, or integrally constructed with, the two side portions of the container. Single cell or multicell as well as primary or secondary batteries may be so constructed.

In multicell batteries the intercell strap connectors extend through the partitions of the cell compartments, preferably as molded inserts in the partitions. Preferably the ends of the intercell strap connectors are anchored by the container. Strap connectors may extend from end cells through the container as inserts molded therein to function as terminals.

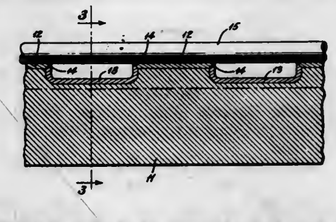
3,514,343
REGENERATION OF CHROMATE CONVERSION COATING SOLUTIONS
Frank A. Bauman, Cleveland Heights, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 13, 1966, Ser. No. 601,344
Int. Cl. C23f 7/26
U.S. Cl. 148—6.2 3 Claims

Chromate conversion coating baths for metal surfaces, especially ferrous metal and aluminum surfaces, are regenerated and the dissolved metal ion and trivalent chromium are removed therefrom by adding an alkaline reagent, preferably ammonium hydroxide, until a pH of about 5.5–8.0 (5.5–9.0 in the case of ammonium hydroxide) is reached. The metal is precipitated as the hydroxide and is separated from the solution, which is then restored to its original active ingredient content.

3,514,344
METHOD OF IMPROVING THE CORROSION RESISTANCE OF STAINLESS STEEL TO SODIUM
Fred A. Smith, Lockport, and Edward L. Kimont, Evergreen Park, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 3, 1967, Ser. No. 672,650
Int. Cl. C21d 1/48
U.S. Cl. 148—15 1 Claim

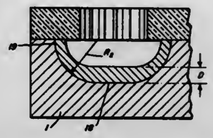
A method of improving the corrosion resistance of nonstabilized type 304 austenitic stainless steel to sodium at about 1000 to 1200° F. comprising exposing the stainless steel to sodium at a temperature of over 1400° F. for a period of at least 4000 hours.

3,514,345
DIODE ARRAY AND PROCESS FOR MAKING SAME
Clarence J. Carter, Rolling Hills, Calif., and Richard F. Stewart, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 462,774, Apr. 26, 1965, which is a division of application Ser. No. 141,854, Sept. 29, 1961. This application Dec. 26, 1967, Ser. No. 693,675
Int. Cl. H01l 5/00, 15/00, 15/02
U.S. Cl. 148—33 9 Claims



Disclosed is a diode array comprised of a body of high-resistivity material, each diode comprising a P-N junction which is defined by layers of opposite type conductive material, one on top of a ridge and the other there being in a depression between the ridges and extending to the surface of the semiconductor body.

3,514,346
SEMICONDUCTIVE DEVICES HAVING ASYMMETRICALLY CONDUCTIVE JUNCTION
Peter V. Gray, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 2, 1965, Ser. No. 476,512
Int. Cl. H01l 5/00
U.S. Cl. 148—33.2 2 Claims



In diffused junction type semiconductor devices, the limitation, having a cavity and a layer of passivating material improved leakage and breakdown characteristics are obtained by provision of a junction configuration in which the junction changes from the portion thereof which is substantially parallel to a major surface of the semiconductor body to the portion that intersects the major surface in an arc having a radius of curvature which is always greater than the thickness of the space charge region thereof.

3,514,347
PROCESS OF PREPARING A p-n JUNCTION IN SEMICONDUCTOR ALLOYS OF MERCURY TELLURIDE AND CADMIUM TELLURIDE
Huguette Rodot, born Fumeron, and Christian Verie, Bellevue, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a French government administration
Filed May 25, 1967, Ser. No. 641,356
Claims priority, application France, May 27, 1966, 63,376
Int. Cl. H01l 7/62
U.S. Cl. 148—186 7 Claims

Process of preparing a p-n junction in semiconductor alloys of mercury telluride and cadmium telluride of general formula $Hg_{1-x}Cd_xTe$ where x is comprised be-

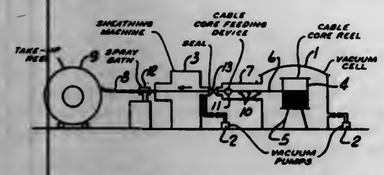
tween 0 and 0.4. In this process, a previously purified monocrystalline sample of the alloy is first subjected to a heat treatment to obtain a standard reference sample of type n. This sample of type n is subjected to a further heat treatment, of short duration, at a high temperature, to obtain, in a reproducible manner, a sample of type p which is then subjected to a further, longer, heat treatment at a lower temperature to obtain the p-n junction.

This invention relates to a process of preparing p-n junctions in semiconductor alloys of mercury telluride and cadmium telluride of general formula $Hg_{1-x}Cd_xTe$ where x is comprised between 0 and 0.4, from a previously purified crystalline sample of this alloy.

3,514,348
METHOD FOR MAKING SEMICONDUCTOR DEVICES
Han Ying Ku, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed May 10, 1967, Ser. No. 637,509
Int. Cl. H01l 7/00
U.S. Cl. 148—188 **11 Claims**

This invention provides a method of depositing a silicon dioxide layer upon heated or unheated semiconductor material, which layer may be doped to provide a source for diffusion of impurity atoms into a semiconductor, or as a mask when the silicon dioxide is undoped, the mask to be used in semiconductor diffusion from gas systems. This method provides depositing of colloidal silicon dioxide particles which are suspended in a liquid, the combination forming a liquid dispersion, onto semiconductor material, and then drying the semiconductor. The liquid dispersion can be painted, dipped, sprayed, or brushed onto the selective semiconductor surface and dried to form a silicon dioxide mask. Solid or liquid doping materials can be dissolved in the liquid dispersion, the dispersion placed upon the semiconductor material, and the liquid dried, to form a doped silicon dioxide layer. The semiconductor material can thereafter be internally doped by diffusion of dopant atoms from the doped silicon dioxide layer into the semiconductor region covered by the layer by merely heating the semiconductor material.

3,514,349
METHOD OF MANUFACTURING OIL FILLED ELECTRIC CABLES AND APPARATUS FOR MANUFACTURING THE SAME
Masamoto Shiroya, Tokyo, Hiroshi Kubo, Osaka-fu, and Hideo Kakuzen, Osaka, Japan, assignors to Sumitomo Electric Industries, Ltd., Osaka, Japan, a company of Japan
Continuation of application Ser. No. 145,688, Oct. 17, 1961. This application June 18, 1968, Ser. No. 749,241
Claims priority, application Japan, Oct. 19, 1960, 35/42,777; Mar. 29, 1961, 36/11,078
Int. Cl. H01b 13/24, 17/34
U.S. Cl. 156—48 **9 Claims**

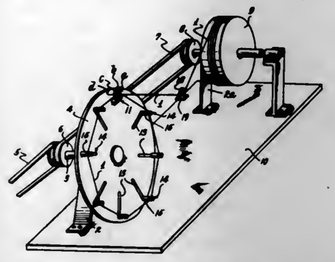


The method of and apparatus used in the manufacturing of oil-filled cables under continuous vacuum conditions. The cable core is dried under vacuum in a drying vessel or chamber and then is passed through a vacuum tight joint seal into a sheathing chamber where the cable is sheathed and the sheathed core ends are sealed all under vacuum conditions. The ends of the sheathed cable are fitted hermetically on an evacuating device and the sheathing at the cable ends is punctured to permit the passage of insulating oil into the cable core at one end of the sheathed cable while a vacuum is being maintained by the evacuating device at the other end of the sheathed cable until the cable core is completely impregnated with the insulating oil.

3,514,350
METHOD OF ATTACHING PLIANT WEB TO THERMOPLASTIC BASE
John W. H. Bishop, Montreal, Quebec, Canada, assignor to Bishop Spools, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 29, 1966, Ser. No. 575,520
Int. Cl. B29c 2/08
U.S. Cl. 156—73 **12 Claims**

A method of attaching a pliant web to a thermoplastic base utilizing a sonic element to press the web to the base, at the same time causing the base to melt and the web to adhere to the base.

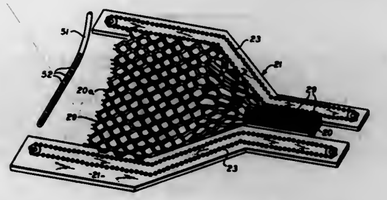
3,514,351
METHOD OF OBTAINING AN OPTICAL IMAGE TRANSFERABLE FIBER BUNDLE
Kunihiko Mukai, Tsu, Japan, assignor to Nippon Glass Fiber Co., Ltd., Tsu, Japan
Filed Oct. 7, 1965, Ser. No. 493,705
Int. Cl. B32b 31/04, 31/18; B65h 54/00
U.S. Cl. 156—174 **1 Claim**



The present invention relates to a method of making a flexible optical image conductive cable which comprises the steps of coiling at least one continuous filament of optical image conductive material into a ring formed from a plurality of turns by leading said filament between guide means while urging each successive turn of said filament against the preceding turn so as to superimpose it thereon and form between said guide means a section of said ring in which those portions of said filament forming the successive turns of said coil lie parallel to each other in a single plane, bonding together the filament portions in said one section while leaving other filament portions free, forming a plurality of additional rings in like manner, superimposing and bonding together the bonded sections of said rings with the filament portions therein parallel to each other, and severing said rings transversely through said bonded sections.

3,514,352
HONEYCOMB EXPANDING DEVICES
Dan Gordon Judge, Jr., Sarasota, Fla., assignor to Honeycomb Company of America Inc., a corporation of New York
Filed Oct. 23, 1965, Ser. No. 503,703
Int. Cl. B31d 3/02; B32b 31/00
U.S. Cl. 156—197 **11 Claims**

This invention pertains to expanding devices, and methods for expanding honeycomb cores, irrespective of whether the core is made by longitudinal striping or by transfer striping, and consists of side gripping elements

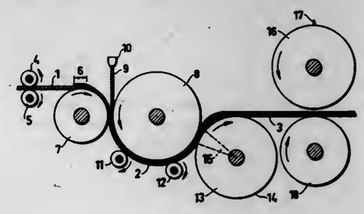


which will expand the elements which will expand the honeycomb cells equally without undue stress among any of the cells.

3,514,353
PROCESS FOR PAPER OVERLAY
Alfred Shaines, Fanwood, N.J., assignor to American Standard Inc., a corporation of Delaware
No Drawing. Filed Jan. 8, 1965, Ser. No. 424,189
Int. Cl. B29b 1/00
U.S. Cl. 156—242 **11 Claims**

Sheet material such as paper is bonded to a wood substrate by impregnating the sheet material and applying pressure up to about 3,000 lbs. per square inch, a temperature up to 300° F. The substrate can be wood particles impregnated with ammonia, whereby a single compression step can serve to bond the wood particles together and bond the sheet material to the wood.

3,514,354
METHOD OF COATING SHEETS OF CARTON OR SIMILAR MATERIAL WITH A PLASTIC COATING
Nils Andersson, Lund, Sweden, assignor to AB Akerlund & Rausing, Lund, Sweden, a Swedish joint-stock company
Filed Mar. 20, 1967, Ser. No. 624,562
Claims priority, application Sweden, May 10, 1966, 6,380/66
Int. Cl. B29d 7/02; B32b 31/10
U.S. Cl. 156—244 **7 Claims**



A method of producing plastic coated sheets of carton material comprises the steps of feeding the sheets longitudinally of themselves in succession with the end portions of adjacent sheets in overlapped relation thereby establishing a marginal zone at one end of each sheet which is desired to remain uncoated. A continuous film of plastic is extruded onto one side of the end overlapped sheets which thereby serves to temporarily interconnect adjacent sheets. The sheets are thereafter separated by severing the plastic film transversely of the sheets along a zone adjacent an end of one sheet where the film is not adhered to either sheet as a result of the overlap.

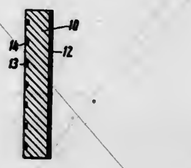
For carrying out the method, feed rollers carry the end overlapped sheets in succession into the nip between a rubber roller and a steel roller, and a continuous plastic film is extruded into the nip to form a laminate with the end overlapped sheets. The steel roller serves to cool the plastic film and a suction roller is provided to pull the plastic film away from the surface of the steel roller. After leaving the steel roller, the sheets which are temporarily joined together by the continuous plastic film are separated by a cutter device which cuts transversely through the film, the operation of the cutter device being synchronized with the longitudinal movement of the sheets such that a cut is made along a zone adjacent an end of one sheet where the film is not adhered to either sheet as a result of the overlap.

3,514,355
METHOD AND DEVICE FOR INTERCONNECTING THIN PAPER WEBS OR SHEETS ALONG DEFINED AREAS
Guy John Olof Welin-Berger, Parkgrand 4, Nacka, Sweden
Filed Oct. 12, 1964, Ser. No. 403,171
Claims priority, application Sweden, Oct. 14, 1963, 11,271/63
Int. Cl. B32b 7/14
U.S. Cl. 156—291 **1 Claim**



Thin fibrous webs (including sheets) are adhesively interconnected along selected areas by moistening at least one of the webs and applying adhesive to a restricted area on the side of at least one of the webs which is opposite or remote from the other web, after which the webs are pressed together. This is in contrast to the previous methods of applying the adhesive between the webs and avoids the adhesive being squeezed out between the webs over areas that should not adhere. The moistening of the webs permits the adhesive to permeate the region of the interface between the webs by capillarity.

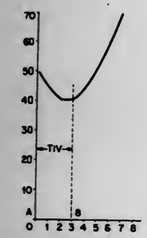
3,514,356
METHOD OF MANUFACTURING A PRINTED CIRCUIT
Wilhelm Ruppert, Postfach 27, 505 Wahn, Rhineland, Germany
Filed Apr. 5, 1968, Ser. No. 719,113
Int. Cl. B32b 31/00
U.S. Cl. 156—298 **9 Claims**



Method for manufacturing a printed type electric circuit wherein conductor strips are connected as integral or independent strips to a plate type circuit carrier body, of insulating material, coating the conductor strips by electrically insulating varnish or lacquer (paint), simul-

taneously before or after said step, additionally coating the edges of said strips with a reinforcing layer of an electrically insulating coating material and then laminary pressing the strips over their cross section into the carrier body.

3,514,357
METHOD FOR OBTAINING ADHESION BETWEEN OLEFIN COPOLYMERS OR TERPOLYMERS AND NATURAL OR SYNTHETIC RUBBERS
Luigi Torti, Stefano Marcello, and Guido Bertelli, Ferrara, Italy, assignors to Montecatini Edison, S.p.A., Milan, Italy, a corporation of Italy
Filed July 21, 1965, Ser. No. 473,801
Claims priority, application Italy, July 22, 1964, 15,965/64
Int. Cl. B32b *25/04, 27/06, 25/16*
U.S. Cl. 156—306 21 Claims



A method of bonding olefin copolymers or terpolymers to natural or synthetic diene rubbers by covulcanizing the two types of rubber in direct contact, the diene rubber having a siliceous filler.

3,514,358
METHOD OF FORMING FISHING LURES AND THE LIKE
Richard P. Monaghan and Maurice P. Barton, both of P.O. Box 7, Overton, Tex. 75684
Filed June 3, 1968, Ser. No. 733,974
Int. Cl. B29c *15/00;* A01k *85/00*
U.S. Cl. 156—306 5 Claims



A method of forming fishing lures or the like wherein a plurality of thermoplastic beads or other quantity of thermoplastic material, preferably a vinyl-acetate copolymer, is softened and then unitized and shaped to a desired configuration for a fishing lure or the like, using the moistened hands of a person and thereafter the shaped material is reheated at localized areas to modify it by changing its shape or by adding fish hooks, feathers, bug eyes, fins, weights, flotation elements, or other items to provide a finished fishing lure or the like.

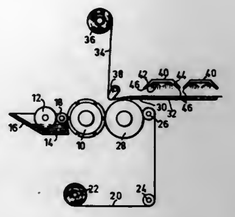
3,514,359
PROCESS OF UNITING OBJECTS OF POLYBUTENE-(1)
Albert Friese, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany
No Drawing. Filed Oct. 11, 1965, Ser. No. 494,903
Int. Cl. C09j *5/06, 3/14;* B32b *27/32*
U.S. Cl. 156—308 3 Claims

Objects of polybutene-(1) can be adhesively united by (a) treating them with a liquid hydrocarbon which may contain dissolved polybutene-(1) and which may be substituted and which may be polymerizable, and (b) uniting them at a temperature in the range from 50° to 100° C. under pressure.

3,514,360
METHOD OF BONDING POLYMERIC MATERIALS HAVING PEPTIDE (—CONH—) LINKAGES
Thomas Joseph Crowley, North Mall, Ireland, assignor to The Dunlop Company Limited, a British company
No Drawing. Filed Feb. 1, 1967, Ser. No. 613,101
Claims priority, application Great Britain, Feb. 10, 1966, 5,866/66
Int. Cl. C09i *5/02*
U.S. Cl. 156—308 21 Claims

A method of bonding together polymeric materials having peptide (—CONH—) linkages which comprises treating the surfaces to be bonded with a halide, oxyhalide or organohalide of phosphorus, arsenic or antimony.

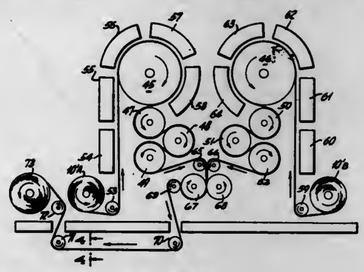
3,514,361
METHOD AND MACHINE FOR INTERCONNECTING TWO WEBS OF PAPER OR THE LIKE
Guy John Olof Welin-Berger, Parkgrand 4, Nacka, Sweden
Filed May 2, 1966, Ser. No. 546,947
Claims priority, application Sweden, May 4, 1965, 5,835/65
Int. Cl. B27g *11/00;* B32b *7/14*
U.S. Cl. 156—497 5 Claims



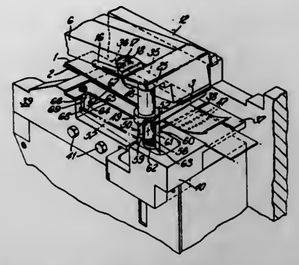
In a machine for interconnecting webs of porous paper for making filtering bags and similar articles, a stationary guide means has a curved guide surface of great radius of curvature as compared with that of other guide means of the machine and is adapted to receive one web. A printing roller for applying adhesive to the web and a counter roller for the printing roller deliver the web to the stationary guide means, and a guide member for a further web guides this latter web substantially along a tangent to the curved guide surface. Thus, the webs are brought together successively without material pressure between the webs, whereby spreading of the adhesive is avoided.

3,514,362
APPARATUS FOR MANUFACTURING CELLULAR MATERIAL
Marc A. Chavannes, New York, N.Y., assignor to Sealed Air Corporation, Hawthorne, N.J., a corporation of New Jersey
Original application Dec. 26, 1963, Ser. No. 336,097, now Patent No. 3,405,020, dated July 7, 1968. Divided and this application June 18, 1968, Ser. No. 737,930
Int. Cl. B32b *31/00*
U.S. Cl. 156—498 10 Claims

Improved apparatus for the manufacture of cellular material utilizing multi-ply laminates wherein at least one of the laminates is embossed prior to the sealing of the laminates one to the other.

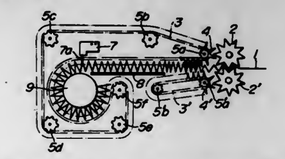


3,514,363
WEB SPLICERS
Horace Alexander Stone and John Charles Raymond, Deptford, London, England, assignors to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed Aug. 24, 1966, Ser. No. 574,692
Claims priority, application Great Britain, Aug. 25, 1965, 36,555/65
Int. Cl. B31f *5/00*
U.S. Cl. 156—505 19 Claims



An apparatus for the butt splicing of two web portions of sheet material. The apparatus initially holds the webs in a longitudinal alignment with the ends of the webs overlapping. A cutting knife cuts transversely through both overlapping webs. The cutting knife is then pivoted parallel to the longitudinal axis of the web, raised again to cutting height and repositioned or pivoted transverse to the webs for future cutting. After the removal of an offcut portion of one of the webs, the webs are secured by an apparatus dispensing a pressure-sensitive tape.

3,514,364
APPARATUS FOR FORMING FILTER ELEMENTS
Terumoto Yamaguchi, Anjo-shi, Japan, assignor to Nippon Denso Company Limited, Kariya-shi, Japan, a corporation of Japan
Filed Apr. 29, 1968, Ser. No. 725,056
Claims priority, application Japan, Dec. 20, 1967, 42/81,766
Int. Cl. B31f *1/20, 1/26, 1/30*
U.S. Cl. 156—596 4 Claims

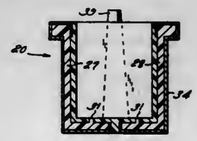


An apparatus for forming filter elements of the kind of a ring of a corrugated band of a filtering material is disclosed, wherein the band is formed into a corrugation by being passed between a pair of intermeshing toothed wheels; the corrugated band is carried by, for example, a pair of endless chains having spikes disposed at a predetermined pitch, each spike being engaged into each fold of the corrugated band to carry the same in a regular form; and the corrugated band is formed into a desired ring element by said endless chains being moved along a contour corresponding to the outer contour of said ring element.

3,514,365
FORMABLE COATED SHEET MATERIALS
Peter P. A. Burnett, Mount Clemens, Herbert O. Blaies, Jr., Washington, and Kelton E. Jansen, Mount Clemens, Mich., and Sidney King, Seaton Delaval Northumberland, England, assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,169
Int. Cl. B32b *27/02;* D06m *15/00*
U.S. Cl. 161—89 11 Claims

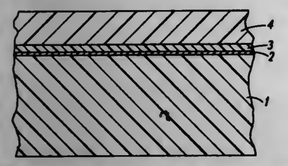
These sheet materials comprise a polymeric coating adhered to a fabric, with the minimum elongation temperature of the coating being within about 50 Fahrenheit degrees of the maximum elongation temperature of the fabric. The coating is a terpolymer consisting essentially of acrylonitrile, butadiene, and styrene units, blended with polyvinyl chloride and the fabric is made of synthetic fiber preferably containing at least 35 weight percent of acrylonitrile units. Using vacuum forming techniques, the sheet materials can be formed into an integral covering shaped to the top and sides of automotive and household seats without significantly obliterating embossed surface patterns or losing tensile strength, tear strength and softness.

3,514,366
MOLDED ARTICLE HAVING DIFFERENT PORTIONS PRESENTING DIFFERENT SURFACE APPEARANCES
Davies Allport, Denton, Tex., assignor to Amerace Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 11, 1966, Ser. No. 541,777
Int. Cl. B29c *9/00;* B29f *1/10;* B32b *31/12*
U.S. Cl. 161—120 7 Claims



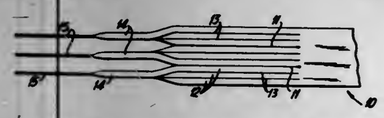
An integrally molded plastic article having different component portions presenting different surface appearances is produced which comprises: (a) a first component of plastic material having a predetermined melting temperature and having a first portion with a surface contour forming at least a portion of the exposed surface of the article and a second portion which is not exposed on the surface of the article; (b) a coating of a material having a melting point substantially higher than the melting point of the plastic material from which the first component is made covering the surface of at least a part of the second portion of the first component; and (c) a second component of a plastic material having a melting temperature substantially lower than the melting temperature of the coating and having an exposed surface portion and a second portion in intimate engagement with the coating, said coating in part being on the exterior surface of the finished article and exposed to view.

3,514,367
BARRIER COATED NYLON FILM
Daniel G. James, Chester, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Aug. 16, 1966, Ser. No. 572,796
Int. Cl. B44d 1/16; B32b 27/34
U.S. Cl. 161—165 14 Claims



A process for coating nylon film with a polyurethane primer coating, a waterproof coating and a barrier coating, and an article produced by the process. The coated film may be laminated to polyethylene film.

3,514,368
LAMINATED PLASTIC YARNS AND METHOD AND APPARATUS FOR MAKING THE SAME
Joseph Neisel, Providence, R.I., assignor to Acme Backing Corporation, Stamford, Conn., a corporation of New York
Continuation of application Ser. No. 433,983, Feb. 19, 1965. This application Mar. 27, 1968, Ser. No. 716,666
Int. Cl. D02g 3/00
U.S. Cl. 161—177 12 Claims



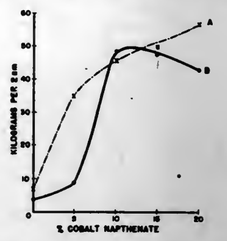
A laminated plastic yarn formed from film having longitudinal prescored fold lines to insure in the folded yarn precise, uniform width and thickness of the yarn throughout the length thereof; together with a method and apparatus for forming the same.

3,514,369
REACTION PRODUCTS OF MULTIAZIRIDINO COMPOUNDS AND HYDROGEN SULFIDE ADHESIVE COMPOSITIONS
Heinz Uelzmann, Cuyahoga Falls, and David C. Hidinger, Jr., Akron, Ohio, assignors to The General Tire & Rubber Company, a corporation of Ohio
No Drawing. Filed May 10, 1967, Ser. No. 637,352
Int. Cl. B32b 15/08, 27/38; C08g 30/14
U.S. Cl. 161—186 9 Claims

Novel adducts of multiaziridino compounds are prepared by reacting H_2S with multiaziridino compounds: The reaction products, which contain secondary amino and thio groups, may be used to form adhesives, particularly with epoxy compounds, and metal-to-metal laminates.

3,514,370
ZINC LAMINATE AND METHOD FOR BONDING UNSATURATED AMORPHOUS OLEFINE COPOLYMERS BY ADDING COBALT SALT OR ORGANIC CARBOXYLIC ACID TO PROMOTE ADHESION
Cesare Canevari, Milan, Italy, assignor to Pirelli, S.p.A., Milan, Italy
Filed Oct. 3, 1966, Ser. No. 583,621
Claims priority, application Italy, Oct. 4, 1965, 22,090/65
Int. Cl. B32b 15/04
U.S. Cl. 161—217 7 Claims

A composite structure comprising a metal base of zinc and a vulcanized elastomeric composition containing from 5 to 20% by weight of a cobolt salt of an organic carboxylic acid and sulfur in the range of from 3.5 to 7 parts by weight, the elastomer comprising a low unsaturated

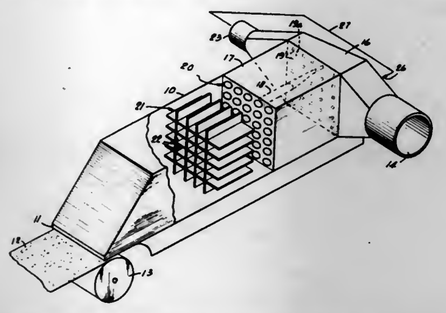


amorphous olefin copolymer of ethylene with alpha-olefins, and with at least one diene.

3,514,371
PREPARATION OF KRAFT PROCESS LIQUOR FROM WASTE SODA LIQUOR FROM PETROLEUM INDUSTRIES
Katsuo Watanabe, 219 Hama, Okayama-shi, Okayama, Japan
No Drawing. Filed Mar. 1, 1967, Ser. No. 619,585
Claims priority, application Japan, Mar. 1, 1966, 41/12,012
Int. Cl. D21c 3/00
U.S. Cl. 162—82 5 Claims

White liquor of desired sulfidity for digesting kraft process pulp is prepared by (a) introducing into waste soda liquor discharged from petroleum industries, gas comprising H_2S and at least one additional gas from the group consisting of CO_2 and SO_2 and reacting the same until the normal salts content of the liquor is reduced to less than 15% based on its total salt content, (b) removing organic materials from the so reacted liquor, and (c) adding the resulting liquor to a digesting liquor selected from the group consisting of green liquor and white liquor. The resulting white liquor may be deodorized with weak oxidant, preferably air which has been washed with milk of lime. Especially when the digesting liquor comprises recovered white liquor, the addition (c) is preferably made in admixture with fresh NaOH solution.

3,514,372
HEADBOX METHOD AND MEANS FOR BLENDING OF MULTIPLE JETS
William B. Boyce, Rockton, Ill., and Jerome P. Brezinski, Neenah, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Nov. 29, 1966, Ser. No. 597,738
Int. Cl. D21f 1/06
U.S. Cl. 162—216 8 Claims



Method of and means for delivering stock to the traveling forming wire of a papermaking machine. The stock is

delivered under pressure from a distributor to a chamber having a slice opening to the forming wire. Inside the chamber the stock is divided into a plurality of separate streams in expanding diffuser nozzles in which the velocity of the stock is decreased, then the stock is discharged to flow in separate streams through flow passages in a flow element after which the streams are merged with one another, thereby eliminating eddy currents and cross-currents upstream of the slice.

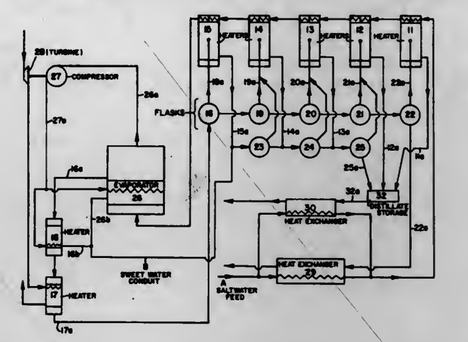
3,514,373
FISSIOCHEMICAL PROCESS AND FUEL
Bernard H. Hamling, Warwick, N.Y., may be granted to United States Atomic Energy Commission under the provision of 42 USC 2182
No Drawing. Continuation-in-part of applications Ser. No. 451,326, Apr. 27, 1965, and Ser. No. 456,514, May 17, 1965, both of which are continuations-in-part of application Ser. No. 320,843, Nov. 1, 1963. This application Dec. 16, 1966, Ser. No. 602,133
Int. Cl. G21c
U.S. Cl. 176—39 10 Claims

There is disclosed a fissiochemical fuel comprising the fibers of an oxide of one or more of the fissionable forms of thorium, uranium and plutonium, either alone or in combination with another metal that is either in the elemental or in the oxide form.

3,514,374
METHOD OF PURIFICATION OF MYXOVIRUS VACCINE
William J. McAleer, Ambler, and Edward H. Wasmuth, Telford, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 2, 1968, Ser. No. 718,190
Int. Cl. C12k 1/00, 5/00, 7/00
U.S. Cl. 195—1.5 3 Claims

Prior to ultracentrifuge sedimentation of myxovirus virus the growth medium containing it is successively passed through 1, a filter having large pores, 2, a filter having 0.8 to 2.0 micron pores and 3, a filter having 0.22 to 0.6 micron pores.

3,514,375
WATER DESALINATION DISTILLATION INCLUDING EVAPORATOR AND COMPRESSOR
Francis Dambrine, Marcq-en-Baroeul, France, assignor to Societe Fives Lille-Cail, Paris, France
Filed May 13, 1968, Ser. No. 728,700
Claims priority, application France, May 25, 1967, 107,755
Int. Cl. B01d 3/06; C02d 1/06
U.S. Cl. 202—173 4 Claims

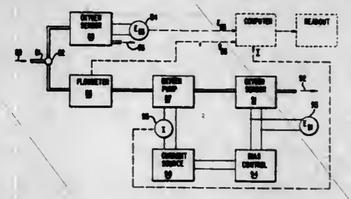


In a water desalination installation, an evaporator is arranged behind the last of a series of salt water heaters, a compressor receives vapor from the evaporator and compresses it, and the compressor feeds compressed vapor to the radiators of the compressor and of an additional heater.

3,514,376
CONTROL OF SCALING IN EVAPORATORS
Murrell L. Salutsky, Highland Park, Ill., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Continuation-in-part of application Ser. No. 632,558, Apr. 21, 1967. This application June 20, 1969, Ser. No. 835,317
Int. Cl. B01d 3/00; C02b 5/00
U.S. Cl. 203—7 5 Claims

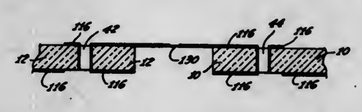
Treating saline water evaporators with acrylic acid polymers having a weight average molecular weight of up to 13,000 prevents scaling of heat exchange surfaces.

3,514,377
MEASUREMENT OF OXYGEN-CONTAINING GAS COMPOSITIONS AND APPARATUS THEREFOR
Henry S. Spacil, Schenectady, N.Y., John F. Elliott, Winchester, Mass., and David L. Schroeder, Schenectady, and Donald W. White, Jr., Burnt Hills, N.Y., assignors to General Electric Company, a corporation of New York
Filed Nov. 27, 1967, Ser. No. 685,869
Int. Cl. B01k 3/00
U.S. Cl. 204—1 18 Claims



A method and system for analyzing gas mixtures including constituents taken from the group consisting of carbon monoxide, carbon dioxide, oxygen, hydrogen, water vapor and a diluent. A first, voltage-producing solid oxygen-ion electrolyte oxygen sensor determines whether the gas mixture is oxidizing or reducing. A current-operated solid oxygen-ion electrolyte pump and a second oxygen sensor coact to vary the mixture's oxidizing or reducing characteristics. Measurements of voltages, current and either gas flow in continuous analysis or time in batch analysis permit accurate determination of the mixture's composition.

3,514,378
ELECTRO-CHEMICAL METHOD OF PRODUCING THIN METAL FLEXURES
Ralph E. MacDougall and Melvin E. Lindell, Los Angeles, Calif., assignors to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Sept. 8, 1967, Ser. No. 666,391
Int. Cl. C23b 5/50, 7/00, 17/00, 5/60
U.S. Cl. 204—3 12 Claims

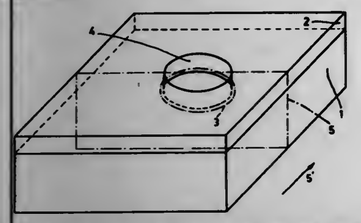


A method or process for producing thin metal flexures, particularly of nickel, bridging a gap between two supporting members, particularly electrically insulating supporting members.

3,514,379
ELECTRODEPOSITION OF METALS ON SELECTED AREAS OF A BASE

Trevor Ross Neill, North Wembley, England, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 4, 1967, Ser. No. 628,492
Claims priority, application Great Britain, Apr. 7, 1966, 15,610/66
Int. Cl. C23b *5/60, 5/66*
U.S. Cl. 204—15 5 Claims



Method of electrodepositing metal on selected areas of a base by electrodepositing on the base in those areas upon which no deposit of the metal is desired a non-plateable metal upon which the first mentioned metal cannot be electrodeposited and then removing the non-plateable metal from the base. Gold may be electrodeposited in selected areas by use of titanium as the non-plateable metal. This abstract is not intended to describe the invention as defined by the claims.

3,514,380
CHROMIUM PLATING FROM A FLUOSILICATE TYPE BATH CONTAINING SODIUM, AMMONIUM AND/OR MAGNESIUM IONS

Henry R. Tuchewicz, Parma Heights, and Thomas P. Malak, Garfield Heights, Ohio, assignors to Kewanee Oil Company, Bryn Mawr, Pa., a corporation of Delaware

No Drawing. Filed Feb. 17, 1967, Ser. No. 616,762
Int. Cl. C23b *5/06*
U.S. Cl. 204—51 4 Claims

This invention comprises the use of certain electroplating bath additives in specific concentrations to improve the covering power when plating chromium from fluosilicate baths. Such fluosilicate baths contain chromium trioxide (200–380 grams per liter), sulfate ions (weight ratio of $CrO_3/SO_4^=$ of between 150 to one to 230 to one) and fluosilicate ion (0.6–5.1 grams per liter). The additives which result in improved covering power and the effective concentrations of each are as follows:

	Grams per liter
Mg^{++}	2–22
Na^+	2–24
NH_4^+	2–20

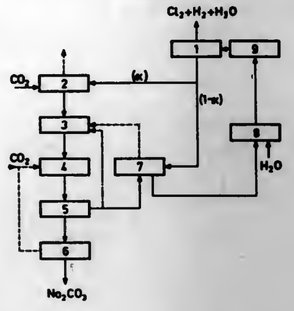
If mixtures of these additives are used, a total of between about 2.0 and 24 grams per liter would be needed. When plating microcracked chromium further addition of selenate ions to such baths increases the extent of microcracked chromium into areas of decreased current density.

3,514,381
CYCLIC PROCESS FOR THE FABRICATION OF SODIUM CARBONATE AND OF CHLORINE

Pierre Degaeis, Woluwe-Saint-Pierre, Belgium, assignor to Solvay & Cie, Brussels, Belgium

Filed Feb. 20, 1967, Ser. No. 617,166
Claims priority, application Belgium, Mar. 1, 1966, 24,662, Patent 677,187
Int. Cl. B01k *1/00*
U.S. Cl. 204—87 9 Claims

A cyclic process for the production of sodium carbonate and chlorine which combines an ammoniac soda producing process and the carbonation of briny caustic alkali solutions and the electrolysis of aqueous sodium chloride in diaphragm-type cells. The briny caustic alkali solution flowing out of the electrolysis cells is divided into two fractions, one of which undergoes a precarbonation prior to being introduced into the soda process at an ammoniac absorption stage, the other is utilized for the recovery of ammoniac from the filtration mother liquors of the soda process.



3,514,382
ELECTROLYTIC PROCESS FOR HEAVY WATER PRODUCTION

William Harmer Stevens, Deep River, Ontario, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada

Filed Jan. 31, 1967, Ser. No. 612,886
Claims priority, application Canada, Feb. 16, 1966, 952,421
Int. Cl. B01k *1/00*; C01b *5/02*; C02b *9/00*
U.S. Cl. 204—101 22 Claims

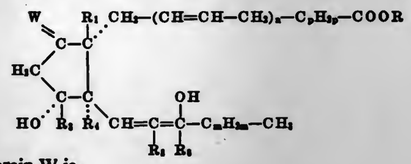
A method of improving the efficiency of electrolytic processes for partially or completely separating deuterium oxide from water involving adding to the water or heavy water being electrolysed a small amount of a substance having one or more π-bonds, which is also polarizable and contains carbon and nitrogen.

3,514,383
PROCESS FOR PREPARING PROSTAGLANDINS AND ANALOGS THEREOF

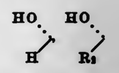
Philip F. Beal III, Kalamazoo, Gunther S. Fonken, Galesburg, and John E. Pike and William P. Schneider, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed June 26, 1967, Ser. No. 648,991
Int. Cl. B01j *1/10*
U.S. Cl. 204—158 11 Claims

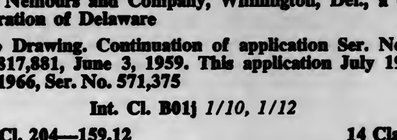
This invention relates to a process for preparing racemic prostaglandins and prostaglandin analogs of the formula



wherein W is



or O═, R is H or hydrocarbyl, R_1, R_2, R_3, R_4, R_5 and R_6 are H or CH_3, m is an integer from 1 to 7, inclusive, n is 0 or 1, and p is an integer from 1 to 7, inclusive, from unsaturated fatty aicds of the formula



wherein R, R_1, R_2, R_3, R_4, R_5, R_6, m, n and p are as given above by oxidation with singlet oxygen to form peroxide intermediates followed by reduction or disproportionation of the peroxide intermediate.

3,514,384
METHOD FOR PREPARING FLUORO-CHLOROPOLYMERS

Henry V. Isaacson, Oak Forest, George A. Uhl, Markham, and David W. Young, Homewood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 1, 1967, Ser. No. 619,581
Int. Cl. B01j *1/10*
U.S. Cl. 204—158 5 Claims

Normally liquid polymers of perfluorochloroethene (e.g. trifluorochloroethylene), vinylidene fluoride and sulfuryl chloride are prepared by exposing a mixture of the aforesaid three monomer components to high energy ionization radiation (e.g. gamma radiation).

3,514,385
PROCESS FOR RADIATION GRAFTING ONTO A PARTIALLY SWOLLEN CELLULOSIC SUBSTRATE

Eugene Edward Magat, Wilmington, Del., and David Tanner, Charlottesville, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 817,881, June 3, 1959. This application July 19, 1966, Ser. No. 571,375
Int. Cl. B01j *1/10, 1/12*
U.S. Cl. 204—159.12 14 Claims

1. Method for beneficially modifying substantially pure cellulosic substrates which comprises first contacting the substrate with an aqueous solution, in a substantitlly neutral pH, of a water-soluble ethylenically unsaturated monomer that is polymerizable in aqueous solution under the influence of a field of ionizing high energy radiation; continuing contact of said substrate with said monomeric solution until the former is at least partially swollen by the latter; then subsequently exposing the cellulosic substrate while it is in contact with the aqueous monomeric solution to a field of ionizing high energy radiation until at least the surface of the substrate has become modified with the saturated reaction product of said monomeric material that has been chemically reacted to provide said reaction product in the presence of and in intimate association with said substrate.

3,514,386
STEREOSELECTIVE ADDITION OF THIOLS TO ACETYLENIC COMPOUNDS

Alexis A. Oswald, Westfield, and Karl Griesbaum, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 298,440, July 29, 1963. This application Dec. 11, 1967, Ser. No. 689,255
Int. Cl. B01j *1/10*; C07c *149/08, 149/36*
U.S. Cl. 204—162 17 Claims

1,2-disubstituted ethylene compounds of predominantly cis- form are secured with a process involving the free radical addition of thiols to a mono-substituted acetylenic compound. The stereochemical course of the addition reaction depends upon the molar ratios of the reactants present in the reaction zone. A minimum of 10 moles of acetylenic reactant per mole of thiol reactant is required in order to secure a product containing at least about 80 mole percent of the cis-monoadduct. The cis-monoadducts exhibit pesticidal activity.

3,514,387
MODIFICATION OF THE PROPERTIES OF CONJUGATED DIENE POLYMERS IN AN ELECTROSTATIC FIELD

Ralph C. Farrar, Bartlesville, Okla., and Rudolf H. Gaeth, Lake Jackson, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

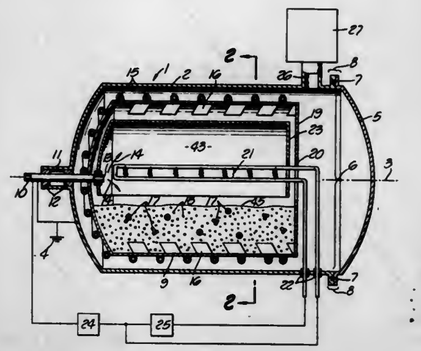
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,149
Int. Cl. C08d *1/14*
U.S. Cl. 204—168 7 Claims

The properties of conjugated diene polymers having an organo alkali metal bond are modified by exposing a polymerization reaction mixture containing the polymers to a static electric field prior to deactivating the organo alkali metal initiator used in polymerization.

3,514,388
ION METAL PLATING OF MULTIPLE PARTS

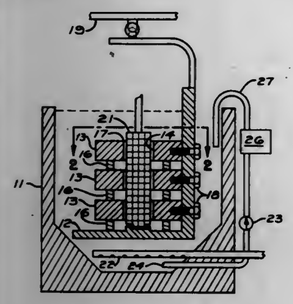
Robert C. Brumfield, Emerald Bay, John T. Naff, Costa Mesa, and Alonzo T. W. Robinson, Huntington Beach, Calif., assignors to Automatic Fire Control Inc., South El Monte, Calif., a corporation of California

Filed Mar. 18, 1968, Ser. No. 713,709
Int. Cl. C23c *15/00*
U.S. Cl. 204—192 8 Claims



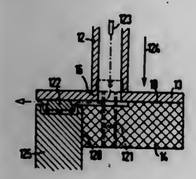
This invention teaches a process and apparatus useful in simultaneously metal plating a large number of metal and non-metal parts with a metal coating by ion metal plating, typically in a low pressure argon atmosphere with a high voltage, abnormal glow discharge, rotating the parts while they are physicaly intermixed with void filling conductive particulates.

3,514,389
APPARATUS FOR PRODUCING A WEAR-RESISTANT SURFACE ON A WORKPIECE
Gerhard Stephan, Heilbronn (Neckar), Heinz Harst, Neckarsulm, Günter Laux, Heilbronn (Neckar), and Alfred Kappes, Neckarsulm, Germany, assignors to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, and Wankel G.m.b.H., Lindau (Bodensee), Germany
Filed Sept. 6, 1968, Ser. No. 758,017
Claims priority, application Germany, Sept. 9, 1967, N 31,221; Dec. 16, 1967, N 31,811
Int. Cl. B01k *3/04*; C23b *5/70, 5/74*
U.S. Cl. 204—237 4 Claims



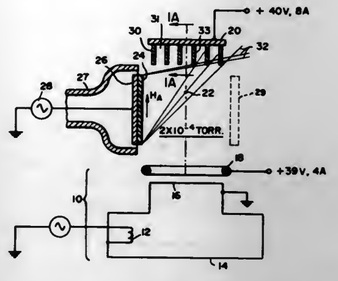
A process and apparatus for galvanic deposition on a workpiece, particularly the inner surface of trochoidal engine housings, of a metal matrix containing dispersed particles, for the purpose of improving wear-resistance of highly stressed surfaces.

3,514,390
ELECTRODE DEVICE FOR ELECTROCHEMICAL FORMING OF UNOBSTRUCTED RECESSES IN METALLIC WORKPIECES
Gustav Stark and Klaus Otto, Nuremburg, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Oct. 2, 1967, Ser. No. 672,150
Int. Cl. B23p *1/00*
U.S. Cl. 204—284 3 Claims



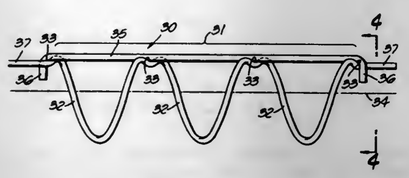
An electrode for electrolytically providing workpieces with recesses free of residual center pins, bridges or the like obstructions, is composed essentially of a shank which carries a fastening flange at one end and the active electrode foot at the other end. The shank is tubular to serve as a duct for supplying the electrolyte during the forming operation. The electrode foot and the workpiece form an intermediate gap traversed by the electrolyte which dissolves material from the cathodically connected workpiece and thus produces a recess whose shape corresponds to that of the electrode foot. The electrode is further equipped with an electrolyte guide structure of electrically non-conducting material which is attached face-to-face to the foot and has a recess communicating with the tubular shank to continuously pass electrolyte through the active gap. The depth of the recess in the advancing direction of the electrode is at least equal to the width of the working gap.

3,514,391
SPUTTERING APPARATUS WITH FINNED ANODE
Marsbed H. Hablanian, Wellesley, Calvin H. Hemeon, East Boston, and Emil C. Muly, Jr., Needham, Mass., assignors to National Research Corporation, Newton Highlands, Mass., a corporation of Massachusetts
Filed May 5, 1967, Ser. No. 636,423
Int. Cl. C23c *15/00*
U.S. Cl. 204—298 4 Claims



A low energy sputtering apparatus is provided with a finned anode to mask parts of the anode from sputtered target material.

3,514,392
ION PLATING ANODE SOURCE
Robert C. Brumfield, Emerald Bay, John T. Naff, Costa Mesa, and Alonzo T. W. Robinson, Huntington Beach, Calif., assignors to Automatic Fire Control Inc., South El Monte, Calif., a corporation of California
Filed Mar. 18, 1968, Ser. No. 713,728
Int. Cl. C23c *15/00*
U.S. Cl. 204—298 1 Claim

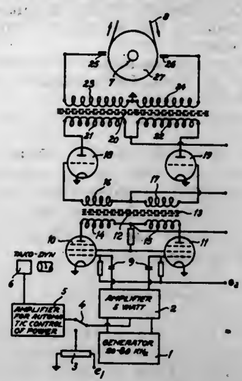


A helical wound coil wire, each wire coil having a cardioid shape, the cleft of each being linearly aligned with the other clefts. The wire coil advantageously is used as an anode filament structure for anode plating metal source for the commercial ion metal plating of metal parts, in a low argon gas pressure, high voltage, abnormal glow discharge.

3,514,393
ELECTRICAL APPARATUS FOR TREATING SURFACES OF WORK PIECES TO IMPROVE THE ADHESION OF PRINTING INKS OR ADHESIVES THERETO
Axel Verner Eisby, Carl Plougsvej 115, Kolding, Denmark
Continuation-in-part of application Ser. No. 572,959, Aug. 17, 1966. This application Apr. 15, 1969, Ser. No. 826,752
Int. Cl. B44d *1/092*
U.S. Cl. 204—312 7 Claims

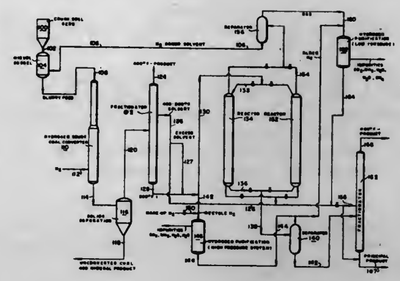
The invention relates to an apparatus for treating plastic work pieces, in general, and foil surfaces, in particular, to improve the adhesion of printing inks to at least one

of the foil surfaces and at which the foil is passed over a counter electrode and is subjected to electric high-



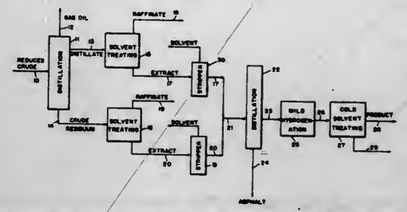
frequency voltages having a frequency of 20–80 kc. transmitted to the foil by means of electrodes directed towards its surface.

3,514,394
CYCLIC PROCESS FOR CONVERTING COAL INTO LIQUID PRODUCTS BY USE OF FIXED CATALYTIC BEDS
Edward L. Wilson, Jr., and Edward F. Wadley, Baytown, Tex., assignors to Esso Research and Engineering Company
Filed Feb. 28, 1968, Ser. No. 709,065
Int. Cl. C10g *1/06*
U.S. Cl. 208—10 10 Claims



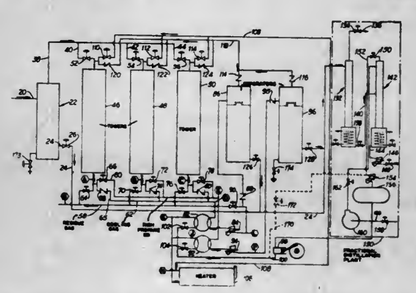
In the hydrogen-donor extraction of coal, which results in a hydrogen-depleted donor solvent and a coal extract, the extract is passed over a fixed catalyst bed in a given direction of flow (e.g., downflow) to obtain the benefits of plugflow through the reaction zone. This results in a deactivation of the catalyst and a deposition of impurities upon the surface of the catalyst which causes a substantial increase in pressure drop across the bed. When the catalyst has been substantially deactivated or the pressure drop has substantially increased, the extract feed is terminated and the depleted donor solvent is passed through the reaction zone in the opposite direction of flow (e.g., upflow) under hydrogenation conditions, whereby occluded solids are backwashed and the catalyst particles are cleansed both by removal of the solids and by solution of deposited tarry materials. After a suitable period of time, the catalyst bed has been cleaned so that catalyst activity will be higher and the pressure drop across the bed will be lower than before the donor solvent had been fed across the bed. At this point in time, the donor solvent is cut out of the reactor and extract is reintroduced into the reactor in the given (e.g., downflow) direction of flow. Preferably, a plurality of reactors are used so the streams may be switched sequentially from one reactor to the other, as the beds become deactivated from the hydrogenation of coal extract.

3,514,395
PROCESS FOR PRODUCING A HIGH AROMATIC, LOW COLOR, UV STABLE PROCESS OIL
Donald R. McVay, Wilmington, Del., and Albert T. Olenzak, Media, and Sheldon L. Thompson, Glen Mills, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed May 29, 1968, Ser. No. 733,095
Int. Cl. C10g *29/00, 23/02*
U.S. Cl. 208—96 14 Claims



A process for forming low color, ultraviolet stable, high aromatic oils wherein a high aromatic base stock is subjected first to a mild hydrogenation process and then to a cold solvent treatment, and the products obtained thereby.

3,514,396
SHORT CYCLE ADSORPTION PROCESS WITH CAPTIVE PROPANE REGENERATION SYSTEM
Alfred O. Fischer, Shreveport, La., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 27, 1967, Ser. No. 678,567
Int. Cl. C10g *5/00*
U.S. Cl. 208—340 5 Claims

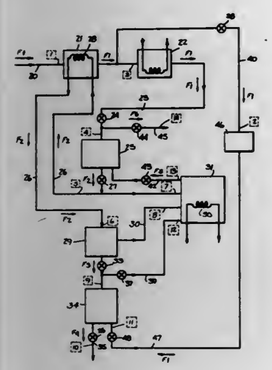


This invention relates to the purging of hydrocarbons from a bed of adsorption material by passing a stream of condensable hydrocarbon such as propane or the like through the bed.

3,514,397
PROCESS UTILIZING ION EXCHANGE FOR DECREASING THE CONCENTRATION OF A SOLUTE
Allen F. Reid, Dallas, Tex. (258 Mill Spring Road, Manhasset, N.Y. 11030), and Albert H. Halff, 3514 Rock Creek Drive, Dallas, Tex. 75204
Filed Mar. 29, 1968, Ser. No. 717,088
Int. Cl. B01d *15/04*
U.S. Cl. 210—28 4 Claims

The process comprises the heating of a solvent with a difficult-to-separate solute and substituting a second

more easily separated solute by ion exchange. The second solute is then precipitated by cooling and separated from the solvent to form a dilute solution of the solvent



and the second solute. The second solute is replaced by the first solute to form a purer solution of the solvent and first solute.

3,514,398

METHOD OF FLOCCULATING AND COAGULATING SUSPENDED SOLID PARTICULATE MATTER IN AN AQUEOUS MEDIUM

Raymond J. Schaper, Pittsburgh, Pa., assignor, by mesne assignments, to Calgon Corporation, a corporation of Delaware

No Drawing. Filed Aug. 27, 1965, Ser. No. 483,322
Int. Cl. B01d 21/01; C02b 1/20
U.S. Cl. 210—54 8 Claims

A method is disclosed of flocculating suspended matter in an aqueous medium by adding thereto a small amount of a copolymer of acrylamide and diallyl amine or quaternary ammonium compound having condensed on the nitrogen thereof through a Michael addition reaction a compound having an activated double bond and an electron-withdrawing (activating) group.

3,514,399

DRILLING FLUIDS CONTAINING IMIDAZOLINE SALTS

James R. Robinson, Nederland, Tex., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 396,366, Sept. 14, 1964. This application Apr. 1, 1969, Ser. No. 812,339
Int. Cl. C10m 3/26
U.S. Cl. 252—8.5 8 Claims

An aqueous drilling fluid characterized by the presence therein of a mixed dimer acid-monocarboxylic acid salt of an imidazoline in an amount sufficient to maintain the stability of the borewall and the borehole, the mixed dimer acid having predominately 36 carbon atoms (i.e. derived from C_{18} acids).

In the preferred embodiment, the salts are prepared from a mixed dimer acid-acetic salt of an imidazoline derived from coconut oil fatty acids and a polyamine of the formula

$$NH_2(CH_2CH_2\overset{H}{N})_{2-4}H$$

or mixtures thereof.

3,514,400

COMPLEX ALUMINUM GREASES OF ENHANCED STABILITY

Bruce W. Hotten, Orinda, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 451,068, Apr. 26, 1965. This application July 24, 1967, Ser. No. 655,350
Int. Cl. C10m 5/14, 5/12, 5/02
U.S. Cl. 252—18 6 Claims

Greases thickened with partially neutralized aluminum mixed carboxylic acid salts having enhanced oxidative and thermal stability, resulting from the addition of alkali metal aroates in combination with zinc oxide. The greases find particular use for lubricating machinery employed in the presence of food.

3,514,401

GREASES CONTAINING HYDROGENATED OLEFIN POLYMER VEHICLE AND ORGANOPHILIC CLAY THICKENER

Eldon L. Armstrong, Mullica Hill, and Richard A. Butcosk, Westmont, N.J., and George W. Murray, Pleasantville, N.Y., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 314,575, Sept. 26, 1963, and Ser. No. 563,376, July 7, 1966. This application May 29, 1968, Ser. No. 732,905
Int. Cl. C10m 1/32
U.S. Cl. 252—28 6 Claims

Improved greases, having wide-temperature utility and good oxidation stability, are provided comprising a hydrogenated olefin polymer vehicle and a grease-forming quantity of a thickening agent comprising an organophilic clay.

3,514,402

SYNTHETIC LUBRICANTS CONTAINING TRIMETHYLOL - ALKANE - DI - ORTHOSILICIC ACID ESTERS

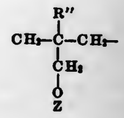
Herbert Göthel, Oberhausen-Sterkrade, and Hans Feichtinger, Dinslaken, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany, a corporation of Germany

No Drawing. Filed Nov. 28, 1967, Ser. No. 686,293
Claims priority, application Germany, Dec. 1, 1966, R 44,696
Int. Cl. C10m 1/52, 3/46
U.S. Cl. 252—49.6 20 Claims

Synthetic lubricant esters of the disilicic acid ester type having the formula

$$(Si—D—A—O—Si)—(OR)_{6-n}(OR')_n$$

wherein A is a polymethylol-carboxylic acid ester of the structural formula:



wherein Z is the ester residue of said carboxylic acid and R'' is hydrogen or a lower alkyl of about 1 to 6 carbon atoms, R is alkyl, R' is diethylene glycol-n-butyl ether residue, R and R' may be the same or different, and n is 0 to 3.

3,514,403

INSULATING COMPOSITIONS OF FIBROUS ALKALI METAL TITANATES AND CARBOXYMETHYL CELLULOSE

Carl Heinrich Muendel, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 562,461, July 5, 1966. This application Apr. 29, 1968, Ser. No. 725,170
Int. Cl. C04b 43/02; E04b 1/76
U.S. Cl. 252—62 7 Claims

An insulation composition comprising fibrous alkali metal titanates and, as a binder, an alkali metal derivative of carboxymethyl cellulose.

3,514,404

PIEZOELECTRIC CERAMIC COMPOSITION

Tsuneo Akashi, Masao Takahashi, and Norio Tsubouchi, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan

Original application Oct. 17, 1966, Ser. No. 587,241. Divided and this application Apr. 15, 1969, Ser. No. 817,273
Claims priority, application Japan, Oct. 19, 1965, 40/64,094; Dec. 15, 1965, 40/76,660, 40/76,661
Int. Cl. H04b 35/00
U.S. Cl. 252—62.9 3 Claims

A piezoelectric ceramic composition of the formula $(Pb_uA_v)(Zr_xTi_ySn_z)O_3$, where A represents at least one member selected from a group consisting of calcium, strontium, and barium and u, v, x, y, and z are given by u=0.75–1.00, v=0.00–0.25, $u+v$=1.00, x=0.00–0.90, y=0.10–0.60, z=0.00–0.65, and $x+y+z$=1.00, characterized in that said ceramic composition contains a set of additional constituents consisting of a nickel compound equivalent in amount to nickel oxide of from 0.02 to 2.0 weight percent and a chromium compound equivalent in amount to a chromium sesquioxide of from 0.01 to 0.50 weight percent, each of said weight percentages being the percentage of the total weight of said ceramic composition.

3,514,405

FERROMAGNETIC SWITCHING CORE OF FERRITE WITH RECTANGULAR HYSTERESIS LOOP AND PROCESS FOR THE PRODUCTION THEREOF

Helmut Rabl, Munich, and Ferdinand Neubauer, Garching, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Aug. 3, 1966, Ser. No. 569,888
Claims priority, application Germany, Aug. 10, 1965, S 98,761
Int. Cl. C04b 35/30
U.S. Cl. 252—62.62 12 Claims

Ferromagnetic switching cores having rectangular hysteresis loops, a remanence inductance of approximately 3 kg., and a coercive field strength of less than 0.75 oe. are produced by a process in which the cores, after sintering, are cooled slowly to a critical turning temperature and then are cooled very rapidly to room temperature in the presence of nitrogen. Additionally, cores which have already been cooled may be heated to a temperature in the critical range and then cooled very rapidly in an oxygen-free atmosphere. The cores are nickel-zinc-cobalt-ferrite cores made up of a composition as follows:

50–55 mol percent Fe_2O_3
24–32 mol percent NiO
5–25 mol percent ZnO
0.5–0.8% by weight CoO.

3,514,406

HALOGENATED BIPHENYLS

Robert H. Boschan and Donald H. Nail, Los Angeles, and James P. Holder, Woodland, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

No Drawing. Continuation of application Ser. No. 493,898, Oct. 7, 1965. This application June 20, 1968, Ser. No. 753,304
Int. Cl. C09k 3/02
U.S. Cl. 252—78 6 Claims

Fire resistant hydraulic fluid and lubricant consisting essentially of a mixture of a phosphate ester, e.g. a triaryl phosphate such as cresyldiphenyl phosphate, and a fluorochlorobiphenyl, e.g. trifluoropentachloro- or difluoropentachloro biphenyl.

3,514,407

CHEMICAL POLISHING OF TITANIUM AND TITANIUM ALLOYS

Leo Missel, Endwell, N.Y., assignor to Lockheed Missiles & Space Company, a division of Lockheed Aircraft Corporation, Sunnyvale, Calif., a corporation of California

No Drawing. Filed Sept. 28, 1966, Ser. No. 583,125
Int. Cl. C23f 3/04, 1/00
U.S. Cl. 252—79.3 2 Claims

Solutions for polishing titanium and titanium alloy surfaces are disclosed. The solutions are mixtures of fluosilicic acid, hydrofluoric acid, nitric acid, acetic acid, and phosphoric acid. Polishing is accomplished by immersing objects made of titanium or titanium alloys in a solution containing the above acids at room temperature or elevated temperatures for periods up to 90 minutes.

3,514,408

COMPOSITION AND METHOD FOR ETCHING PHOTOENGRAVING COPPER PRINTING PLATES

Paul Borth, Park Forest, and Joseph McKeone, Hazelcrest, Ill., assignors to Photo-Engravers Research Institute, Incorporated, Savannah, Ga., a corporation of Georgia

No Drawing. Filed Jan. 26, 1967, Ser. No. 611,798
Int. Cl. C23f 1/02; B41c 1/00
U.S. Cl. 252—79.3 11 Claims

An aqueous composition for use in etching photoengraving copper printing plates containing ferric chloride, a film forming composition and a bifunctional aromatic compound.

3,514,409

COMPOSITION AND METHOD FOR ETCHING PHOTOENGRAVING COPPER PRINTING PLATES

Paul Borth, Park Forest, and Joseph McKeone, Hazelcrest, Ill., assignors to Photo-Engravers Research Institute, Incorporated, Savannah, Ga., a corporation of Georgia

No Drawing. Filed Jan. 26, 1967, Ser. No. 611,797
Int. Cl. C23f 1/02; B41c 1/00
U.S. Cl. 252—79.3 11 Claims

An aqueous composition for use in etching photoengraving copper printing plates containing ferric chloride, a film forming composition and an amide or thioamide of an organic carbocyclic acid as a modifying agent.

3,514,410

PREVENTION OF FERRIC ION CORROSION USING ACID CLEANING SOLUTION CONTAINING HYDROGEN SULFIDE AND AN ALDEHYDE CORROSION INHIBITOR

James P. Engle and Bill R. Keeney, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

No Drawing. Filed July 28, 1967, Ser. No. 656,662
Int. Cl. C02b 5/02, 5/06
U.S. Cl. 252—87 13 Claims

This patent relates to a method of treating ferrous metal

surfaces to remove iron oxide encrustations which comprises contacting the surface with an aqueous solution comprising an acid, a hydrogen sulfide liberating material and an aldehyde-containing corrosion inhibitor.

3,514,411
CORROSION INHIBITOR
Marjan Kolodziejski, Baltimore, Md., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Aug. 17, 1967, Ser. No. 661,462
Int. Cl. C23g 1/06
U.S. Cl. 252—148 9 Claims

A pickling composition for the treatment of ferrous metals consisting of an aqueous inorganic acid, and including a 5-substituted-8-quinolinol as a corrosion inhibitor therein.

3,514,412
PROCESS FOR PREPARING URANIA-PLUTONIA NUCLEAR FUEL
Leonard V. Trigiani, Silver Spring, and Moises G. Sanchez, Severna Park, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Sept. 25, 1967, Ser. No. 670,394
Int. Cl. C09k 3/00
U.S. Cl. 252—301.1 10 Claims

A process for preparing microspheres of urania-plutonia. The microspheres are prepared by impregnating a matrix of urania with a solution containing plutonia. The adsorbed plutonium is precipitated within the urania pores with a suitable material. The impregnated microspheres are then washed, dried and sintered to recover mixed oxide microspheres.

3,514,413
STEAM TREATMENT OF CRYSTALLINE ALUMINOSILICATE CATALYST COMPOSITIONS
Luther J. Reid, Jr., Audubon, N.J., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Feb. 20, 1967, Ser. No. 617,081
Int. Cl. B01j 11/40
U.S. Cl. 252—455 6 Claims

The present invention is concerned with providing a method for preparing selective hydrocarbon conversion crystalline aluminosilicate catalysts combined with a matrix material without steaming the entire composition in admixture. This is accomplished by steaming the crystalline aluminosilicate in admixture with minor amounts of an amorphous siliceous material before its incorporation with the matrix material.

3,514,414
ELECTRICALLY CONDUCTIVE PLATINUM COBALT OXIDES
Robert D. Shannon, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 561,336, June 29, 1966, and Ser. No. 612,775, Jan. 31, 1967. This application Aug. 16, 1968, Ser. No. 753,065
Int. Cl. H01b 1/08; C01g 51/00, 55/00
U.S. Cl. 252—518 9 Claims

Described and claimed are (1) an electrically conductive platinum cobalt oxide having the formula $Pt_xCo_yO_2$ where x and y are 0.85 ± 0.15 and a crystal structure based on the rhombohedral space group $R\bar{3}m$ and (2) the preparation of the same, e.g., at elevated temperature and pressure from Co_3O_4 and PtO_2. The compound, which may be modified slightly with manganese, is useful in electrical resistors and the modification and utility also form aspects of the invention.

3,514,415
AZO POLYMERS AND PREPARATION THEREOF
Frederick J. Karol, Somerset, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 438,740, Mar. 10, 1965. This application Oct. 23, 1965, Ser. No. 504,240
Int. Cl. C08g 33/02, 23/00
U.S. Cl. 260—2 13 Claims

Azo polymers capable of resisting exposure to temperatures in excess of 200° C. have been synthesized by contacting at least one diamine having the general formula:

$$H_2N—Ar—Y—Ar—NH_2$$

wherein Ar is an arylene radical and Y is a divalent organic or inorganic radical, with a cuprous salt in the presence of a liquid tertiary amine in which the diamine and cuprous salt are both soluble.

3,514,416
FOAMABLE COMPOSITIONS
Donald G. Needham, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 600,775, Dec. 12, 1966. This application Mar. 17, 1969, Ser. No. 807,935
Int. Cl. C08c 17/10; C08f 47/10; C08j 1/18
U.S. Cl. 260—2.5 19 Claims

Accelerated foaming agent decomposition in the presence of lake dyes and/or selected metal resinates is negated by having a retardant comprising magnesium stearate and either stearic acid or polyethylene glycol.

3,514,417
ETHYLENE-PROPYLENE INTERPOLYMER RUBBER COMPOSITION COMPRISING A TACKIFIER MIXTURE CONTAINING POLYBUTENE AS ONE COMPOUND AND THE PREPARATION OF TIRES FROM SAID RUBBER COMPOSITION
Frederic W. Bickel, Burbank, and Thomas B. Squire, Santa Monica, Calif., assignors to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
No Drawing. Continuation-in-part of application Ser. No. 196,558, Apr. 16, 1962. This application Oct. 26, 1964, Ser. No. 406,594
Int. Cl. C08d 9/08, 9/12; B60c 7/26
U.S. Cl. 260—27 18 Claims

1. An uncured rubber composition containing an ethylene-propylene rubber containing about 40 to about 60 mole percent ethylene and about 60 to about 40 mole percent propylene, and a tackifier sufficient to impart substantial tackiness to the rubber, said tackifier consisting essentially of a polybutene having a molecular weight range from about 300 to about 3,000 and a resin in the form of a liquid, semi-solid to solid, complex amorphous material insoluble in water and compatible with said polybutene, said resin being selected from the group consisting of resol phenolaldehyde resins, coumarone-indene resins having a molecular weight range from about 500 to about 5,000, terpene resins having a molecular weight range from about 600 to about 6,000, butadiene-styrene resins having a molecular weight range from about 500 to about 5,000, polybutadiene resins having a molecular weight range from about 500 to about 5,000, and hydrocarbon resins produced by catalytic polymerization of petroleum fractions and having a molecular weight range from about 500 to about 5,000, the weight ratio of polybutene to resin in said tackifier being in the range from about 3:1 to about 1:3, and employing about 2.5 to about 50 parts of said tackifier per 100 parts by weight of said ethylenepropylene rubber.

3,514,418
EPOXY ETHERS, THEIR PREPARATION AND CURED PRODUCTS OBTAINED THEREFROM
Carl G. Schwarzer, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 324,621, Nov. 19, 1963. This application July 5, 1968, Ser. No. 742,520
Int. Cl. C08g 5/18, 51/52, 37/14
U.S. Cl. 260—28 12 Claims

The present invention relates to new epoxy ethers, their preparation and cured products obtained therefrom. These new epoxy ethers comprise ethers of epoxy substituted alcohols and polyhydric phenols having at least two methylol groups attached to different aromatic ring carbon atoms, such as, for example, the diglycidyl ether of 2,2-bis(3,5-dimethylol-4-hydroxyphenyl)propane. These new ethers are preferably prepared by reacting the methylolated polyhydric phenol with an epoxy-forming material such as epichlorohydrin in the presence of caustic. Cured products are produced by reacting the above-described new epoxy ethers with epoxy resin curing agents.

3,514,419
CROSS-LINKED VINYL/DICARBOXYLIC ANHYDRIDE COPOLYMERS
Brian Benjamin Darlow, Stevenston, and Alexander Ramsay Maund Gibb, Barassie, Troon, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,535
Claims priority, application Great Britain, Apr. 8, 1965, 14,996/65
Int. Cl. C08f 45/24; C08g 45/04
U.S. Cl. 260—29.6 20 Claims

There is provided a cross-linked alternating copolymer of an alpha-beta unsaturated dicarboxylic anhydride and a vinyl monomer, as well as a process for the preparation thereof and aqueous solutions thickened therewith. The copolymer is water-soluble or water-swellable either per se or in salt form. The copolymer is cross-linked by means of an epoxy compound, which may also be unsaturated, and wherein the equivalents of epoxy groups do not exceed 30 per 100 equivalents of the copolymer. Examples include a maleic anhydride/methyl vinyl ether copolymer cross-linked with styrene oxide.

3,514,420
FLUOROCARBON COMPOUNDS AND POLYMERS THEREOF
Atsuo Katsushima, Fuse-shi, Iwao Hiramoto, Suita-shi, and Shoshin Fukui, Takahisa Kato, and Masayuki Nagai, Osaka-fu, Japan, assignors to Daikin Kogyo Kabushiki Kaisha, Osaka-shi, Japan, a juridical of Japan
No Drawing. Continuation-in-part of application Ser. No. 515,206, Dec. 20, 1965. This application Apr. 11, 1967, Ser. No. 629,910
Claims priority, application Japan, Apr. 15, 1966, 41/23,932
Int. Cl. C07c 69/54; C08f 3/64, 47/18
U.S. Cl. 260—29.6 14 Claims

A fluorocarbon compound having the formula:

$$R_fCH_2CH(CH_2)_nOOC(CH_2)_pCR=CH_2$$
$$\quad\quad\quad

3,514,424

FLAME RETARDANT COMPOSITIONS

Maynard G. Noble, Troy, and James R. Brower, Latham, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Continuation of application Ser. No. 463,898, June 14, 1965. This application May 19, 1969, Ser. No. 830,191

Int. Cl. C08g 51/04; C08k 1/02

U.S. Cl. 260—37 11 Claims

A silicone elastomer stock that exhibits improved flame resistance in the cured state constisting essentially of a silicone elastomer, a filter, and a small amount of a flame retardant material selected from the group consisting of platinum and platinum-containing materials.

3,514,425

COMPOSITIONS COMPRISING SILICA AND COPOLYMERS OF FLUOROETHYLENES WITH ALLYL ALCOHOL

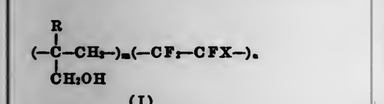
Eugene Hermann Engelhardt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 29, 1966, Ser. No. 583,072

Int. Cl. C08f 45/04

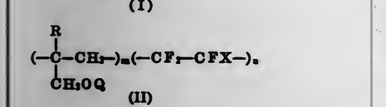
U.S. Cl. 260—41 10 Claims

Described and claimed are copolymers having recurring units of the general formulas



(I)

and



(II)

in which R is H or CH_3, X is F or Cl, Q is lower acyl, and m and n represent the number of parenthetical groups present and are in the ratio m/n of 3/1 to 1/2; and complexes of copolymers of Type I in which m/n is 3/1 to 1/2 and polysilicic acid (silica), the copolymer/silica ratio being 90/10 to 10/90. Copolymers of the first formula, which may be prepared from those of the second, are useful in coating compositions.

3,514,426

PROCESS FOR SUPPRESSING MOLECULAR JUMP

Robert E. Barrett, Baton Rouge, La., assignor to Copolymer Rubber & Chemical Corporation, Baton Rouge, La., a corporation of Louisiana

No Drawing. Continuation-in-part of application Ser. No. 569,802, Aug. 3, 1966. This application Mar. 24, 1969, Ser. No. 809,975

Int. Cl. C08c 11/18; C08f 15/40

U.S. Cl. 260—41.5 7 Claims

In the preparation of sulfur-vulcanizable elastomers by the interpolymerization of ethylene, at least one alpha monoolefin and at least one ethylenically unsaturated monomer containing two or more double bonds and in the presence of a Ziegler type catalyst, the suppression of molecular jump by the admixture of carbon black in amounts of 1–200 parts by weight of carbon black per 100 parts by weight of elastomer.

3,514,427

WIDE TEMPERATURE RANGE MULTIPHASE VISCOELASTIC DAMPING COMPOSITIONS

Francis Scott Owens, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed June 26, 1967, Ser. No. 649,436

Int. Cl. C08d 9/08

U.S. Cl. 260—41.5 4 Claims

This application discloses the discoveries (1) that polymeric composites, having multiple phase transition temperatures, will have high damping characteristics at each phase transition temperature whether such phase transition temperature is the glass transition temperature (Tg) or the crystallization melt temperature (Tm) or any other suitable phase transition temperature; (2) that block polymers of suitable units and also graft polymers of suitable units have multiple phase transition temperatures; and (3) that blends of suitable components which do not react easily with each other and which are not soluble in each other have multiple phase transition temperatures.

Examples of block polymers, graft polymers and blends having useful viscoelastic qualities and tests showing the temperature sensitivity thereof are given.

Such multiphase polymeric compositions have utility for example on aircraft, on missiles, and on compressor blades in jet engines.

3,514,428

ORTHOESTER STABILIZED POLYVINYL-CHLORIDE RESIN

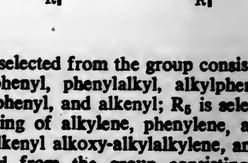
Louis L. Wood, Washington, D.C., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Original application Dec. 12, 1966, Ser. No. 612,066. Divided and this application May 22, 1968, Ser. No. 750,687

Int. Cl. C08f 45/58

U.S. Cl. 260—45.8 8 Claims

Polyvinyl chloride resins are thermally stabilized by the addition of an orthoester having the formula



wherein R is selected from the group consisting of hydrogen, alkyl, phenyl, phenylalkyl, alkylphenyalkyl, halophenyl, nitrophenyl, and alkenyl; R_5 is selected from the group consisting of alkylene, phenylene, alkyl alkylene, alkenylene, alkenyl alkoxy-alkylalkylene, and alkynylene; R_6 is selected from the group consisting of alkylene, alkylalkylene, and alkenylalkoxy alkylalkylene; and n has a value of from 1 to 4. Thermal stability may be further enhanced by the addition of a polyhydric alcohol in a concentration of from 1% to 10%.

3,514,429

PENICILLIN-COUPLED HYDRAZIDE POLYMERS

Mark A. Stahmann, Madison, Wis., and Yasuhisa Ohno, Tokyo, Japan; said Ohno assignor to Teijin Limited, Osaka, Japan, a corporation of Japan

No Drawing. Filed Dec. 12, 1967, Ser. No. 689,799

Claims priority, application Japan, Oct. 14, 1967, 42/65,938

Int. Cl. C08f 27/08

U.S. Cl. 260—80.73 3 Claims

A process for the preparation of a granular resin containing penicilloyl groups by reacting a penicillin with an acid hydrazide derivative derived from a granular co-

polymer consisting of 20–90% by weight of a lower aliphatic ester of acrylic acid, 0–79% by weight of a vinyl monomer and 1–10% by weight of N,N'-mono- or polymethylene-bis-acrylamide.

3,514,430

PHOSPHONIUM HALIDES AS VULCANIZATION ACCELERATORS

Walter Scheele, 14 Diedenhofener Str., and Günter Petry, 31 Alte Celler Heerstrasse, both of Hannover, Germany

Filed July 28, 1967, Ser. No. 656,773

Claims priority, application Germany, July 29, 1966, Sch 39,336

Int. Cl. C08f 27/06; C08c 11/54

U.S. Cl. 260—79.5 6 Claims

A tetrahydrocarbyl phosphonium salt is employed as vulcanization accelerator for elastomers.

3,514,431

PROCESS FOR THE PREPARATION OF CHLOROPRENE TERPOLYMER

Shoichi Izawa, Akihiko Shimizu, Takayuki Kino, Mamoru Narui and Takeshi Hironaka, Yamaguchi, Japan, assignors to Toyo Soda Manufacturing Co., Ltd., Yamaguchi, Japan

No Drawing. Filed Jan. 27, 1969, Ser. No. 794,384

Claims priority, application Japan, Jan. 25, 1968, 43/4,525

Int. Cl. C08d 3/14

U.S. Cl. 260—80.7 1 Claim

Process for producing low temperature-resistant chloroprene-styrene-acrylonitrile terpolymers having good processability and excellent physical properties. A chloroprene-styrene-acrylonitrile terpolymer containing certain definite amounts of each component and illustrating synergistic properties is also claimed.

3,514,432

POST OXIDATION OF CARBOXY-TERMINATED POLYISOOLEFINS

Gilbert W. Burton, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 13, 1967, Ser. No. 675,061

Int. Cl. C08f 27/22, 27/24

U.S. Cl. 260—85.3 10 Claims

Carboxy-terminated polyiso-olefins which have been prepared by ozonolysis in the presence of a pyridine followed by storage or heating in the presence or absence of the pyridine are subjected to a post oxidation step following the heating or storage step to increase the carboxyl functionality.

3,514,433

PROCESS FOR THE PRODUCTION OF ISOTACTIC POLYOLEFINS

Adrien Nicco, Verneuil-en-Halatte, France, assignor to Societe Normande de Matieres Plastiques, Paris, France, a French society

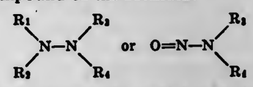
No Drawing. Filed Feb. 3, 1965, Ser. No. 430,215

Claims priority, application France, Feb. 4, 1964, 962,533

Int. Cl. C08f 1/56

U.S. Cl. 260—88.2 10 Claims

Alpha-olefins are polymerized into isotactic polyolefins using catalysts formed from titanium chlorides and alkyl aluminum compounds, the catalyst system including a hydrazine compound of the formula:



in which R_1, R_2, R_3 and R_4, which may be the same or different, are hydrogen, alkyl, hydroxyl, alkoxyl, aryl, cycloalkyl, aryloxy, alkylidene, carbonyl, such as formyl, thiocarbonyl or dialkylaluminium or one of them is a divalent radical, the free valency of which is joined to another hydrazine moiety of the above formula or two of them form a cyclic structure together with the nitrogen atom(s) to which they are attached. The inclusion of the indicated hydrazine compound increases the proportion of highly crystalline polyolefin which is secured under increased polymerization rates.

3,514,434

PROCESS FOR THE POLYMERIZATION OF ALIPHATIC MONO-1-OLEFINS AND CATALYST THEREFOR

Lawrence M. Fodor, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 15, 1965, Ser. No. 432,857

Int. Cl. C08f 1/56

U.S. Cl. 260—93.7 10 Claims

Yield and/or flexural modulus of polyolefins is improved and the xylene-solubles reduced by carrying out the polymerization with a catalyst formed on mixing (a) a preformed complex formed on mixing a compound of the formula AlX_3 and a compound of the formula R_3M, (b) a titanium trichloride-aluminum trichloride complex prepared by the reaction of titanium tetrachloride and aluminum and having the approximate formula

$$TiCl_3 \cdot \tfrac{1}{3}AlCl_3$$

and (c) a compound having the formula $R_yM'X_z$ wherein R in the foregoing formula is selected from the group consisting of alkyl, aryl, cycloalkyl, alkenyl and cycloalkenyl radicals and combinations thereof such as alkaryl, aralkyl, etc., having 1 to 20 carbon atoms, more preferably 1 to 10 carbon atoms, M is a Group V–A element, preferably phosphorus, M' is a Group I–A, II or III–A metal, X is a halogen, preferably chlorine, bromine, or iodine, $y+z$ is equal to the valence of M', y is 1, 2 or 3, and z is 0, 1 or 2 (Periodic System of Lange, Handbook of Chemistry, 8th Edition, pages 56–57).

3,514,435

POLYMERIZATION OF DIVINYL ACETALS

Alan E. Ardis, North Haven, Heinz J. Dietrich, Bethany, Maurice A. Raymond, Northford, and Venkataramaraj S. Urs, Cheshire, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Filed Mar. 6, 1967, Ser. No. 620,662

Int. Cl. C08f 3/38

U.S. Cl. 260—91.1 7 Claims

A process for preparing polydivinyl acetals having molecular weights of from about 5000 to about 500,000 in which the corresponding divinyl acetals are polymerized in the presence of a trialkyl boron compound and oxygen at temperatures ranging from about —100 to about +30° C.

3,514,436

PROCESS FOR POLYMERIZING BUTADIENE AND ISOPRENE WITH HALOARYLLITHIUM INITIATOR

William J. Trepka and Richard J. Sonnenfeld, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Jan. 23, 1968, Ser. No. 699,771

Int. Cl. C08d 3/06, 3/10; C08f 3/16

U.S. Cl. 260—94.2 2 Claims

Preparation of haloaryllithium initiators by reacting a dihalobenzene or dihalonaphthalene with an organolithium compound and elemental halogen or a mixed halogen compound in the presence of a non-aromatic hydrocarbon

diluent, which initiators are useful for the polymerization of isoprene and/or butadiene to produce rubbery polymer.

3,514,437

ISOPRENE POLYMERIZATION

James Neil Henderson, Hudson, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 2, 1967, Ser. No. 613,455
Int. Cl. C08d *3/10*
U.S. Cl. 260—94.3 8 Claims

A method useful for the polymerization of isoprene is disclosed. The method consists of dissolving isoprene in an aliphatic solvent and bringing this mixture into contact with a three component catalyst which comprises a mixture of (a) an organoaluminum halide of the formula $RAlX_2$ where R is a hydrocarbon radical and X is a halogen, (b) a tungsten salt, preferably a halide salt, and (c) a compound of the formula R—Y—H where R is a hydrocarbon or a thiol or hydroxyl substituted hydrocarbon radical or hydrogen and Y is either oxygen or sulfur. When analyzed by infrared techniques, a polyisoprene produced by the method was indicated to have double bonds proportionally of the following types: cis 1,4 about 50%; trans 1,4 about 33%; 3,4 about 14%; and 1,2 about 3%.

3,514,438

ANTITHROMBOGENIC MATERIALS

Harris J. Bixler, Lexington, Robert A. Cross, Waltham, and Lita M. Nelsen, Watertown, Mass., assignors to Amicon Corporation, Lexington, Mass., a corporation of Massachusetts

No Drawing. Filed June 6, 1969, Ser. No. 831,249
Int. Cl. A61l *1/00*; A61b *17/00*
U.S. Cl. 260—95 10 Claims

Process for handling inter vivos blood, which comprises conducting the blood in contact with an antithrombogenic surface formed on an ionically-crosslinked polyelectrolyte complex of a polyanion and a polycation which resin contains an excess of anion groups on the polyanion over cation groups on the polycation.

3,514,439

1:2 HOMOGENEOUS COBALT COMPLEXES OF PHENYL-AZO-PHENOL, PHENYL-AZO-NAPHTHOL OR PHENYL-AZO PYRAZOLONE DYES HAVING BOUND TO THE PHENYL NUCLEUS AN ANILINO OR NAPHTHYLAMINO SUBSTITUENT

Walter Weibel, Riehen, Basel-Stadt, and Heinz Wicki, Allschwil, Basel-Land, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed July 6, 1966, Ser. No. 563,080
Claims priority, application Switzerland, July 6, 1965, 9,456/65
Int. Cl. C09b *45/12*; D06p *1/10*
U.S. Cl. 260—147 8 Claims

1:2 homogeneous cobalt complexes of phenyl-azo-phenyl and phenyl-azo-naphthyl dyes, having bound at the ortho position to one phenyl nucleus either an anilino or a naphthylamino substituent, are useful for dyeing wool, silk, leather, polyamide fibers and natural and regenerated cellulose fibers with good fastness to light, washing, perspiration, gas fumes, acids, alkalis, water, sea water, carbonising, bleaching, milling, rubbing, pressing, stoving and cross dyeing.

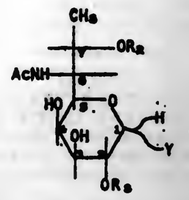
3,514,440

7-EPIMERS OF LINCOMYCIN AND RELATED COMPOUNDS AND PROCESSES FOR MAKING THE SAME

Herman Hoeksema, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 387,776, Aug. 5, 1964, and Ser. No. 463,934, June 14, 1965. This application Jan. 23, 1968, Ser. No. 699,797
Int. Cl. C07c *47/18*
U.S. Cl. 260—210 26 Claims

6 - amino - 6,8-dideoxy-L-threo-D-galacto-octopyranose compounds of the formula



wherein Ac is hydrogen or acyl are prepared from the corresponding 7-epimers (6-amino-6,8-dideoxy-D-erythro-D-galacto-octopyranose compounds) wherein R_2 is hydrogen and Ac is acyl by protecting the 3-O- and 4-O-positions, oxidizing the 7-hydroxy to an oxo group, reducing the 7-oxo-group to a hydroxy group, and removing the 3-O- and 4-O-protection, and, if desired, removing the Ac group and, if desired, replacing it by another acyl group. These compounds are useful as antibacterial agents.

3,514,441

PROCESS FOR PREPARING STEROID-ACYLATES OF A CARDIAC GLYCOSIDE AND PRODUCTS THEREOF

Daisuke Satoh, Nishinomiya-shi, and Tetuo Minesita, Suita-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed June 11, 1968, Ser. No. 736,002
Claims priority, application Japan, June 20, 1967, 42/39,488
Int. Cl. C07c *173/00*
U.S. Cl. 260—210.5 15 Claims

Simple and economical process for preparing steroid-acylates of cardenolide tridigitoxoside by reacting 3'''- or 4'''-crabonate or 3''',4'''-cyclocarbonate with acylating agent, followed by hydrolysis. The compounds of this invention are cardiotonic agent of digitalis-like activity, utilized in medicament of human and veterinary use.

3,514,442

PROCESS FOR MANUFACTURING CERTAIN N-CONTAINING DERIVATIVES OF CELLULOSE

Brazelton Fulkerson and John W. Mench, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New York

No Drawing. Filed July 17, 1967, Ser. No. 653,645
Int. Cl. C08b *3/00*, *11/00*, *13/00*
U.S. Cl. 260—214 3 Claims

In processes involving the reaction of organic nitrogen-containing bases with unsaturated cellulose esters or ethers, it has been discovered that the presence of a small amount of anions from a strong acid in the reaction medium during the reaction significantly increases the rate of the desired reaction.

3,514,443

5-(SUBSTITUTED AMINO-LOWER ALKYLENE)-5,6-DIHYDRODIBENZ[b,f]AZOCINES

Harry Louis Yale, New Brunswick, and Francis A. Sowinski, Edison, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Application Jan. 22, 1965, Ser. No. 432,932, now Patent No. 3,448,102, dated June 3, 1969, which is a division of application Ser. No. 266,011, Mar. 18, 1963. Divided and this application Nov. 29, 1968, Ser. No. 780,166
Int. Cl. C07d *41/00*, *51/70*, *87/38*
U.S. Cl. 260—239 5 Claims

5-(substituted amino-lower alkylene)-5,6-dihydrodibenz[b,f]azocines which are useful as antiallergic, anticholinergic, and analgesic agents.

3,514,444

DIBENZ[b,f]AZOCINES-6-ONES

Harry Louis Yale, New Brunswick, and Francis A. Sowinski, Edison, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Application Jan. 22, 1965, Ser. No. 432,932, now Patent No. 3,448,102, dated June 3, 1969, which is a division of application Ser. No. 266,011, Mar. 18, 1963. Divided and this application Nov. 29, 1968, Ser. No. 780,163
Int. Cl. C07d *41/00*
U.S. Cl. 260—239.3 2 Claims

Dibenz[b,f]azocines-6-ones which are useful in the preparation of various 5-(substituted amino-lower alkyl)-5,6-dihydrodibenz[b,f]azocines. The latter are useful as anti-allergic, anticholinergic and analgesic agents.

3,514,445

1-ACYLATED BENZODIAZEPINE COMPOUNDS

Stanley C. Bell, Philadelphia, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 228,725, Oct. 5, 1962. This application Aug. 13, 1965, Ser. No. 479,667
Int. Cl. C07d *53/06*
U.S. Cl. 260—239.3 11 Claims

This invention relates to novel acylated 3-oxygenated-2H-1,4-benzodiazepin-2-ones having significant psychotherapeutic activity. The compounds of this invention have valuable anti-convulsant, and muscle-relaxing effects. Some of them exhibit sedative effects and some are tranquilizers without being sedatives. These compounds are also intermediates in the production of other pharmacologically active compounds.

3,514,446

LOWER ALKOXYTETRAHYDROPYRANYL ETHERS OF PROGESTATIONAL STEROIDS

Alexander D. Cross, Mexico City, Mexico, and John A. Edwards, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed May 22, 1968, Ser. No. 731,267
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.55 44 Claims

The 4'-(lower)alkoxytetrahydropyran-4'-yl ethers of progestational steroids have high oral activities.

3,514,447

BIS-DIAZIRINES

Robert Fitz Randolph Church, Riverside, Conn., and Martin Joseph Weiss, Oradell, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 30, 1966, Ser. No. 605,983
Int. Cl. C07d *45/00*, *51/34*, *51/70*
U.S. Cl. 260—239 4 Claims

The reaction of 4,4-azoalkanoyl chlorides with hydrazine hydrate, piperazine or 2-aminopyrimidine to produce novel diazirine compounds, is described. The latter compounds are useful as diuretic, hypoglycemic, muscle relaxant or hypotensive agents.

3,514,448

17-OXYGENATED 2-HALO-4-(METHYL/METHYLENE) - 5α - ANDROST - 1 - EN-3-ONES AND PRECURSORS

Ivar Laos, Skokie, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 28, 1966, Ser. No. 561,001
Int. Cl. C07c *173/00*, *169/10*, *169/06*
U.S. Cl. 260—239.55 9 Claims

Preparation of the captioned compounds—for example, 17β - acetoxy - 2 - chloro-4-methylene-5α-androst-1-en-3-one—and their valuable pharmacological properties—including pepsin-inhibiting, anabolic, androgenic, anti-inflammatory, and anti-biotic activities—are disclosed.

3,514,449

PROCESS FOR SEPARATING THE CIS ISOMER FROM A MIXTURE OF CIS AND TRANS N-[3 - (2 - CHLORODIBENZ[b,e]OXEPIN - 11(6H)-YLIDENE)-PROPYL]PIPERAZINE

James R. Tretter, East Lyme, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 16, 1967, Ser. No. 609,345
Int. Cl. C07d *51/70*
U.S. Cl. 260—240 9 Claims

The cis isomer of N-[3-(2-chlorodibenz[b,e]oxepin-11(6H)ylidene)-propyl]piperazine is separated from its admixtures with the trans isomers by dissolving certain acid amine salts of the mixed isomers in aqueous solutions of certain metal or ammonium salts having the same anion as the anion of the oxepin amine salt, and then recovering the less soluble cis salt which crystallizes out.

3,514,450

UNSYMMETRICAL CARBOCYANINES

Emil B. Rauch, Port Dickinson, and John A. Welsh, Binghamton, N.Y., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed July 13, 1965, Ser. No. 471,758
Int. Cl. C09b *23/06*
U.S. Cl. 260—240.6 1 Claim

Unsymmetrical meso oxacarbocyanine dyes suitable for sensitizing silver halide emulsions, containing an o-aryleneoxazole radical, and a method for their preparation by reacting a 2-(beta-halo)-vinyl-3-alkyloxazolium compound with a cyclammonium quaternary salt of an N-heterocyclic compound having a reactive methyl group attached to a carbon atom of the heterocyclic nucleus adjacent the nitrogen atom thereof.

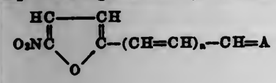
3,514,451

NOVEL 2-SUBSTITUTED 5-NITROFURANS AND A PROCESS FOR THE PREPARATION THEREOF

Kurt T. J. Skagius and Eva B. Akerblom, Uppsala, Sweden, assignors to Pharmacia AB, Uppsala, Sweden, a company of Sweden

No Drawing. Filed Feb. 10, 1967, Ser. No. 615,086
Claims priority, application Sweden, Feb. 14, 1966, 1,830/66
Int. Cl. C07d 91/16, 91/26, 49/30
U.S. Cl. 260—240 16 Claims

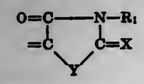
Novel compounds represented by the Formula I



(I)

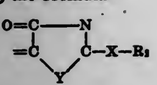
wherein:

n is zero to one;
A is either a radical having the formula



(II)

or a radical having the formula



(III)

wherein:

R_1 and R_2 each represent either an alkyl, containing from 1 to 3 inclusive carbon atoms, or allyl;
X represents either oxygen, sulfur or the radical —NR_4, wherein R_4 is either hydrogen or an alkyl, containing from 1 to 3 inclusive carbon atoms; and
Y represents either sulfur or the radical —NR_3, wherein R_3 represents an alkyl containing from 1 to 3 carbon atoms, and therapeutically acceptable salts thereof. The compounds are valuable medicinal agents.

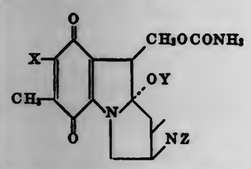
3,514,452

NOVEL DERIVATIVES OF MITOMYCIN A, MITOMYCIN B, AND MITOMYCIN C

Masanao Matsui, Yasuhiro Yamada, Shigetoshi Wakaki, and Keiko Uzu, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed June 3, 1964, Ser. No. 372,213
Claims priority, application Japan, June 7, 1963, 38/29,270; June 19, 1963, 38/30,932, 38/30,933
Int. Cl. C07d; C09b 23/00, 55/00
U.S. Cl. 260—240 1 Claim

A compound of the formula:



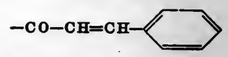
wherein X is selected from the group consisting of OCH_3, NH_2, R_1NH,



and



R_1 being an alkyl group having from 1 to 7 carbon atoms, an aryl group, a cyclohexyl group or $(CH_2)_mOH$ wherein *m* is 2, R_2 and R_3 being an alkyl group having from 1 to 7 carbon atoms or an aryl group and R_4 being $(CH_2)_n$ wherein *n* is an integer from 2 to 5, Y is selected from the group consisting of H and CH_3, except that Y cannot be CH_3 when X is NH_2 and Z is H or CH_3 and Z is selected from the group consisting of H, an alkyl group having from 1 to 4 carbon atoms, an alkanoyl group, a benzoyl group, a nuclear-chlorinated benzoyl group,



and a lower alkyl ester group, except that Z cannot be H or CH_3 when X is NH_2 and Y is CH_3.

3,514,453

1-ARALKYL-3,3-DISUBSTITUTED-2-VINYLENE-3H-INDOLE COMPOUNDS

Sydney M. Spatz, 317 Evans St., and Audley L. Cain, 182 Cindy Drive, both of Amherst, N.Y. 14226

No Drawing. Continuation-in-part of application Ser. No. 539,325, Apr. 1, 1966. This application June 22, 1967, Ser. No. 647,930
Int. Cl. C07d 27/56; C09b 23/14
U.S. Cl. 260—240 11 Claims

Production of substituted indole compounds, having in the 1-position an aralkyl substituent and in the 2-position a vinylene-containing substituent, which are useful for coloring natural and synthetic fabrics, especially poly-acrylonitrile-containing fabrics, which exhibit good light fastness and stability to washing and sublimation.

3,514,454

3-HALOALKYL BENZOTHIADIAZINES

William M. McLamore, Kew Gardens, N.Y., and Gerald D. Laubach, Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Aug. 4, 1959, Ser. No. 831,462, now Patent No. 3,440,244, dated Apr. 22, 1969. Divided and this application Dec. 5, 1967, Ser. No. 703,810
Int. Cl. C07d 93/34
U.S. Cl. 260—243 7 Claims

Novel 3,6-disubstituted-7-sulfamylbenzo-1,1 - dioxo - 1-thia-2,4-diazines, their utility as diuretic agents and 5-substitued-2,4-diazines, their utility as diuretic agents and 5-substituted-2,4-disulfamylacylanilide and 5-substituted-2,4-disulfamylaniline intermediates for the same.

3,514,455

1,3,4-THIADIAZINES AND PRODUCTION THEREOF

Akira Takamizawa, Ibaraki-shi, and Hisao Sato, Takatsuki-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed May 17, 1968, Ser. No. 729,898
Claims priority, application Japan, May 17, 1967, 42/31,299; Sept. 26, 1967, 42/61,863, 42/61,864
Int. Cl. C07d 93/22
U.S. Cl. 260—243 13 Claims

1,3,4-thiadiazine derivatives, produced by reacting a 1,3,4-thiadiazolium compound with a phosphorus compound in the presence of an organic or an inorganic base, have medicinal activities including antipyretic, analgesic, anti-inflammatory and anti-edema properties, and are also useful intermediates.

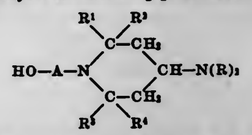
3,514,456

1-HYDROXYALKYL-4-SUBSTITUTED-PIPERIDINES

Michio Nakanishi, Oita, and Tsuneto Kuriyama and Katsuo Arimura, Fukuoka, Japan, assignors to Yoshitomi Pharmaceutical Industries, Ltd., Higashiku, Osaka, Japan

No Drawing. Filed Sept. 28, 1967, Ser. No. 671,235
Claims priority, application Japan, Aug. 7, 1967, 42/50,670
Int. Cl. C07d 29/28, 51/70, 87/40
U.S. Cl. 260—247.5 13 Claims

1-hydroxyalkyl-4-substituted-piperidines of the formula:



wherein A is ethylene, oxydiethylene, propylene, trimethylene, (hydroxymethyl)ethylene, (chloromethyl) ethylene or phenylethylene, —$N(R)_2$ is pyrrolidino, piperidino, morpholino or 4-methyl-1-piperazinyl, and each of R^1, R^2 and R^3 and R^4 is H or methyl, are useful as transquilizers, sedatives or hypnotics.

3,514,457

PROCESS FOR THE PREPARATION OF FLUORINDINE DERIVATIVES

Charles Edward Osborne and Eugene Ransom Shelton, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 504,148, Oct. 23, 1965. This application Feb. 8, 1967, Ser. No. 614,573
Int. Cl. C07d 51/80
U.S. Cl. 260—267 10 Claims

Preparation of 5,12-dialkylfluorindines by reacting an o-phenylenediamine with a p-benzoquinone and subsequently treating the intermediate thus formed with an acid.

3,514,458

SUBSTITUTION OF BENZO- AND PHENYL-GROUPS ON BENZENE AND NUCLEAR SUBSTITUTED BENZENE, THIOPHENE, FURAN, QUINOLINE, PYRIDINE AND LOWER ALKYL NUCLEAR SUBSTITUTED PYRIDINES BY PYROLYSIS THEREOF WITH PHTHALIC ANHYDRIDE

Ellis K. Fields, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 527,067, Feb. 14, 1966. This application June 1, 1967, Ser. No. 642,720
Int. Cl. C07d 33/16
U.S. Cl. 260—283 7 Claims

Benzo- and phenyl-type substituted aromatics are prepared by thermal synthesis resulting from the pyrolysis of a mixture of an intramolecular anhydride of an aromatic polycarboxylic acid and an aromatic compound or a heterocyclic compound aromatic in nature. The benzo- and phenyl substituents are believed to occur from the formation of an aryne from the anhydride, such as benzyne from phthalic anhydride, under pyrolysis conditions. The aryne reacts with the aromatic or heterocyclic aromatic in nature by addition to form the benzo-type substituted derivatives and by insertion to form the phenyl-type substituted derivatives. For example, pyrolysis of a mixture of phthalic anhydride and benzene proceeds through addition of benzyne to benzene to produce naphthalene and through insertion to produce biphenyl. The pyrolysis of a mixture of phthalic anhydride and thiophene proceeds through addition to produce some benzothiophenone but mainly benzothiophenothiophene and benzonaphthothiophene and through insertion to produce the two isomeric phenylthiophenes, i.e., the 2-phenyl- and 3-phenylthiophenes.

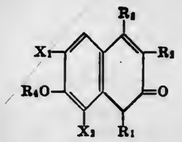
3,514,459

7-HYDROXY-3-AMINOALKYL-2-OXO-1,2-DIHYDROQUINOLINE ESTERS AND ETHERS

Heinrich Ritter, Doraigheim, Kreis Hanau, Rudi Beyerle, Bruchkobel, Kreis Hanau, and Rolf-Eberhard Nitz, Frankfurt am Main, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany

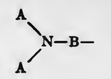
No Drawing. Continuation-in-part of application Ser. No. 584,665, Oct. 6, 1966, which is a continuation-in-part of application Ser. No. 356,318, Mar. 31, 1964. This application June 21, 1968, Ser. No. 738,773
Claims priority, application Germany, Apr. 2, 1963, C 29,545; June 26, 1963, C 30,282
Int. Cl. C07d 33/52
U.S. Cl. 260—287 8 Claims

The present invention relates to derivatives of the 7-hydroxy-2-oxo-1,2-dihydroquinolines found to be particularly suitable for use as coronary artery dilators. Those derivatives found to be particularly useful for this purpose have the formula



wherein

R_1 is selected from the group consisting of hydrogen, methyl and ethyl;
R_2 is selected from the group consisting of β-piperidinoethyl, β-morpholinoethyl, β-pyrrolidinoethyl, β-[N-methyl-piperidyl (2)]-ethyl, β-(pyridyl-2)-ethyl, β-(pyridyl-4)-ethyl and dialkylaminoalkyl having the formula



wherein

A is an alkyl radical that contains no more than 3 carbon atoms and
B is an alkylene radical containing 2–4 carbon atoms;
R_3 is selected from the group consisting of methyl, ethyl, propyl and phenyl;
R_4 is selected from the group consisting of allyl and alkoxycarbonylalkyl having the formula

—D—COO—E

wherein

D is methylene or ethylene and
E is an alkyl radical containing 2–4 carbon atoms
X_1 is hydrogen or bromine and
X_2 is hydrogen, chlorine or bromine.

3,514,460

PROCESS OF DRAWING NUB-FREE POLYAMIDE YARN

Derek Robert Lawrance, Abergavenny, and William Arthur Tompkins, Usk, England, assignors to British Nylon Spinners Limited, Pontypool, England

No Drawing. Filed Dec. 4, 1964, Ser. No. 416,126
Claims priority, application Great Britain, Dec. 17, 1963, 49,867/63
Int. Cl. B29c 17/02; D01d 5/12
U.S. Cl. 264—290 3 Claims

A drawing process for polyamide filaments includes the step of raising the water content of the filaments above

the equilibrium value of the filaments with the ambient atmosphere prior to drawing. This is accomplished by passing the filaments through a humid atmosphere at room temperature.

3,514,461
1,2,5,6-TETRAHYDROPYRIDINE AND 1,2-DIHYDROPYRIDINE DERIVATIVES
Neal F. Albertson, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 405,244, Oct. 20, 1964. This application Sept. 12, 1967, Ser. No. 670,011
Int. Cl. C07d 29/38
U.S. Cl. 260—290 5 Claims

N - methyl - 2 - (1 - naphthylmethyl) - 3 - (hydrogen or lower alkyl) - 4 - (lower alkyl) - 1,2 - dihydropyridines, obtained by interacting 3-(hydrogen or lower alkyl)-4-(lower alkyl)pyridine methiodides with 1-naphthylmethylmagnesium chloride, and their corresponding 1,2,5,6-tetrahydropyridine reduction products are useful as intermediates to certain 1,2,3,4,5,6 - hexahydro - 2,6 - methano-3 - naphth[2,1-f]azocines, and 3 - substituted derivatives thereof which have utility as anticonvulsants and analgesic antagonists.

3,514,462
1 AND 2 ETHOXY 3,4,5,10 - TETRAHYDROAZEPINO[3,4-b] AND [2,3-b]INDOLES AND CORRESPONDING AMINO DERIVATIVES THEREOF
Jackson B. Hester, Jr., Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Oct. 21, 1966, Ser. No. 588,288
Int. Cl. C07d 29/28
U.S. Cl. 260—293 7 Claims

The title ethoxy compounds are produced by reacting the appropriate 3,4,5,10-tetrahydroazepino indole in methylene chloride with triethyloxonium fluoroborate. The ethoxy compounds are reacted with an amine to obtain the amino derivatives useful for normalizing anxiety and depressed mental states in animals.

3,514,463
5,9-DIETHYL BENZOMORPHAN DERIVATIVES
Franklin M. Robinson, Ambler, Paul S. Anderson, North Wales, and James A. Nicholson, Philadelphia, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 551,551, May 20, 1966. This application Apr. 13, 1967, Ser. No. 630,493
Int. Cl. C07d 39/00
U.S. Cl. 260—294.7 6 Claims

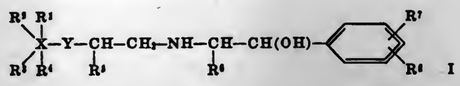
This invention concerns novel 5,9-diethyl-2'-hydroxy-2-substituted-6,7-benzomorphan derivatives and the isomers thereof and processes for the preparation of the same. The novel 5,9-diethyl-2'-hydroxy-2-substituted-6,7-benzomorphan derivatives have analgesic and pain-relieving activity as well as being non-addicting and non-narcotic.

3,514,464
5-OXO-1,2,3,4-TETRAHYDRO-5H-[1]BENZOPYRANO[3,4-c]PYRIDINES
Harry G. Pars, Lexington, Felix E. Granchelli, Arlington, and Rolf K. Raedon, Belmont, Mass., assignors, by mesne assignments, to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
No Drawing. Filed May 29, 1967, Ser. No. 642,223
Int. Cl. C07d 31/34
U.S. Cl. 260—295 7 Claims

A new series of 5 - oxo - 1,2,3,4 - tetrahydro - 5H-[1]benzopyrano[3,4 - c]pyridines used as intermediates in the preparation of 1,2,3,4-tetrahydro-5H[1] - benzopyrano[3,4-c]pyridines and 5H - [1]benzopyranol[3,4-c] piperidines which have C.N.S. and cardiovascular activity.

3,514,465
CERTAIN THIAZOLYL- AND PYRIDINYL-AMINOKETONES
Klaus Posselt, Bergen Enkheim, and Kurt Thiele, Frankfurt am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,138
Claims priority, application Germany, Dec. 30, 1966, D 51,910, D 51,911
Int. Cl. C07d 31/42, 91/32
U.S. Cl. 260—296 8 Claims

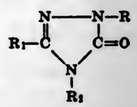
Compounds of the formula



their salts and quaternary ammonium compounds, as well as their optically active isomers or diastereomers wherein R^1 to R^4 represent hydrogen, halogen, lower alkyl, aralkyl, phenyl, hydroxyl, lower alkoxy, nitro or lower carboalkoxy, R^5 and R^6 are hydrogen or methyl, R^7 and R^8 are hydrogen, halogen or lower alkoxy, X is a heterocyclic ring system, mono- or condensed bicyclic, with 1–4 hereto atoms, in which the individual rings have 5 to 6 members and can also contain 1 or more carbonyl groups, Y is —CO— or —CH(OH)—. These compounds have pharmacological activity in that they increase the coronary blood flow by simultaneously causing dilation of the coronaries and an increase in contraction strength.

3,514,466
TRIAZOLONE COMPOUND
Helmut Stähle, Rheinstrasse 168; Karl Heinz Hauptmann, Boehringer Str. 9; Karl Zelle, Taunusstrasse 11; and Peter Danneberg, Am Leuneberg 2, all of Ingelheim am Rhine, Germany
No Drawing. Filed Dec. 14, 1966, Ser. No. 601,570
Claims priority, application Germany, Dec. 15, 1965, B 84,988
Int. Cl. C07d 55/06
U.S. Cl. 260—308 1 Claim

Substitution products of 1,2,4-triazolone-(5) of the formula



wherein

R is selected from the group consisting of lower alkyl, (di-lower alkyl-amino)-lower alkyl and lower carbalkoxy-methyl.

R_1 is selected from the group consisting of hydrogen, lower alkyl, cyclohexyl, phenyl and phenyl-lower alkyl, and

R_2 is selected from the group consisting of lower alkyl, cyclohexyl, phenyl and phenyl having 1 to 2 substituents selected from the group consisting of lower alkyl, lower alkoxy and halogen attached thereto,

useful as sedatives and hypnotics in warm-blooded animals.

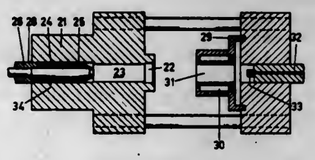
ERRATUM

For Class 264—323 see:
Patent No. 3,514,468

3,514,467
GEL PERMEATION CHROMATOGRAPHY SEPARATION
James J. Zwolenik, Oakland, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Mar. 17, 1967, Ser. No. 623,816
Int. Cl. C09b 47/02
U.S. Cl. 260—314 2 Claims

Separation of chlorophyll from carotenoid pigments in mixtures obtained from natural sources using gel permeation chromatography.

3,514,468
METHOD OF PRODUCING ORIENTED CRYSTALLINE PLASTICS
Martin R. Sutcliffe, Chelsea, Victoria, Ian M. Cavanagh, East Keilor, Victoria, and William D. Toulman, St. Kilda, Victoria, Australia, assignors to Imperial Chemical Industries of Australia and New Zealand Limited, Melbourne, Victoria, Australia, a company of Victoria
Filed Dec. 4, 1967, Ser. No. 687,890
Claims priority, application Australia, Dec. 12, 1966, 15,156/66
Int. Cl. B29d 23/00; B29c 11/00; F42b 7/06
U.S. Cl. 264—323 2 Claims



Crystalline plastic tubes having increased tensile strength are produced by pushing a relatively thicker walled blank through an annular die having a smaller external diameter and a smaller cross-section than the blank. Tubes suitable for use in shotgun cartridges can be produced in this way from high density polyethylene.

3,514,469
PRODUCTION OF SULFOLANE
Jack E. Phillips and Paul D. Haun, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed July 26, 1967, Ser. No. 656,122
Int. Cl. C07d 63/00
U.S. Cl. 260—332.1 10 Claims

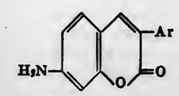
Sulfur dioxide is reacted with a sulfolene precursor compound to form a sulfolene. A metal peroxide is added to oxidize excess sulfur dioxide and either neutralize or precipitate the resulting product. In the preferred embodiment either sodium, potassium or lithium peroxide is used so as to give a soluble sulfate salt with a neutral pH. The sulfolene compound, essentially free of sulfur dioxide, is then hydrogenated to form a sulfolane.

3,514,470
1,3-OXAZETIDIN-2-ONES
Raymond J. Shozda, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 1, 1967, Ser. No. 619,558
Int. Cl. C07d 85/04
U.S. Cl. 260—333 20 Claims

This invention relates to new substituted 1,3-oxazetidin-2-ones, a process for their manufacture from ketones and isocyanates or azides, and their use as cocatalysts in the polymerization of lactams.

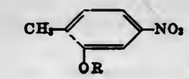
3,514,471
PROCESS FOR THE MANUFACTURE OF 3-PHENYL OR SUBSTITUTED PHENYL-7-AMINO-CUMARINS
Takao Yanagisawa, Izumiohtsu, and Osamu Ketoyeri, Sennan-gun, Japan, assignors to Showa Kagaku Kogyo Kabushiki Kaisha, Kawanishi, Hyogo Prefecture, Japan
No Drawing. Filed May 23, 1968, Ser. No. 731,625
Int. Cl. C07d 7/28
U.S. Cl. 260—343.2 12 Claims

3-phenyl or substituted phenyl-7-amino-cumarins of the formula:

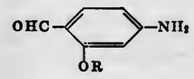


wherein Ar is a phenyl or substituted phenyl group, are made by the following steps,

(1) nitrotoluene derivative of the formula:

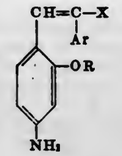


wherein R is a lower alkyl group, is treated with an alkali metal polysulfide such as potassium polysulfide in an alcohol such as methanol or ethanol to make amino benzaldehyde derivative of the formula:



wherein R has the meaning stated before,

(2) the resulting reaction mixture without separating off the amino benzaldehyde derivative is reacted with phenylacetic acid, substituted phenylacetic acid or its derivative to make acrylic acid derivative of the formula:



wherein X is —COOH, —COOR or —CN, R is a lower alkyl group and Ar is a phenyl or substituted phenyl group,

(3) alkoxy group of the acrylic acid derivative thus obtained is hydrolyzed to convert into free hydroxy group, and

(4) the product formed is finally treated in an acidic medium such as acetic acid or sulfuric acid to affect ring closure in order to obtain the desired products.

According to the invention, the desired products which are useful intermediates for the preparation of fluorescent brightening agents are readily obtained in industrial application by using cheap and readily obtainable starting materials.

3,514,472
CERTAIN BIS-(POLYCHLORO-2-HYDROXY-PHENYL)ACETIC ACID LACTONES

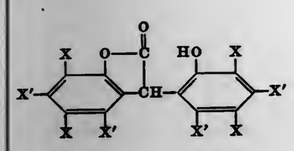
Philip A. Berke, 72 Greenwood Drive, Millburn, N.J. 07041, and William E. Rosen, 86 Canoe Brook Parkway, Summit, N.J. 07901

No Drawing. Original application Oct. 20, 1965, Ser. No. 499,054. Divided and this application June 24, 1969, Ser. No. 844,243

Int. Cl. C07d *5/40*

U.S. Cl. 260—343.3 5 Claims

Lactones of the formula:



wherein X and X' are halogen or hydrogen, exhibit strong antiseptic and disinfectant action against a wide variety of microorganisms. These compounds are, inter alia, effective fungicides.

3,514,473
AMINOHYDROXYALKYL METHACRYLATES

Russell T. McFadden, Freeport, and Russell H. Cramm, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 2, 1967, Ser. No. 657,772

Int. Cl. C07d *87/36, 5/16;* C07c *93/00*

U.S. Cl. 260—347.4 8 Claims

The reaction of glycidyl methacrylate with a secondary amine produce novel 3-amino-2-hydroxyalkyl methacrylate monomers useful in preparing copolymers having improved adhesion and reactive hydroxyl groups for crosslinking, copolymer modification and the like.

3,514,474
PROCESS FOR OXIDIZING SCHIFF BASES OF α,β-ETHYLENICALLY UNSATURATED KETONES

Sudarshan K. Malhotra, Northboro, Mass., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 29, 1968, Ser. No. 748,170

Int. Cl. C07c *167/34*

U.S. Cl. 260—397.2 11 Claims

In the process wherein α,β-ethylenically unsaturated ketones are converted into the corresponding Schiff base whereupon the Schiff base is oxidized with molecular oxygen and the resulting oxidation product hydrolyzed to the corresponding α,δ-diketone or δ-hydroxy-α-ketone; the improvement wherein the oxidation is catalyzed by the presence of a catalytic amount of a ferric salt.

3,514,475
OXIDATION OF THE ENAMINE OF α,β-UNSATURATED KETONES

Sudarshan K. Malhotra, Northboro, Mass., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed July 29, 1968, Ser. No. 748,208

Int. Cl. C07c *167/34*

U.S. Cl. 260—397.2 9 Claims

A process for producing, α,δ-diketones which comprises reacting the enamine of an α,δ-ethylenically unsaturated ketone with molecular oxygen to produce an oxidized enamine intermediate which is thereafter hydrolyzed to the corresponding compound having keto groups at the α and δ positions.

3,514,476
MAKING BASIC ZINC DOUBLE SALTS OF O,O-DIALKYL PHOSPHORODITHIOIC ACIDS

Elichi Morita, St. Albans, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Sept. 28, 1966, Ser. No. 582,520, now Patent No. 3,400,106, dated Sept. 3, 1968. Divided and this application Feb. 12, 1968, Ser. No. 723,049

Int. Cl. C07f *3/06*

U.S. Cl. 260—429.9 4 Claims

An improved method of preparing basic zinc double salt of O,O-dialkyl phosphorodithioic acid from O,O-dialkyl phosphorodithioic acid and excess zinc oxide, the improvement being adding zinc O,O-dialkyl phosphorodithioate to the reaction mixture to increase the yield of the basic zinc double salt.

3,514,477
2-(CYANOAMINOMETHYL)-4,10-DIOXO-1,2,3,4,4a,9,9a,10-OCTAHYDROANTHRACENES

Lloyd H. Conover, Quaker Hill, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application June 17, 1966, Ser. No. 558,267, now Patent No. 3,502,696, dated Mar. 24, 1970. Divided and this application Apr. 3, 1967, Ser. No. 627,852

Int. Cl. A61k *27/00;* C07c *103/19, 121/66*

U.S. Cl. 260—465 6 Claims

A series of 4,10-dioxo-1,2,3,4,4a,9,9a,10-octahydroanthracenes having at the 2-position a formyl, carboxy, carboalkoxy, carbobenzyloxy, carbothioalkyl, carbothiobenzyl chloroformyl, cyanoaminomethyl, or cyanohydroxymethyl group which are useful as intermediates for the synthesis of tetracycline-type antibiotics, as bactericides and/or chelating agents; and methods for their preparation. Tetracyclines are produced by a multistep process beginning with 4,10-dioxo-1,2,3,4,4a,9,9a,10-octahydro-2-anthraldehyde comprising; (1) condensation with acetone cyanohydrin followed by reaction with an amine to give a 2-(cyanoaminomethyl)-4,10-dioxo-1,2,3,4,4a,9,9a,10-octahydroanthracene; (2) hydrolysis of the nitrile to the corresponding 2-(carboxyaminomethyl)-1,2,3,4,4a,9,9a,10-octahydroanthracene; (3) conversion of the acid to a mixed anhydride; (4) acylation of a malonic ester derivative with the mixed anhydride; (5) followed by cyclization of the acyl malonate derivative to a 12a-deoxytetracycline which is then hydroxylated to a tetracycline.

3,514,478
PRODUCTION OF AROMATIC NITRILES FROM N-FORMYLATED PRIMARY AMINO COMPOUNDS IN CONTACT WITH A SILICATE CATALYST

Friedrich Becke, Heidelberg, and Josef Gnad, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Sept. 11, 1967, Ser. No. 666,960

Claims priority, application Germany, Sept. 15, 1966, 1,286,001

Int. Cl. C07c *121/02*

U.S. Cl. 260—465 5 Claims

Production of nitriles by contacting an N-formylated primary aromatic monoamine with a catalyst at elevated temperature wherein said N-formylated monoamine is dissolved in a 2–4 carbon aliphatic nitrile, a 7–9 carbon benzene carboxylic acid nitrile, a formyl compound of a 1–3 carbon primary alkylamine or a formyl compound of a 6–8 carbon primary aromatic monoamine, and supplying the solution to the catalyst zone.

3,514,479
PROCESS FOR PREPARING N,N'-DISUBSTITUTED-N-HYDROXY THIOUREAS

Rudiger D. Haugwitz, New Haven, and Guenter K. Weisse, Northford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Feb. 24, 1969, Ser. No. 801,822

Int. Cl. C07c *153/05*

U.S. Cl. 260—502.6 5 Claims

Selected N,N'-disubstituted-N-hydroxy thioureas are provided by reacting an hydroxylamine having the formula RNHOH wherein R is cycloaliphatic or aryl with carbon disulfide in the presence of a partially water-soluble or water-miscible aprotic solvent at a temperature of about 0° to about 45° C.

3,514,480
PROCESS FOR PRODUCING SULFUR CONTAINING AROMATIC CARBOXYLIC ACIDS

Ellis K. Fields, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Jan. 19, 1967, Ser. No. 610,228

Int. Cl. C07c *149/30, 161/00*

U.S. Cl. 260—516 10 Claims

Novel sulfur-containing compounds are produced when aromatic carboxylic acids are sulfurized by reacting them with sulfur and sulfuric acid at elevated temperatures. The resulting products are useful as pesticides and as extreme pressure lubricating oil additives.

3,514,481
NOVEL β-(SUBSTITUTED AMINO) PROPIOPHENONES

Philip N. Gordon, Old Lyme, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Feb. 1, 1966, Ser. No. 523,925. Divided and this application Feb. 24, 1969, Ser. No. 813,370

Int. Cl. C07c *101/74, 69/14*

U.S. Cl. 260—519 4 Claims

β-(substituted amino) propiophenones are disclosed. The phenyl group may be substituted by alkyl, hydroxy, alkoxy, amine, alkanoyloxy, alkylamino, alkanoylamino, chloro and bromo radicals. The compounds exhibit use as bactericides and as chelating agents.

3,514,482
[3- AND 4-(2-ALKYLIDENEALKANOYL)PHENOXY]-FLUOROACETIC ACIDS

Edward J. Cragoe, Jr., Lansdale, Pa., assignor to Merck & Co. Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 24, 1966, Ser. No. 560,069

Int. Cl. C07c *65/02*

U.S. Cl. 260—521 6 Claims

Relates to [3 and 4-(2-alkylidenealkanoyl)phenoxy]-fluoroacetic acid products wherein the 2-carbon of the alkanoyl moiety may be substituted by trifluoromethyl lower alkyl, cycloalkyl, aryl or aralkyl; and the salts, esters and amide derivatives thereof. The products are obtained via the reaction of a 2-alkylidene-3' (or 4')-hydroxyalkanophenone with an halo substituted fluoroacetic acid ester in the presence of a base to afford a [3 and 4-(2-alkylidenealkanoyl)phenoxy]fluoroacetate which, if desired, may be converted to the corresponding carboxylic acid or its salts or amide derivatives by conventional means. The said products are diuretic and saluretic agents which are useful in the treatment of conditions usually associated with edema.

3,514,483
PROCESS FOR SYNTHESIZING UREA

Eiji Otsuka, Kazumichi Kanai, and Tadao Sakai, Fujisawa, and Shigeru Inoue, Kamakura, Japan, assignors to Mitsui Toatsu Chemicals Incorporated, Tokyo, Japan, a corporation of Japan

Filed Nov. 22, 1966, Ser. No. 596,312

Claims priority, application Japan, Nov. 26, 1965, 40/72,203

Int. Cl. C07c *127/00*

U.S. Cl. 260—555 7 Claims

An improvement in a cyclic process for producing urea wherein ammonia and carbon dioxide are reacted to form an effluent containing urea, water, unreacted ammonia and unreacted carbon dioxide, and wherein the unreacted ammonia and unreacted carbon dioxide are recirculated into the urea synthesis zone, comprising adding to said effluent a compound selected from n-paraffins, n-olefins, substituted n-paraffins and substituted n-olefins thereby forming a crystalline adduct of urea and said compound, separating the crystalline adduct from the effluent, decomposing the separated adduct to release urea and said compound, removing the released urea, removing a portion of the water from the effluent after removal of said adduct and recycling said effluent containing unreacted ammonia, unreacted carbon dioxide and the remaining portion of the water after removal of said adduct and said water to said urea synthesis zone.

3,514,484
METHOD FOR THE DECOMPOSITION OF UREA SYNTHESIS EFFLUENT

Theodore O. Wentworth, Cincinnati, Ohio, assignor, by mesne assignments, to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 345,457, Feb. 17, 1964. This application Aug. 29, 1968, Ser. No. 756,739

Int. Cl. C07c *127/00*

U.S. Cl. 260—555 3 Claims

A two-step method for the decomposition of liquid ammonium carbamate in urea synthesis effluent and the recovery of vaporous ammonia and carbon dioxide formed is shown. The decomposition takes place in two heated zones; in the first liquid and formed vapors pass concurrently while in the second a thin film of liquid containing carbamate undecomposed in the first zone is passed under the influence of gravity over a heated surface and the vapors formed pass countercurrently. All vapors formed in the two zones are removed in a single zone maintained at a common pressure with that of both of the two decomposition zones and located downstream of the first decomposition zone and vertically above the second decomposition zone.

3,514,485
PRODUCTION OF 3-ACETAMIDOTRICYCLO[2.2.1.0^{2,6}]HEPTANE

John R. Norell, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 560,859, June 27, 1966. This application July 31, 1967, Ser. No. 657,019

Int. Cl. C07c *103/34*

U.S. Cl. 260—561 2 Claims

Production of bicyclic and tricyclic amides by the reaction of cycloolefinically unsaturated bicyclic hydrocarbons with a cyanide and hydrogen fluoride upon hydrolysis of the imidoyl fluoride intermediate.

3,514,486

3-ISOPROPYLNORBORNANAMINE

Harold Eugene Hartzler, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed May 23, 1968, Ser. No. 731,627
Int. Cl. C07c 87/40; A61k 27/00
U.S. Cl. 260—563 4 Claims

3-isopropyl-2-norbornanamine is prepared by reacting 3-methyl-1-nitrobutene-1 with cyclopentadiene and reducing the resulting intermediate. This compound and secondary and tertiary amine derivative prepared from the primary amine display significant antihypertensive activity.

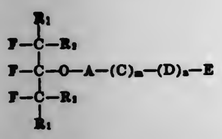
3,514,487

TELOMERS AND PROCESS FOR THE PREPARATION THEREOF

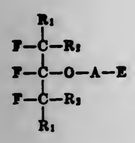
Louis G. Anello, Basking Ridge, Richard F. Sweeney, Dover, and Morton H. Litt, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 25, 1967, Ser. No. 633,359
Int. Cl. C07c 43/00, 43/14
U.S. Cl. 260—614 31 Claims

Novel telomers of the formula



wherein R_1 and R_2 are Cl, F, alkyl, haloalkyl or alkylene and haloalkylene groups forming a cycloaliphatic structure, wherein E is I or Br and wherein C and D are bifunctional groups which may be derived from telomerizable acetylenically or ethylenically unsaturated compounds, and wherein m is an integer from 1–75 and n is an integer from 0–75 are prepared by radical addition reactions of polyhaloisoalkoxyalkyl halide telogens of the formula



or dissimilar lower molecular weight telomers, with telomerizable unsaturated compounds. The telomerization reaction may be initiated by heat or by means of a free-radical initiating catalyst. The telogen starting materials may be prepared by reacting a corresponding halogenated ketone with an ionizable fluoride salt, e.g. CsF, to form a fluorinated organic salt and then reacting the organic salt with a halogen other than fluorine and an olefin. After telomerization the telomers may be stabilized by replacing the E iodine or bromine atom with a chlorine, fluorine or hydrogen atom. The indicated class of telogen starting materials have been found to be unusually reactive and telomerization employing said telogens provides an improved means for obtaining low molecular weight telomers having a desired specific molecular weight range. The novel telomers are useful as insulator and condenser fluids, hydraulic fluids, lubricants, heat transfer media and as intermediates in the preparation of useful surfactants and polyacrylate oil and stain repellent agents.

3,514,488

OLEFIN RECOVERY PROCESS

Curtis E. Uebele, Bedford, Robert K. Grasselli, Garfield Heights, and William C. Nixon, Jr., South Euclid, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 5, 1968, Ser. No. 702,811
Int. Cl. C07c 107/00; C10g 5/02
U.S. Cl. 260—677 7 Claims

Olefinic hydrocarbons such as ethylene are separated from mixtures of same with other materials by absorption on and desorption from a copper complex resulting from the reaction of (1) a copper II salt of a weak ligand such as copper II fluoborate, (2) a carboxylic acid such as acetic acid, and (3) a reducing agent such as metallic copper.

3,514,489

SEC-BUTYL CYCLOHEXANE CARBOXALDEHYDES

Seymour Lemberg, Elizabeth, N.J., assignor to International Flavors & Fragrances, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 5, 1967, Ser. No. 665,225
Int. Cl. C07c 47/28, 47/38
U.S. Cl. 260—598 5 Claims

Novel sec-butyl cyclohexane derivatives including 5-(3-buten - 2 - yl)-3-cyclohexene carboxaldehyde, the corresponding alcohol, and derivatives of these and processes for preparing such materials from methyl heptatriene. These compounds are olfactory agents.

3,514,490

PROCESS FOR THE PRODUCTION OF DIPHENOLS

André Mariard, Lyon, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Mar. 10, 1967, Ser. No. 622,110
Claims priority, application France, Mar. 15, 1966, 53,505, Patent 1,479,354
Int. Cl. C07c 39/08
U.S. Cl. 260—621 3 Claims

Pyrocatechol and hydroquinone are produced by oxidizing phenol with a saturated aliphatic peracid of 1 to 4 carbon atoms, the oxidation being preferably terminated when not more than 30 of the phenol has been oxidized.

3,514,491

DERIVATIVES OF 6-AMINOPENICILLANIC ACID AND OF 7-AMINOCEPHALOSPORANIC ACID

Stephen Hanessian and Gunter R. Schutze, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Oct. 13, 1967, Ser. No. 675,016
Int. Cl. C07d 99/16, 99/24
U.S. Cl. 260—239.1 8 Claims

1a,7b - dihydro - 1H - cyclopropa[a]naphthalene - 1-carboxylic acid derivatives of 6-aminopenicillanic acid and of 7-aminocephalosporanic acid and various methyl, halogen, azido, amino, hydroxy, and methoxy derivatives thereof, and their production by (a) reacting 6-aminopenicillanic acid or 7-aminocephalosporanic acid with an appropriately substituted 1a,7b - dihydro-1H-cyclopropa [a]naphthalene-1-carboxylic acid or a reactive derivative thereof, especially the acid chloride; and (b) catalytically hydrogenating one of the azido derivatives to produce one of the amino derivatives. The compounds exist in both free acid and salt forms, and exhibit anti-bacterial activity, including activity against both penicillin-sensitive and penicillin-resistant strains of staphylococci.

3,514,492

DEHYDROGENATION CATALYST AND A PROCESS FOR DEHYDROGENATING CYCLIC ALCOHOLS AND KETONES

Bernard Jugain, Rueil-Malmaison, Jean Miquel, Paris, and Jean François Le Page, Rueil-Malmaison, France, assignors to Institut Francais du Petrole, Rueil-Malmaison, France

No Drawing. Filed Dec. 28, 1967, Ser. No. 694,104
Claims priority, application France, Jan. 4, 1967, 89,995
Int. Cl. C07c 39/12; B01j 11/40
U.S. Cl. 260—621 14 Claims

A dehydrogenation catalyst useful for dehydrogenating a cyclic alcohol or ketone to the corresponding phenol is prepared by impregnating a silica having a specific surface of 100 to 300 $m.^2/g.$ and a porous volume of 0.7 to 1.3 $cm.^3/g.$ and having a content of 0.4 to 5% by weight, expressed as Na_2O, of at least one alkali metal as a free base, said catalyst containing nickel in an amount of 10–25% of the weight of the catalyst, copper in an amount of 15–50% by weight of the nickel and chromium in an amount of 1–40% by weight of the nickel, with an aqueous solution containing nickel, copper and chromium compounds, subsequently drying the obtained catalyst, roasting the catalyst by heating at a temperature of about 300° to 500° C. and reducing the catalyst under hydrogen at a temperature of about 300° to 500° C.

3,514,493

PROCESS FOR THE DIMERIZATION OF PRIMARY AND SECONDARY ALCOHOLS

Gianfranco Pregaglia and Guglielmo Gregorio, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed May 15, 1967, Ser. No. 638,617
Claims priority, application Italy, May 18, 1966, 11,325/66
Int. Cl. C07c 29/00, 141/04
U.S. Cl. 260—642 9 Claims

Process for dimerization of a non-branched primary alcohol, a secondary alcohol, or mixtures of a non-branched primary alcohol with a primary alcohol branched in the 2-position. Utilizes an alkaline condensing agent and a catalyst that is either a supported metal wherein the metal is Pt, Pd, or Ru, or is Rh (supported or unsupported). Condensation carried out at from about 80 to 300° C., and preferably from about 110 to 160° C.

3,514,494

PURIFICATION OF ALCOHOLS

James T. Gragson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Mar. 22, 1967, Ser. No. 625,013
Int. Cl. C07c 29/24, 69/80
U.S. Cl. 260—643 7 Claims

An alcohol containing conjugated olefin impurities is mixed with a dienophile, heated to allow the conjugated olefin and the dienophile to react in a Diels-Alder type reaction, and separated from the mixture to recover a purified alcohol which, upon esterification produces a substantially colorless ester. One example of a dienophile is maleic anhydride.

3,514,495

PREPARATION OF 4-NITROSTILBENES

William R. Ruby, Rensselaer, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 5, 1968, Ser. No. 742,547
Int. Cl. C07c 79/10, 79/12
U.S. Cl. 260—645 8 Claims

Process for the preparation of 4-nitrostilbenes by reaction of a 4-nitrotoluene with an aromatic aldehyde in the presence of a basic catalyst comprising an alkali metal or alkaline earth metal salt of a phthalimide and potassium carbonate.

3,514,496

2,3-DICHLOROBUTADIENE-1,3 PROCESS

Jean M. Mallan, also known as Jean M. Lomaz, and Edward L. Kay, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Sept. 18, 1967, Ser. No. 668,441
Int. Cl. C07c 21/20
U.S. Cl. 260—655 9 Claims

2,3-dichlorobutadiene-1,3 is produced by reacting meso-1,2,3,4-tetrachlorobutane in molten form with aqueous caustic containing a small amount of cupric chloride or other cupric salt.

The process is usually carried out on a continuous basis, but may be carried out batchwise.

3,514,497

OLEFIN CONVERSION AND CATALYST THEREFOR

William B. Hughes, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 11, 1967, Ser. No. 689,283
Int. Cl. C07c 13/16; B01j 11/82
U.S. Cl. 260—666 9 Claims

Olefin hydrocarbons are converted into other olefinic products by contact with a catalyst system comprising (1) a complex compound of rhodium and (2) a metal or organometal halide.

3,514,498

ANTISTATIC SYNTHETIC RESIN COMPOSITION CONTAINING A POLYETHER - POLYAMIDE BLOCK COPOLYMER WHEREIN AN IONIC FUNCTIONAL GROUP IS MADE TO COEXIST

Kaoru Okazaki, Yoichi Shimokawa, Asaharu Nakagawa, and Kenji Sugii, Nagoya, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Oct. 30, 1967, Ser. No. 679,169
Claims priority, application Japan, Nov. 1, 1966, 41/71,715, 41/71,716; Nov. 29, 1966, 41/77,-715, 41/77,716; Jan. 18, 1967, 42/3,074; Jan. 27, 1967, 42/4,994
Int. Cl. C08g 41/04
U.S. Cl. 260—857 3 Claims

Frictionally chargeable property of a synthetic resin composition consisting of a polyether-polyamide block copolymer blended with other synthetic resin is remarkably improved by coexistence of ionic functional groups in very small amounts which is achieved by either addition of electrolytes or introduction of ionic functional groups into molecules of said synthetic resin composition.

This synthetic resin composition is used for the preparation of fiber, film and shaped articles, and it is especially useful as one component of a composite fiber.

3,514,499

SULFUR VULCANIZABLE CONJUGATED DIENE ELASTOMERS CONTAINING MINOR AMOUNTS OF POLYETHER URETHANES

Charles S. Schollenberger, Hudson, and Floyd D. Stewart, Akron, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,935
Int. Cl. C08g 41/04; C08d 9/10
U.S. Cl. 260—859 8 Claims

Compounds of unsaturated sulfur-vulcanizable elastomers are provided with enhanced cure or vulcanization rates by adding to such compounds a poly(etherurethane) prepared by reacting a poly(alkylene oxide) with a diisocyanate.

3,514,500
POLYMER DISPERSIONS AND DISPERSANTS
Desmond Wilfrid John Osmond, Iver Heath, and Frederick Andrew Waite and Derek John Walbridge, Slough, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed July 30, 1965, Ser. No. 476,201
Claims priority, application Great Britain, Aug. 4, 1964, 31,600/64
Int. Cl. C08f 41/20
U.S. Cl. 260—874 5 Claims

The present invention provides a polymeric substances as stabilizers for dispersions of polymers in organic liquids comprising a polymeric backbone and attached thereto at least five side chains of different polarity to the backbone, the molecular weight ofthe side chains being at least 500 and the weight ratio of the attached side chains to be backbone being from 0.5:1 to 5:1, respectively. The polymeric substance is formed by copolymerizing in solution in an organic solvent an ethylenically unsaturated monomer, which provides the backbone, and a chain-like macro-monomer of molecular weight at least 500 having only one terminal ethylenically unsaturated group per molecule, the macromonomer being of different polarity to the resulting backbone and the weight ratio of the backbone to the total number of solvatable chains attached thereto, which number is at least five, being from 1:0.5 to 1:5.

3,514,501
PROCESS FOR PREPARING BLOCK POLYMERS FROM ALPHA-OLEFINS
Irving Leibson, Wyckoff, and Michael Erchak, Jr., Ridgewood, N.J., assignors to Dart Industries Inc., a corporation of Delaware
Continuation of application Ser. No. 295,926, July 18, 1963. This application Jan. 9, 1967, Ser. No. 629,037
Int. Cl. C08f 15/04
U.S. Cl. 260—878 9 Claims

A block copolymerization process wherein a polypropylene prepolymer is formed in a first reactor, the polypropylene is flashed to a substantially dry powder and this product still containing active catalyst is then introduced into one or more vapor phase reactors where further alpha-olefin monomer(s) is added to form a block copolymer.

3,514,502
ORTHO-METHYL CYCLOPROPYL PHOSPHATES AND PHOSPHONATES
Gerald H. Peterson, 1326 S. Armacost Ave., West Los Angeles, Calif. 90025
No Drawing. Filed May 29, 1967, Ser. No. 642,209
Int. Cl. C07f 9/08, 9/38; C09k 3/00
U.S. Cl. 260—958 13 Claims

This invention relates to chemical compounds which are phosphate esters and phosphonate esters having three organic radicals at least one of which is the ortho-methyl cyclopropyl and the other organic radicals of which are the ortho-methyl cyclopropyl radical, the phenyl radical, or the tolyl radical.

These chemical compounds are useful for thermally stable fire resistant hydraulic fluids, especially for aircraft, either alone or admixed with other additives.

3,514,503
CYCLOBUTYLMETHYL PHOSPHATE AND PHOSPHONATE ESTERS
Gerald H. Peterson, 1326 S. Armacost Ave., West Los Angeles, Calif. 90025
No Drawing. Filed June 16, 1967, Ser. No. 646,472
Int. Cl. C07f 9/08, 9/38; C09k 3/00
U.S. Cl. 260—958 13 Claims

This invention relates to chemical compounds which are phosphate esters and phosphonate esters having three organic radicals at least one of which is the cyclobutylmethyl radical and the other organic radicals of which are the cyclobutylmethyl radical, the phenyl radical, or the tolyl radical.

3,514,504
CYCLOPROPYLMETHYL PHOSPHATE AND PHOSPHONATE ESTERS
Gerald H. Peterson, 1326 S. Armacost Ave., West Los Angeles, Calif. 90025
No Drawing. Filed June 16, 1967, Ser. No. 646,473
Int. Cl. C07f 9/08, 9/38; C09k 3/00
U.S. Cl. 260—958 13 Claims

This invention relates to chemical compounds which are phosphate esters and phosphonate esters having three organic radicals at least one of which is the cyclopropylmethyl radical and the other organic radicals of which are the cyclopropylmethyl radical, the phenyl radical, or the tolyl radical.

These chemical compounds are useful for thermally stable fire resistant hydraulic fluids, especially for aircraft, either alone or admixed with other additives.

3,514,505
METHYLCYCLOPENTYL PHOSPHATE AND PHOSPHONATE ESTERS
Gerald H. Peterson, 11972¾ Idaho, West Los Angeles, Calif. 90025
No Drawing. Filed Aug. 28, 1967, Ser. No. 663,541
Int. Cl. C07f 9/08, 9/38; C09k 3/00
U.S. Cl. 260—958 13 Claims

This invention relates to chemical compounds which are phosphate esters and phosphonate esters having three organic radicals at least one of which is the 1-methylcyclopentyl or the 2-methylcyclopentyl and the other organic radicals of which are the 1-methylcyclopentyl radical, the 2-methylcyclopentyl radical, the phenyl radical, or the tolyl radical.

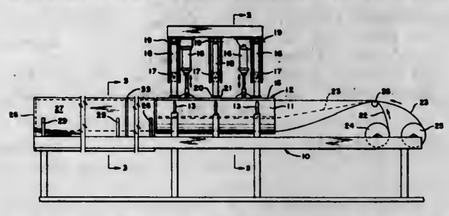
These chemical compounds are useful for thermally stable fire resistant hydraulic fluids, especially for aircraft, either alone or admixed with other additives.

3,514,506
PROCESS FOR PREPARING PHOSPHITE ESTERS
Robert Lee Wright, Nitro, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 13, 1966, Ser. No. 601,354
Int. Cl. C07f 9/08, 9/12
U.S. Cl. 260—976 3 Claims

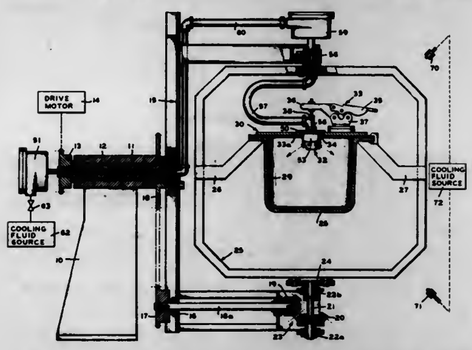
The disclosure is a process wherein phosphite esters are produced with greatly improved hydrolytic stability by blanketing the reactants, process, and product in an atmosphere of dry inert gas.

3,514,507
METHOD FOR PRODUCING MOLDED ARTICLES FROM FOAMED COMPOSITIONS
Adrianus van Dop, deceased, late of Rotterdam, Netherlands, by Wilhelmina Cornelia van Dop, personal representative, Rotterdam, Netherlands, and Marinus J. de Vroome, Rotterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 13, 1967, Ser. No. 647,887
Claims priority, application Netherlands, June 15, 1966, 6608262
Int. Cl. B29d 27/04
U.S. Cl. 264—45 4 Claims

Foamed polyurethane insulation jackets are semi-continuously produced in a open-ended mold wherein foamed polyurethane plugs are inserted into the ends of the opened mold prior to the introduction of the polyurethane reactants. After the polyurethane is foamed, wherein the polyurethane merges with the plugs, the mold is opened and the foamed article advanced so that the rearward end functions as one of the plugs. This procedure is repeated as often as desired to obtain a preselected length.



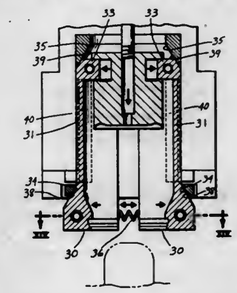
3,514,508
ROTATIONAL MOLDING PROCESS
Stuart Schott and Leroy J. Memering, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Continuation-in-part of application Ser. No. 553,177, May 26, 1966. This application Sept. 14, 1967, Ser. No. 667,763
Int. Cl. B29c 5/04
U.S. Cl. 264—85 10 Claims



A rotational molding process for producing open-ended plastic articles which provides that, during rotation of the mold about orthogonal axes, immediately following adherence of the molten plastic to the mold walls, there is simultaneous cooling of the exterior of the mold and the application of a cooling medium under positive pressure to the interior surface of the molded article. In a preferred embodiment of the invention interior cooling is accomplished by an inert gas which will not degrade the plastic by reaction therewith at the highest temperatures employed during the molding process.

3,514,509
METHOD OF PRODUCING THIN WALLED CONTAINERS OF THERMOFORMABLE PLASTIC
Maurice Hoffer, 16 Plateau de Champel, Geneva, Switzerland; Ernest Ackermann, 14 Avenue de Thonex, Chene-Bourg, Geneva, Switzerland; Jean-Jacques Roissard de Bellet, 21 Chemin de Conches, Conches, Geneva, Switzerland; and André Uldry, 6b Avenue de Thonex, Chene-Bourg, Geneva, Switzerland
Continuation-in-part of application Ser. No. 226,834, Sept. 26, 1962. This application Aug. 29, 1967, Ser. No. 668,126
Claims priority, application Switzerland, Oct. 9, 1961, 11,688/61
Int. Cl. B29c 17/04; B29d 23/03
U.S. Cl. 264—89 5 Claims

A method of thermoforming thin-walled plastic containers by means of a deforming plug having special surface characteristics, operating in conjunction with a controlled reverse flow of gaseous fluid, in order to restrain the plastic material during the forming operation, and thereby produce a container having an optimum material distribution pattern. Container configurations having body portions greater than the die opening may be formed and efficiently released from the die by means of container wall defining segments which are radially movable within the die cavity.



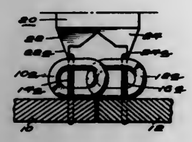
3,514,510
METHOD FOR AGGLOMERATING POLYMER FINES
Alfred A. Hoffman, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,185
Int. Cl. B01j 2/16
U.S. Cl. 264—117 4 Claims

A method for agglomerating polymer fines in a fluidizing bed maintained in the fluid state by introducing into the fluidized bed at least two portions of fluidizing gas wherein one of the portions of fluidizing gas is provided in a minor amount and heated to or above the softening point of the polymer and thereby causing the polymer fines to soften and then agglomerate, while a second portion of the fluidizing gas is maintained at a temperature below the softening point of the polymer.

3,514,511
SLIDE FASTENER MANUFACTURE METHOD
George Waldes, Plandome, N.Y., assignor to Waldes Kohinoor, Inc., Long Island City, N.Y., a corporation of New York
Filed Dec. 30, 1966, Ser. No. 606,142
Int. Cl. B29c 27/06, 27/28; B29d 5/00
U.S. Cl. 264—248 3 Claims

Method of fixing the stitches which secure the thermoplastic coils of continuous plastic-coil slide-fastener chains

to their tapes to prevent them from unloosening when the plastic chain is cut into a plurality of fastener or zipper lengths. A heated tool is used which applies local heat and pressure progressively to points on the top por-



tions of the plastic coils adjacent the crossing-over portions of the stitches, thereby softening and causing limited flow of the plastic material towards said stitches and progressive fixing thereof to the top portions of the plastic coils upon re-hardening of the softened plastic material.

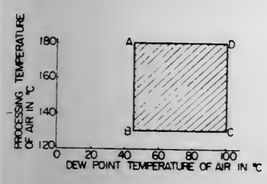
ERRATUM

For Class 264—290 see:
Patent No. 3,514,460

3,514,512
METHOD FOR MANUFACTURING IMPROVED ACRYLONITRILE FILAMENTS

Shigeru Kimuchi, Kaishiro Ueno, Shoji Imao, and Makoto Tanaka, Otake-shi, Japan, assignors to Mitsubishi Rayon Co., Ltd., and Mitsubishi Vonnel Co., Ltd., both of Tokyo, Japan, both companies of Japan

Filed Feb. 7, 1968, Ser. No. 703,690
Claims priority, application Japan, Feb. 9, 1967, 42/8,452
Int. Cl. B29c 25/00
U.S. Cl. 264—342 10 Claims



A method for manufacturing acrylonitrile filaments having improved properties and substantially void-free structure by applying a relaxation treatment upon stretched filaments using humid medium of a definite temperature and humidity while the filaments are still in the swollen condition. The manufactured filaments are provided with superior physical properties, good hand feeling, excellent whiteness and improved apparent transparency caused by the collapse of the voids formed in the filament structure.

3,514,513
DENTIFRICE COMPOSITION CONTAINING ALUMINUM CHLORHYDROXY ALLANTOINATE

Arthur W. Rochstein, Boonton, N.J., assignor to Chemway Corporation, Wayne, N.J., a corporation of Delaware

No Drawing. Filed June 1, 1967, Ser. No. 642,726
Int. Cl. A61k 7/16
U.S. Cl. 424—54 2 Claims

A dentifrice composition effective in the treatment of the condition known as hypersensitive dentin and comprising aluminum chlorhydroxy allantoinate in a conventional dentifrice vehicle is disclosed.

3,514,514
17α-ETHINYL-18-METHYL-19-NORTESTOSTERONE ESTERS

Hans-Günter Lehmann, Heinz Gibian, Rudolf Weichert, and Friedmund Neumann, Berlin, Germany, assignors to Schering Aktiengesellschaft, Berlin, Germany

No Drawing. Filed May 4, 1966, Ser. No. 547,438
Claims priority, application Germany, May 5, 1965, Sch 37,001
Int. Cl. A61k 17/06
U.S. Cl. 424—238 8 Claims

1. A therapeutic compound for inhibiting ovulation comprising as active ingredient a compound selected from the group consisting of a 17-ester of 17α-ethinyl-18-methyl-19-nor-testosterone and a 17α-ethinyl-18-methyl-$\Delta^{3,5}$-estradiene-3,17β-diol-3,17β-diester, wherein the said 17-ester and 3,17β-diester groups are formed from aliphatic carboxylic acids having from 1 to 11 carbon atoms in the ester residue; and a pharmaceutical carrier for said compound.

3,514,515
METHOD OF CONTROLLING CORNS AND CALLOUSES

William H. Woolf, 1617 S. 28th St., Arlington, Va. 22206

No Drawing. Filed May 5, 1967, Ser. No. 636,263
Int. Cl. A61k 27/00; A01n 9/24
U.S. Cl. 424—317 4 Claims

A preparation containing a salt of thioglycolic acid, as the active ingredient, along with an inert vehicle for arresting and eliminating corns and callouses from parts of the human body.

3,514,516
NEMATOCIDAL COMPOSITION AND METHOD CONTAINING DIALKYL AND DIALKENYL N,N'-BIS(SUBSTITUTED CARBAMOYLOXY)DITHIOLOXALIMIDATES

John C. Summers, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 18, 1967, Ser. No. 661,510
Int. Cl. A01n 9/20
U.S. Cl. 424—327 9 Claims

Chemical compounds of the class dialkyl and dialkenyl N,N'-bis(substituted carbamoyloxy)dithioloxalimidates, such as dimethyl N,N'-bis(methylcarbamoyloxy)dithioloxalimidate, useful in preventing the destructive effects of nematodes.

3,514,517
INTRAVAGINAL CONTRACEPTIVE COMPOSITIONS EMPLOYING TERPENYLPHENYL POLYOXYETHYLENE ETHERS

Kazumaro Furuse, Tokyo, and Etsuro Fujiwara, Osaka, Japan, assignors to Eisai Kabushiki-Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,616
Claims priority, application Japan, Sept. 19, 1964, 39/53,291
Int. Cl. A61k 27/00
U.S. Cl. 424—341 6 Claims

This invention relates to intravaginal contraceptive compositions consisting of new terpenylphenyl polyoxyethylene ethers as the active spermicidal agent therein.

The contraceptive compositions of the present invention may be provided in various forms such as in the form of a suppository, a cream, an aqueous gel, a tablet and an aerosol foam. The compositions are characterized by their low toxicity, non-injurious effect on Döderlein bacillus, low hemolytic action on the red cell, excellent emulsifying power, high wettability as well as their high spermicidal activity.

3,514,518
PROCESS FOR PREPARATION OF GELATINOUS MATERIAL FROM ANIMAL COLLAGEN

Pierre Charier-Vadrot, 1 Rte. de Lagnes, Cavaillon, Vaucluse, France

No Drawing. Filed Dec. 19, 1967, Ser. No. 691,726
Int. Cl. A23j 1/10; C08g 1/06; C09h 3/00
U.S. Cl. 424—360 10 Claims

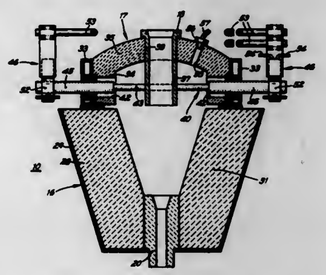
Gelatin and equivalent gelationous products that are cold water soluble and heat resistant are prepared from a source material, such as animal collagen or marine or vegetable colloids, by subjecting the source material, either directly or following a pretreatment, to low temperature freezing followed by lyophilization. The lyophilization may be performed by radiant heating of the product to about 100° C.

ELECTRICAL

3,514,519
HEATED TRANSFER VESSEL FOR MOLTEN METAL CASTING APPARATUS AND METHOD

Eberhard G. Schempp, Glenshaw, and Robert J. Taylor, McKees Rocks, Pa., assignors to Lectromelt Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed Feb. 8, 1968, Ser. No. 703,942
Int. Cl. H05b 3/62; B22d 11/00
U.S. Cl. 13—20 12 Claims

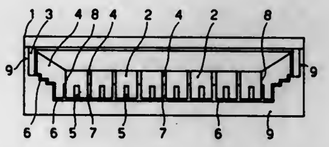


A refractory lined molten metal transfer vessel having at least one upper inlet for receiving molten metal from a ladle and at least one lower nozzle for discharging molten metal into a continuous casting apparatus. Resistance heating means supplies radiant energy to the vessel and the molten metal, and an inlet for inert gas is provided to minimize oxidation of the molten metal and the resistance heating means.

3,514,520
LININGS OF ELECTROLYSIS, REMELTING, AND SIMILAR FURNACES, CONTAINING MOLTEN METALS, ALONE OR TOGETHER WITH MOLTEN SALTS

Roberto Bacchiega, Bolzano, and Giorgio Olah de Garab, Milan, Italy, assignors of seventy percent to Montecatini S.p.A. and thirty percent to Giuseppe de Varda, both of Milan, Italy

Filed Jan. 29, 1968, Ser. No. 701,485
Claims priority, application Italy, Feb. 1, 1967, 12,157-A/67
Int. Cl. F27d 1/00
U.S. Cl. 13—35 23 Claims

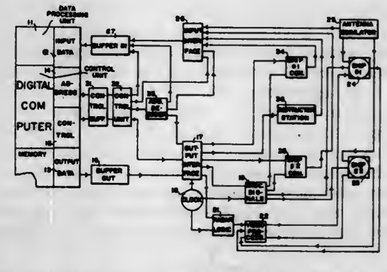


Disclosed are furnaces for molten metal. These furnaces, made of layers of construction material subject to leakage of the molten metal are protected by layers of silicon carbide in an incoherent state, between layers of the construction material.

3,514,521
COLLISION AVOIDANCE RADAR TRAINER

William K. Burchard, Silver Spring, William P. Jameson, Indian Head, and Edward F. Magee, Crofton, Md., assignors to Singer-General Precision, Inc., Binghamton, N.Y., a corporation of Delaware

Filed Sept. 29, 1967, Ser. No. 671,801
Int. Cl. G09b 9/06; G01s 9/00
U.S. Cl. 35—10.4 12 Claims

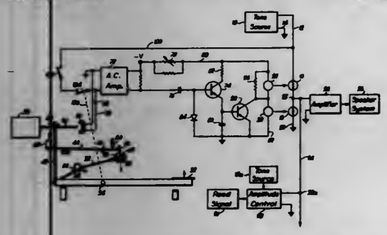


This invention comprises a simulator of radar, or the like, for training purposes. The trainer utilizes a standard radar display device with all of the power supplies, sweep circuits, and other normal control circuits found in such a radar display. The control of the standard display is achieved by means of a digital computer through specially constructed circuitry to cause the Z axis of the cahtode beam in a PPI sweep to be modulated in a manner which creates, on the face of the CRT, a display of the geographical area desired including moving target ships, buoys, etc. The configuration of a harbor is depicted on the display and the harbor outline moves realistically as the simulated ship moves through a mission. Initial information relating to the simulated ship characteristics such as maximum speed, rudder delays, maximum rate of turn, direction and speed of currents, ship position, buoy position, and the like are inserted into the equipment manually by an operator by means of switches which provide discrete inputs. In addition, the trainee has a simulated ship control by means of which he modifies ship speed and heading and which contains numeral displays of ship speed and heading. The display is readily changed from true to relative bearing. As the mission proceeds, the heading and speed of the ship is utilized by the computer to compute the new positions at which the harbor outline, buoys, target ships, and other radar reflective devices are to be depicted. The devices uses a plurality of computer words to define a single sweep radial. When a target is indicated by a pulse in one bit position, the following bit positions are decoded to provide several possible levels of radar intensity for the indicated spot. When no target is indicated, the bit positions contain no pulses. The computer, together with the interface equipment, constructs the plural word definitions of the individual lines as the mission proceeds, with the information for the sweep being updated periodically. The interface equipment contains the conversion circuits which convert the information from the computer form to that required to control the CRT beam.

3,514,522
ORGAN REED PICKUPS WITH CIRCUITRY AND LAMP-PHOTORESISTOR ARRANGEMENT FOR PERCUSSIVE EFFECTS

Charles E. Musselman, 1309 W. 5th, Chanute, Kans. 66720

Continuation-in-part of application Ser. No. 525,200, Feb. 4, 1966. This application Nov. 6, 1967, Ser. No. 687,409
Int. Cl. G10b 3/00; G10h 1/02, 3/06
U.S. Cl. 84—1.18 20 Claims

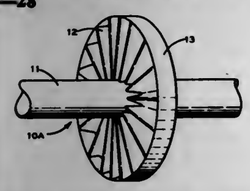


In order to obtain a percussive or piano effect in an electric organ, a vibratory reed is associated with each tone key and is struck when the key is depressed, and thereafter damped when the key is released. A transducer (e.g., electromagentic or photoelectric) converts the mechanical vibration, which will have a decaying amplitude characteristic, into an electrical control signal that imparts its amplitude characteristic to an audio signal delivered by the appropriate tone source to the amplifier and speaker system of the organ. A pair of transistors and a pair of lamps with light dependent resistors are provided between the transducer and the output.

3,514,523
DIELECTRIC SPACER FOR COAXIAL CABLE

Helmut Hildebrand, Langenhagen, and Gerhard Ziemek and Friedrich Schatz, Hannover, Germany, assignors to Kabel- und Metallwerke Gutehoffnungshütte Aktiengesellschaft, Hannover, Germany, a corporation of Germany

Filed May 24, 1968, Ser. No. 731,951
Claims priority, application Germany, May 26, 1967, K 62,372
Int. Cl. H01b 11/18, 13/18
U.S. Cl. 174—28 5 Claims



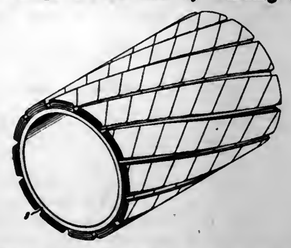
Dielectric spacer means for coaxial cables which are constituted of a minimum amount of dielectric material, of a structure such as to minimize leakage losses, yet provide adequate mechanical load capacity so as to effectively space the inner and outer conductors of the cable.

3,514,524
TRANSPOSED LOW TEMPERATURE STRIP ELECTRIC CABLE

Theodor A. Buchhold, Wiesbaden, Germany, assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 574,777, Aug. 24, 1966. This application Apr. 17, 1968, Ser. No. 722,068
Int. Cl. H01b 11/06
U.S. Cl. 174—34 7 Claims

An apparatus and method for transmitting maximum power at very low temperatures through a cable or conductive strip. Elongated narrow ribbons of thin conductive material are folded to give conductive strips made of several thicknesses of the conductive ribbon material. These strips are formed by winding the ribbons

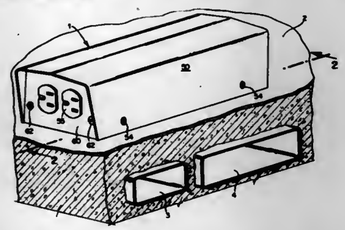


upon a mandrel in a regularly progressing manner to form a helix. This material is then flattened and may be folded to give a transposed, folded strip. This operation may be carried forward several times to give a cable or strip of whatever capacity may be desired.

3,514,525
SINGLE AND DUAL SERVICE FITTINGS

Charles T. Flachbarth, Parkersburg, W. Va., Robert W. Hadfield, Belpre, Ohio, and William H. Harding, Parkersburg, W. Va., assignors to Textron Inc., Providence, R.I., a corporation of Delaware

Filed Oct. 14, 1968, Ser. No. 767,300
Int. Cl. H02g 3/10
U.S. Cl. 174—49 7 Claims

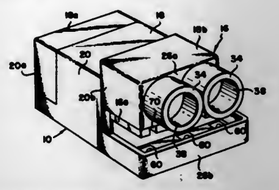


Service fittings for use with electrical underfloor distribution systems to provide for power and/or communication service connections, the fittings of the various types having basic components with corresponding structural characteristics which adapt the same to be fabricated by extrusion techniques and assembled together in the same manner.

3,514,526
SEGMENTED INSULATED WIRING BOX

William O. Arnold, Jr., Parkersburg, W. Va., assignor to Union Insulating Company, Inc., Parkersburg, W. Va., a corporation of West Virginia

Filed June 5, 1968, Ser. No. 734,653
Int. Cl. H02g 3/08
U.S. Cl. 174—53 8 Claims



A sectional molded insulation electrical wiring box including a central body section and interchangeable end

sections each containing access openings of a selected size. By the selection of desired end sections for use with a common central body section, large numbers of electrical box configurations are obtainable in an inexpensive manner with a minimum amount of inventory.

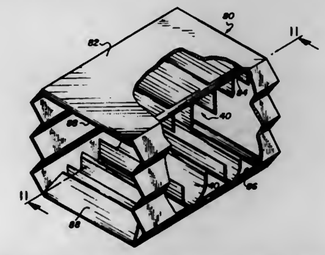
ERRATUM

For Class 174—68.5 see:
Patent No. 3,514,538

3,514,527
INSULATION PIERCING CONNECTOR

Ted L. C. Kuo, Elizabeth, N.J., assignor to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey

Filed Dec. 4, 1967, Ser. No. 687,696
Int. Cl. H02g 15/08; H01r 11/20
U.S. Cl. 174—84 40 Claims

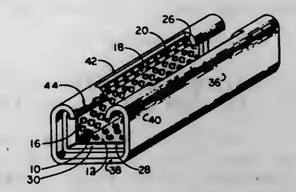


The invention is directed to an insulation piercing connector which is deformable about an insulated conductor to form a good mechanical and electrical connection. The connector has on one or two opposing members a plurality of arcuate shaped channels having their free ends provided with cutting edges. When the connector is subjected to externally applied forces these arcuate channels force their cutting edges through the insulation into the material of the conductor itself and are then deformed in order to trap a portion of the material of the conductor between adjacent arcuate channels and thus assure a good electrical and mechanical connection. The basic structure of the connector may be provided with additional jackets to insure that the connector will remain engaged with the conductor after the removal of the externally applied force and also to provide insulation, if a self-insulating connector is desired. Additionally, strain relief devices are provided in order to prevent destruction of the conductor once the connector has been assembled thereto.

3,514,528
INSULATION PIERCING CONNECTOR FOR WIRES

Jimmy C. Ray, Rte. 2, Box 33, Denison, Tex. 75020

Filed Nov. 13, 1967, Ser. No. 682,364
Int. Cl. H02g 15/08
U.S. Cl. 174—84 4 Claims

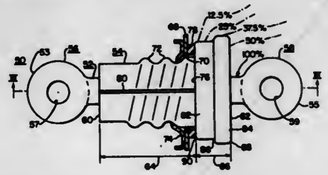


A three-layer connector for wires has a U-shaped configuration in cross section before use. The layers include a resilient metal interior conducting part, a ductile metal intermediate part, and an insulator outer part. Either of the wings of the U may be bent over independently to attach the connector to one or two wires and additional wire may be connected by bending the other wing down. The wings are bent simultaneously in many installations.

3,514,529
ELECTRICAL BUSHING

August I. Keto, Sharpsville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 28, 1969, Ser. No. 828,626
Int. Cl. H01b 17/26
U.S. Cl. 174—153 8 Claims

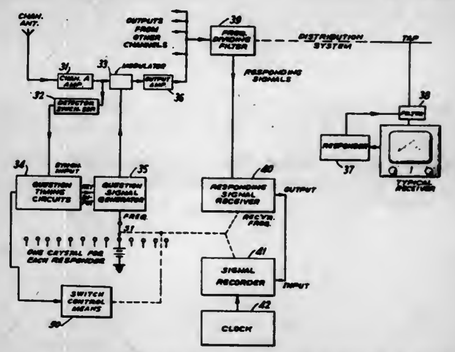


An electrical bushing having first and second portions adapted for mounting inside and outside a casing, respectively. The portion of the bushing adapted for mounting outside the casing has a first cylindrical surface, which starts at the junction between the first and second portions, defining a first predetermined diameter, and a second cylindrical surface which defines a second diameter, larger than the first diameter. The first and second cylindrical surfaces are in adjacent axial relation, with the first and second cylindrical surfaces being joined by a surface which flares smoothly outward from the first cylindrical surface to the second cylindrical surface.

3,514,530
METHOD OF METERING RECEIVERS IN A WIRED TV DISTRIBUTION SYSTEM

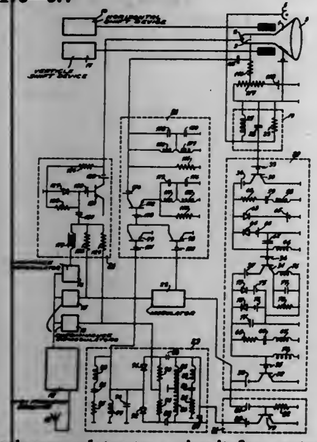
Keneth A. Simons, Bryn Athyn, Pa., assignor to Jerrold Electronics Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Sept. 28, 1967, Ser. No. 671,408
Int. Cl. H04n 7/16, 7/10
U.S. Cl. 178—5.1 16 Claims



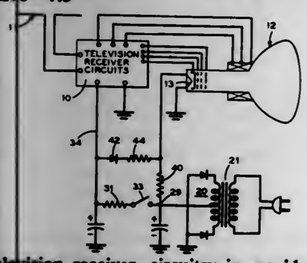
This invention relates to metering receivers in a wired TV distribution system by interrogating each receiver on the video lines and receiving each receiver reply. The interrogation is accomplished by variably modulating each channel frequency at the station on the unused top video lines of a conventional TV receiver. Each TV receiver responds to the modulated channel frequency by transmitting a specific frequency signal which is representative of that particular receiver.

3,514,531
COLOR DISPLAY CRT INDEXING SYSTEM
Roger A. H. Bronnimche, Soire-sur-Sambre, Belgium, assignor to Ateliers de Constructions Electriques de Charlerol (ACEC), Societe Anonyme, Charlerol, Belgium
Filed Sept. 14, 1966, Ser. No. 579,413
Int. Cl. H04n 9/24
U.S. Cl. 178—5.4 3 Claims



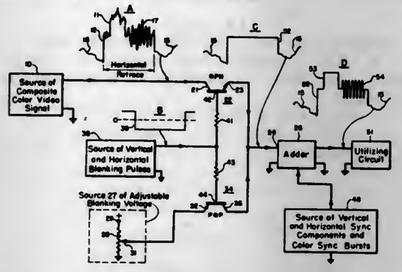
The disclosure relates to a circuit for controlling the intensity of an electronic beam scanning the screen of a receiver tube for color televeision having index bands. This circuit is used with tubes having a screen formed of several identical groups of more than three vertical bands of luminescent materials of three fundamental colors and more particularly with tubes in which, in each group, the bands of one of the fundamental colors is located in each interval between two bands of the other two fundamental colors. This circuit permits to reproduce an image in color by a suitable decomposition of the conventional chrominance and luminance signals in modulating one of the components of the signals with an oscillation cos ωt, a second one of the components of the signals with an oscillation cos $2\omega t$ while the third component is not modulated by a sinusoidal oscillation so that the control of the intensity of the beam is realized by a signal resulting from a simple superposition of these three components. The frequency ω is the frequency of interception of the index bands by the electronic beam.

3,514,532
SUPPLY CIRCUIT FOR PREHEATING THE FILAMENT OF A PICTURE TUBE IN A TELEVISION RECEIVER
Ralph Joseph Ludlam, Benton Harbor, Mich., assignor to Heath Company, St. Joseph, Mich., a corporation of Delaware
Filed Nov. 8, 1967, Ser. No. 681,438
Int. Cl. H04n 5/44; H05b 41/16
U.S. Cl. 178—7.5 5 Claims



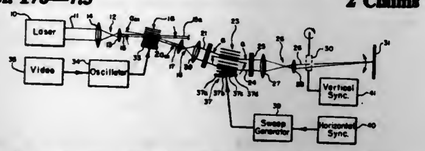
In a television receiver, circuitry is provided for coupling a D.C. supply voltage to the filament of the receiver picture tube to partially energize same when the receiver is turned off and to fully energize the picture tube filament when the receiver is turned on.

3,514,533
VIDEO SIGNAL PROCESSING CIRCUIT
Dirk de Weger, Lombard, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed May 1, 1967, Ser. No. 635,028
Int. Cl. H04n 5/38, 5/44
U.S. Cl. 178—7.1 12 Claims



Blanking components are introduced into a video signal during its retrace intervals, and at the same time unwanted signal variations during those intervals are removed, by rendering conductive in alternation a pair of signal translating channels one of which supplies the video signal to a common load circuit while the other channel applies to the same load circuit a blanking potential at any desired level.

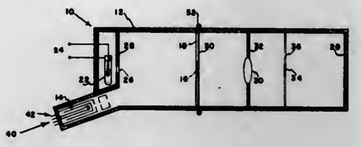
3,514,534
WIDE-APERTURE LASER BEAM MODULATING AND SCANNING SYSTEM
Adrianus Korpel, Prospect Heights, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 9, 1966, Ser. No. 600,430
Int. Cl. H04n 3/10
U.S. Cl. 178—7.5 2 Claims



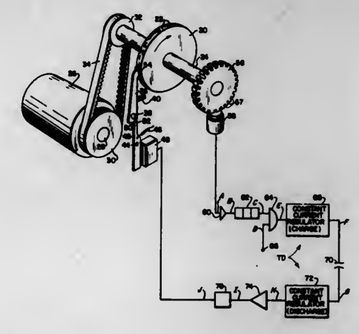
Greatly improved high-frequency response is obtained in a laser TV display system of the type employing Bragg diffraction cells for video modulation and for horizontal deflection, by using a wide-aperture light beam and spacing the scanning cell downbeam from the video modulating cell at an appropriate effective optical distance to image the sound pattern in the modulating cell on the display screen. With this system, spatial coherence is not required in the dimension corresponding to the direction of sound propagation in the modulating cell.

3,514,535
DISPLAY STORAGE TUBE UTILIZING A THERMOPLASTIC FILM FOR RECORDING THE INFORMATION
Wilford L. Steiner, Akron, Ohio, and Friedrich Dinhobel, Ann Arbor, Mich., assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware
Filed Dec. 9, 1966, Ser. No. 600,495
Int. Cl. H04n 5/74, 5/82
U.S. Cl. 178—7.5 4 Claims

An information storage apparatus utilizing the properties of thermoplastic film for storing information and a Schlieren optic system for presenting the stored information as a display which may be used in conventional correlation systems.



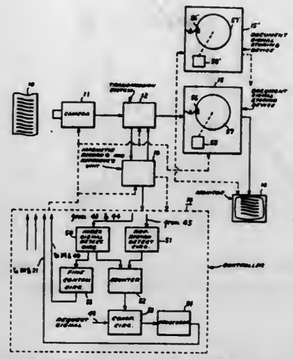
3,514,536
RECORDING METHOD AND DEVICE
John Guzak, Jr., Waukegan, George E. Misthos, Glenview, and Donald J. Stefanik, Berwyn, Ill., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed Oct. 26, 1966, Ser. No. 589,600
Int. Cl. H04l 15/34
U.S. Cl. 178—23 15 Claims



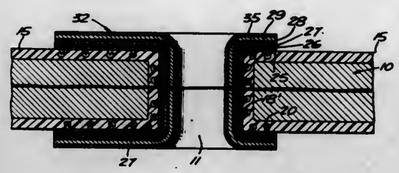
There is disclosed a recorder including first and second recording members, the first recording member being subject to deviations in speed, and a proportional time delay circuit responsive to both an input signal and to a cyclical signal which is proportional to the speed of the first recording member for automatically regulating the time of initiation of the recording member in dependence on the magnitude of speed deviations.

3,514,537
SYSTEM FOR THE MAGNETIC RECORDING OF DATA ON TAPE AND FOR THE SELECTIVE RETRIEVAL OF THE RECORDED DATA
Saburo Uemura, Kanagawa-ken, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Nov. 2, 1966, Ser. No. 591,596
Claims priority, application Japan, Nov. 4, 1965, 40/67,636
Int. Cl. H04n 5/78; G11b 27/32
U.S. Cl. 178—6.6 3 Claims

In a system for reproducing data recorded in tracks on a magnetic tape which are identified by index signals counted from a reference signal at one end or the other of the tape, the index signals are reproduced by two spaced heads during tape movement to provide out-of-phase outputs which can be discriminated as to the direction of tape movement, thereby to control the direction of counting, as well as the count, of a counting device operated by the reproduced index signals. Further, the index signals are of sine-wave configuration and the heads for reproducing the index signals are flux-sensitive to control the operation of a fine adjustment control by which a selected track is accurately aligned with the transducer for reproducing the data recorded therein.



3,514,538
THERMAL DISSIPATING METAL CORE PRINTED CIRCUIT BOARD
Donald H. Chadwick, Northridge, and Ruben T. Apodaca, Inglewood, Calif., assignors to International Electronics Research Corporation, Burbank, Calif., a corporation of California
Filed Nov. 1, 1968, Ser. No. 772,672
Int. Cl. H05k 1/02
U.S. Cl. 174—68.5 8 Claims

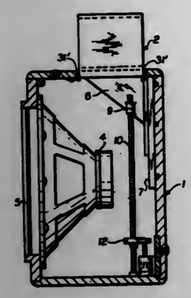


A metal core printed circuit board which includes multiple layers of synthetic plastic resin material on a sheet of metal, and wherein the surface of the plastic material is of such character that it provides an acceptable bond on which are built up sundry layers of different metals, the innermost layer on the plastic surface and the other layers positioned one upon another, ultimately comprising a built up circuit pattern, and wherein areas intermediate the circuit pattern comprise an exposed surface of the resin material.

3,514,539
PORTABLE SOUND SYSTEM
Oliver Jespersen, 1282 Summit Ave., Westfield, N.J. 07092
Filed Feb. 28, 1967, Ser. No. 619,394
Int. Cl. H04r 1/02
U.S. Cl. 179—1 7 Claims

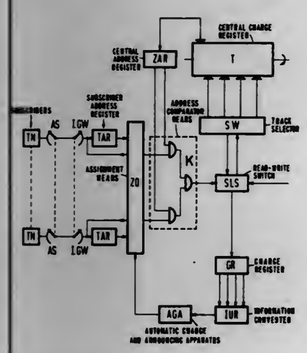
This invention is an improvement in a portable sound

system wherein the amplifying chassis is permanently secured and connected to a speaker, and is carried within



the speaker cabinet when inoperative, but is raised electrically or mechanically when in operation.

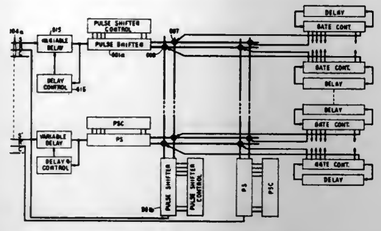
3,514,540
TOLL CHARGE INFORMING APPARATUS
Karl-Heinz Widdel, Krailling, near Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany
Filed Sept. 9, 1965, Ser. No. 486,037
Claims priority, application Germany, Sept. 25, 1964, S 93,350
Int. Cl. H04m *15/10*
U.S. Cl. 179—7 **5 Claims**



Apparatus for informing telephone subscribers of toll charges after a call is completed, in a central charge register system. The central charge register actuates an automatic charge informing apparatus under control of a comparator sensing identity between the address of the subscriber requesting the toll charge and the address of the charge corresponding to that subscriber, in the central charge register.

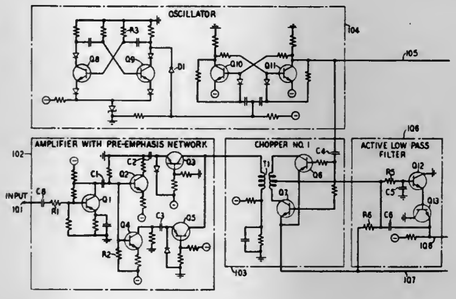
3,514,541
TIME DIVISION SWITCHING SYSTEM
Hiroshi Inose and Tadao Saito, Tokyo, Japan, assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Original application June 7, 1965, Ser. No. 461,791, now Patent No. 3,446,917, dated May 27, 1969. Divided and this application Oct. 30, 1968, Ser. No. 793,627
The portion of the term of the patent subsequent to May 26, 1986, has been disclaimed
Int. Cl. H04j *3/16*
U.S. Cl. 179—15 **15 Claims**

This application is directed to a time division communication system in which a switching network comprising junctor crosspoints and pulse shifting devices transposes information transmitted through the network,



each crosspoint switch being connected between a pair of pulse shifters.

3,514,542
SIGNAL TO NOISE MEASURING IN FREQUENCY MULTIPLEX SYSTEM
Owen J. Farmer, Old Bridge, Madison Township, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Apr. 18, 1968, Ser. No. 722,308
Int. Cl. H04j *1/16*
U.S. Cl. 179—15 **6 Claims**

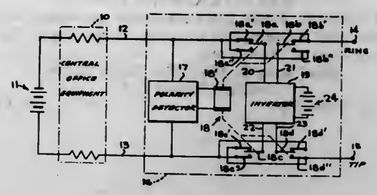


The power in the narrow frequency bands between signal channels, called slots, is measured by multiplying the composite carrier signal with a square wave whose harmonics coincide with the slot center frequencies. The multiplication is provided by a chopper which translates the slot center frequencies down to DC and sums the signals so that the low portion of the frequency spectrum at the output of the chopper represents the total slot power. A preemphasis circuit is inserted in the signal path before the chopper to compensate for the inherent fall-off of slot power with increasing slot frequency at the chopper output. The chopper output is passed through a low-pass filter to eliminate signals arising from the channel spectrums. The slot power, which is normally low and increases with increasing noise level, then operates a threshold circuit when the noise level is excessive.

3,514,543
BATTERY INSERTION APPARATUS FOR EXTENDING LOOP TELEPHONE LINES
Colin T. Rae, Vienna, Va., assignor, by mesne assignments, to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Mar. 29, 1968, Ser. No. 717,354
Int. Cl. H04b *3/00*
U.S. Cl. 179—16 **7 Claims**

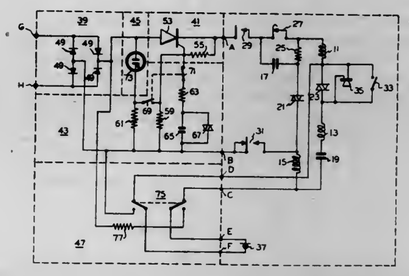
Booster battery insertion apparatus for extending the useful range of central office equipment serving long loop

telephone subscriber lines, including a battery powered inverter circuit for applying equal and isolated booster voltages to the tip and ring lines and a polarity detector



for reversing the polarity of such booster voltages when the polarity of the central office equipment battery is reversed.

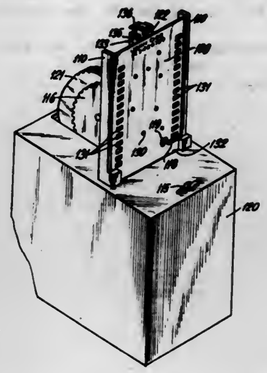
3,514,544
PARTY LINE PRIVACY DEVICE
Charles W. Chambers, Jr., 3204 81st Ave., Hyattsville, Md. 20785
Filed Apr. 21, 1967, Ser. No. 632,603
Int. Cl. H04m *1/00*
U.S. Cl. 179—17 **8 Claims**



This invention uses a silicon controlled rectifier (SCR) to control the use of a party line telephone. Each party line system includes an SCR that is triggered to allow the passage of current to individual telephones when the party line is not in use. When one of the party lines is in use the SCR's on the other lines cannot be triggered thereby preventing the use of the other telephones and precluding eavesdropping.

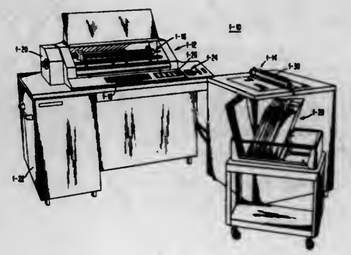
3,514,545
AUTOMATIC TELEPHONE SWITCHING DEVICE
Louis Pontecorvo, 211–13 33rd Ave., Bayside, N.Y. 11361
Filed Apr. 5, 1967, Ser. No. 628,750
Int. Cl. H04
U.S. Cl. 179—18 **15 Claims**

An automatic telephone switching device preferably employed with a card dialer having an encoded card comprising the initiation of a circuit by the signal on one of the service lines of a telephone switched to by-pass the ring signal of the phone, the circuit made through a series of relays to power means which preferably actuates a partially cogged gear into active engagement with a rack to drive the encoded card into the card dialer, means to cut off the incoming signal after redialing by the card dialer, transfer of the incoming call to a second service line and cams on the gears adapted to open switches to cut off the power means after its driving of the card into the re-dialer, the cams further adapted to break the circuit to the power means which



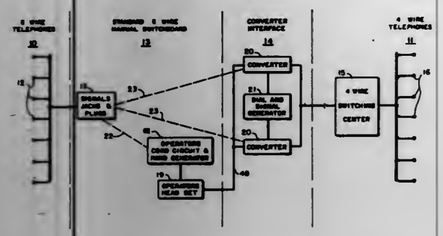
is initiated upon the cessation of the retransmitted call so as to place the device in reset position for subsequent calls.

3,514,546
ELECTRONIC COMPUTING BUSINESS MACHINE
William L. McDonald, Peter J. De George, and Wilson I. Lockett, Lexington, Ky., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 28, 1962, Ser. No. 248,110
Int. Cl. B41j *5/30*
U.S. Cl. 197—19 **13 Claims**



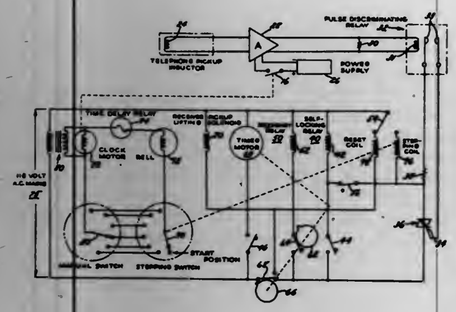
A data processing business machine for preparing various forms on an output printer. Two coordinate tape readers operate in synchronism with the coordinate motion of the printer to provide an output signal representative of the relative position of the printer with respect to the form. The output signal is supplied to a plug wire connector panel to initiate a unique sequence of data processing steps in accordance with the unique relative position sensed. Input information is provided to the data processor from a numeric keyboard, an alphabetic keyboard, and a magnetic ledger card reader. Output information is recorded by a magnetic ledger card recorder, printed by a secondary printer, or printed on the output printer. The operation of the input and output devices as well as the data processing operations preformed on the input data are controlled by the coordinate position of the output printer. The coordinate tape readers are also utilized to control the position of the output printer for printing output information.

3,514,547
MANUAL TWO-TO-FOUR-WIRE TELEPHONE SIGNAL CONVERTER
John F. Faughnan, Neptune, and Joseph D. Vinso, Linden, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Mar. 17, 1967, Ser. No. 624,675
Int. Cl. H04m 7/00
U.S. Cl. 179—27 1 Claim



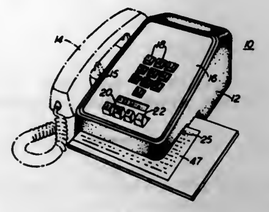
A manual two-to-four-wire telephone converter having send and receive pairs of terminals for connection to a four-wire switching center, a jack for reception of a two-wire circuit plug, and a hybrid coil for passing audio signals between said jack and said send and receive terminals. A pair of detectors connected to said receive terminals operate a logic circuit in response to four-wire control signals applied to said receive terminals. The logic circuit controls a four-wire signal generator and switchboard control signals for applying control signals to the send terminals and for signalling the operator respectively. A manual relay is provided for connecting the jack to the hybrid and for manually controlling the switchboard signals and the four-wire signal generator. The present converter, being small and inexpensive, is capable of being incorporated in and conforming to present manual switchboards, thereby eliminating the need of operators at four-wire centers.

3,514,548
TELEPHONE APPARATUS FOR DISCRIMINATING BETWEEN DESIRED AND UNDESIRED CALLS
Attilio A. De Meo, Brooklyn, N.Y., assignor to Priva-Phone, Inc., Brooklyn, N.Y., a corporation of New York
Filed Apr. 12, 1967, Ser. No. 630,269
Int. Cl. H04m 1/66
U.S. Cl. 179—84 7 Claims



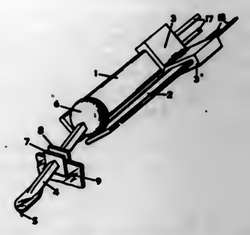
An apparatus is disclosed which enables a telephone to discriminate between desired and undesired incoming calls and to accept or be actuated by only those calls which employ a predetermined supplemental signalling code.

3,514,549
CALL TRANSMITTER
John D. Askew, Atlanta, Ga., assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York
Filed June 1, 1967, Ser. No. 642,866
Int. Cl. H04m 1/51
U.S. Cl. 179—90 2 Claims



The call transmitter operates in conjunction with a data record having information recorded on a magnetic strip extending along one side thereof. The data record when properly inserted in a slot in the call transmitter closes a pair of switches that enable the operation of the call transmitter and when such operation commences, a pair of solenoids are energized that clamp the data record in place. Information is recorded on a magnetic strip by applying current reversals to selected combinations of four record and reproduce heads, and when the magnetic strip is read these magnetization reversals energize selected combinations of four relays to tune two resonant circuits. The resonant circuits are inductively coupled to an oscillator that transmits signals at the frequencies to which the resonant circuits are tuned.

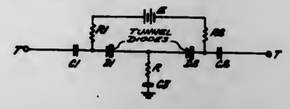
3,514,550
STEREOPHONIC PICK-UPS WITH ANTITORSIONAL COUPLING
Machiel de Vries, De Kempenaerstraat 51, Amsterdam, Netherlands
Filed Nov. 22, 1966, Ser. No. 596,111
Claims priority, application Netherlands, Nov. 25, 1965, 6515316
Int. Cl. H04r 1/18, 17/08
U.S. Cl. 179—100.41 4 Claims



A stereophonic pick-up having two piezo-electric transducer elements cantilever mounted so that their main surfaces form a right angle and a stylus holder one end of which loosely bears against the free end main surfaces of said elements. The stylus holder is simultaneously tangential to the longitudinal axes of symmetry of the

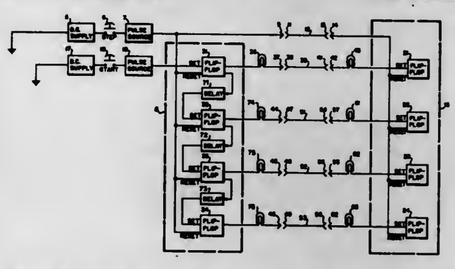
main surfaces so that the elements are driven with only a bending movement.

3,514,551
BIDIRECTIONAL R.F. AMPLIFIER
Nathan Freedman, West Newton, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed May 15, 1968, Ser. No. 729,327
Int. Cl. H04b 3/38; H03f 3/12
U.S. Cl. 179—170 1 Claim



Negative resistance devices are arranged with resistance means in τ and π configurations to provide bidirectional R.F. signal amplification. The invention is primarily directed toward the utilization of Esaki or tunnel diodes. A particular relationship between values of the resistance means and negative resistances of the negative resistance devices provides matched input and output conditions and minimizes the number of diodes required.

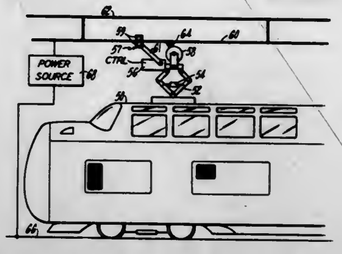
3,514,552
APPARATUS FOR CHECKING THE CONNECTION OF WIRES
Morton M. Smith, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 28, 1967, Ser. No. 650,169
Int. Cl. H04m 3/22
U.S. Cl. 179—175.25 10 Claims



Apparatus for checking the connection of wires between points having two multi-bit, flip-flop registers with corresponding status-indicator lights coupled thereto so that when the registers are coupled to the opposite ends of lines to be tested a pulse or bit can be stepped through one register and its flip-flops so that the corresponding flip-flops in the other register will also be set if the wiring between the registers is correct; and respective status-indicator lights will be lighted in sequence.

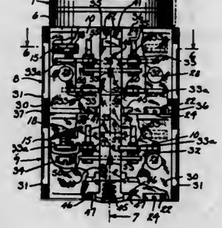
3,514,553
CONTROLLED PLASMA MOVING ELECTRICAL CONNECTOR
Albert W. Penney, Jr., Glastonbury, Robert H. Bullis, West Hartford, and Edward A. Pinsley, Glastonbury, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 1, 1967, Ser. No. 679,686
Int. Cl. B60l 5/06, 5/00; H01r 39/00
U.S. Cl. 191—56 2 Claims

Contact-type electrical connectors currently used to conduct electricity between a moving conductor and a fixed conductor, such as in rotary electric machinery or between stationary conductors and moving vehicles, are replaced by a highly ionized plasma of high electrical conductivity. Rotary electrodes ensure that all electrode surfaces have relative motion with respect to the discharge. In a moving vehicle embodiment, a rotary electrode is mounted on the vehicle and the discharge takes place to a stationary catenary wire; in a rotary machinery



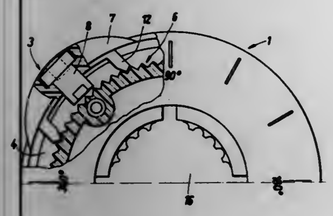
embodiment, a pair of rotary electrodes, each conducting through a plasma to the slip ring or commutator of a rotary machine, replace brushes or shoes normally used therewith. Electrodes of copper or other suitable conductor may have low ionization materials embedded therein to enhance the current carrying capability of the plasma.

3,514,554
PUSHBUTTON ASSEMBLY
Gerd C. Boysen, Milwaukee, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 18, 1969, Ser. No. 817,511
Int. Cl. H01h 9/02
U.S. Cl. 200—16 8 Claims



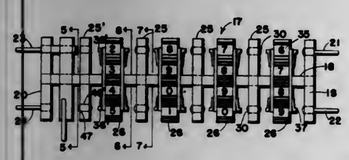
A pushbutton switch includes contact modules arranged for stacking assembly and each of which is split to define a pair of switch sections. A pair of double ended spring clip retainers hold the switch sections together for assembly and also serve as retainers for mounting screws for the modules, the screws having heads which engage the switch sections to clamp them against a mounting surface and to hold them in assembled relationship. The heads of the mounting screws of one module are provided with threaded sockets which receive the mounting screws of the other module to connect the two modules in stacked relationship. When arranged for tandem operation in stacked relationship, the movable contact carriers of one module are aligned end to end with the carriers of the other module, and rigid extensions are interposed between the facing ends of the carriers so that movement of the carriers of one module will be transmitted to the carriers of the other. The extensions are provided with sockets which receive reduced ends of the carriers and are held thereon by detent means for ease in assembly.

3,514,555
PROGRAMMING DEVICE
Artur Fischer, 133 Grunmettstetterstr., D-7241 Tumlingen, Germany
Filed Aug. 29, 1968, Ser. No. 756,102
Claims priority, application Germany, Sept. 7, 1967, 1,603,328
Int. Cl. H01h 3/58
U.S. Cl. 200—17 14 Claims



A programming device for programming the intermittent operation of an apparatus to be controlled includes a rotary disc rotatable about its axis. The circumferential edge face of the disc is provided with an undercut circumferential groove and carries at axially opposite sides of this groove two electrically conductive rings. A programming member in form of a segment of a circle and consisting of electrically non-conductive material is releasably anchorable in the groove and projects outwardly therefrom overlying both electrically conductive rings at that position at which it is anchored at a given time. Thus, when sliding contacts slide along the rings in response to rotation of the disc member they encounter the programming member and are temporarily deflected out of electrically conductive engagement with the rings while sliding over the programming member.

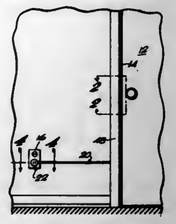
3,514,556
IGNITION LOCK AND SWITCH COMBINATION
Henry Lafrance, 80 Imperial Ave., Winnipeg 8, Manitoba, Canada
Filed June 7, 1968, Ser. No. 735,243
Int. Cl. H01h 27/10
U.S. Cl. 200—43 1 Claim



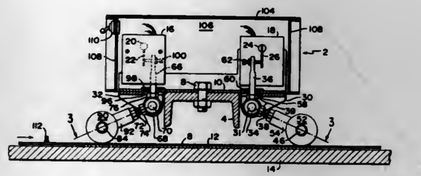
The current from the battery to the starter solenoid and to the ignition is routed through the enclosure having a plurality of rotatable elements therein and continuity is only established if these elements are rotated to a preset code. The rotation may be by friction or by ratchet type plungers.

3,514,557
THREE-TERMINAL ELECTRIC OUTLET WITH SWITCH COMBINED WITH A DOOR LATCH OPERATED SWITCH UNIT
Emile Jette, Jr., Miami, Fla., assignor of one-half to Sherwin T. Winfree, Miami Springs, Fla.
Filed July 28, 1968, Ser. No. 748,585
Int. Cl. H01r 13/70; H01h 3/16
U.S. Cl. 200—51 8 Claims

A door latch operated switch unit for use in energizing an electrical appliance, such as a lamp with a male electrical plug to be connected to a wall outlet, in response to opening and closing of the door which includes: (*a*) a switching unit for installation in the striker or latch-receiving recess of a door jamb with a member in the path of movement of the latch into and out of the recess to operate the switch, (b) conductor wires leading to (c) a terminal unit to connect to a wall outlet near the door jamb with sockets to receive the leads from the electrical appliance and a plurality of terminals arranged to route current flow (1) in series through the switching unit and the electrical appliance or (2) to interrupt that current flow, depending upon whether the latch is in the door jamb recess or not, i.e., whether the door is open or ajar.



3,514,558
SEAM DETECTOR
Ralph L. Davidson, Worcester, Mass., assignor to Curtis & Marble Machine Co., Worcester, Mass., a corporation of Massachusetts
Filed Dec. 20, 1968, Ser. No. 785,655
Int. Cl. B65h 25/14
U.S. Cl. 200—61.14 12 Claims

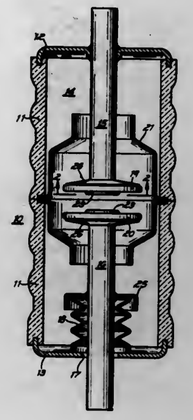


The invention is a switching apparatus for detecting the presence of a seam in a moving web of textile fabric, plastic or paper without being operated by occasional imperfections or slubs in the material. A switch is stationed proximate to the material and is actuated by motion of a pair of feelers or rollers struck simultaneously by a seam. Non-simultaneous movement of either roller will not operate the switch.

3,514,559
VACUUM TYPE CIRCUIT INTERRUPTER
John W. Ranheim, Oak Creek, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Mar. 27, 1967, Ser. No. 626,293
Int. Cl. H01h 9/30, 1/02
U.S. Cl. 200—144 8 Claims

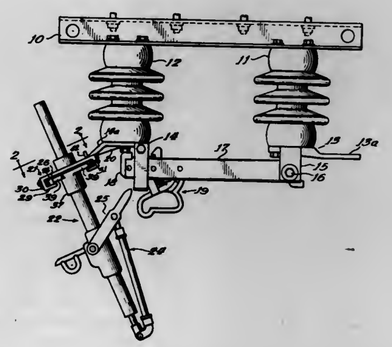
A vacuum circuit interrupter comprising an evacuated insulated housing having a pair of conductive electrodes which are constructed and arranged to be moved into and out of engagement and circuit making and breaking

regions on the electrodes composed of a porous refractory such as W_2B_5, for example, impregnated with a non-



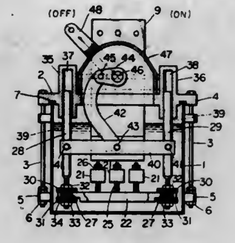
refractory metal having high thermal and electrical conductivity wherein the refractory is readily wet by the nonrefractory when the latter is in its liquid state.

3,514,560
ELECTRICAL CIRCUIT INTERRUPTER SWITCH
Ronald P. Bridges, % Bridges Electric, Inc., 2451 Wisconsin St., Downers Grove, Ill. 60515
Filed Nov. 29, 1968, Ser. No. 779,952
Int. Cl. H01h 9/44, 33/18
U.S. Cl. 200—146 23 Claims



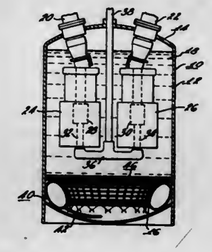
An electrical circuit interrupter switch in which a blade type switch has a bracket for supporting a tubular interrupter, the bracket having a central hole in which an interrupter is mounted by moving it axially in one direction, the interrupter having a mounting collar that abuts the bracket and has laterally extending rigid latch fingers which are engaged with opposed spring latches on the bracket by rotation of the interrupter in the hole. Stops on the bracket engage the fingers to limit rotation of the interrupter, and retaining flanges on the bracket engage the fingers in latched position to effectively prevent reverse axial movement of the interrupter.

3,514,561
PARALLELOGRAM LINKAGE OPERATING MEANS AND INTEGRAL CONTACT TERMINAL SECURING MEANS FOR AN OIL CIRCUIT BREAKER
Kiyoji Ogawa, Hitachi-shi, Japan, assignor to Kabushiki Kaisha Takahashi Denki Seisakusho, Motomiya-cho, Hitachi-shi, Ibaragi-ken, Japan
Filed Oct. 31, 1967, Ser. No. 679,457
Int. Cl. H01h 33/68
U.S. Cl. 200—150 4 Claims



A switch particularly for short circuiting heavy current, comprising a lid, an oil tank hermetically sealed by said lid, a pair of stationary contacts extending through said lid into the oil tank, a movable bridging conductor in said tank and opposed to said stationary contacts, a mechanism on which said bridging conductor is mounted for moving said conductor into and out of contact with said stationary contacts, said mechanism comprised of an operating handle and suspending link connected to a horizontal connecting rod, and two parallel vertical spindles connected to said horizontal connecting rod, and to a horizontal support, said pair of contacts each being bent at an appropriate angle to form top and bottom portions at an angle to each other, mounting members depending from said lid, and bolts extending through said top portions and said bottom portions into said mounting members, the bolts in the respective top and bottom portions lying on lines which intersect.

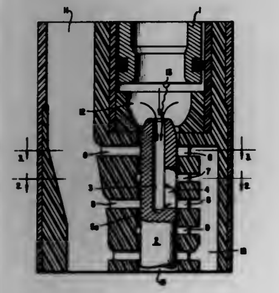
3,514,562
MEANS FOR SECURING PNEUMATIC SHOCK ABSORBER IN LIQUID FILLED ELECTRIC CIRCUIT BREAKER
Joseph M. Ramrath, Mattapan, Mass., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 7, 1967, Ser. No. 681,140
Int. Cl. H01h 33/68
U.S. Cl. 200—150 1 Claim



An oil filled high voltage, high current electric circuit breaker is provided with a compressible, gas filled shock absorbing means in the form of an annular torus which is located near the bottom of the circuit breaker tank.

The shock absorbing means are restrained in position by retaining means in the form of a wire screen grid which overlies the shock absorbing means and is secured to the tank. Pressure forces generated in the oil during arcing are transmitted through the oil and through the restraining means directly against the shock absorber and are absorbed.

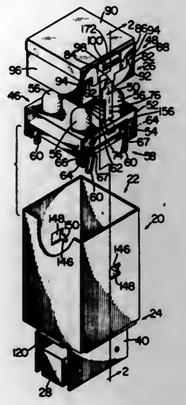
3,514,563
CIRCUIT BREAKER
Karl Stegmüller, Regensburg, Germany, assignor to Sachsenwerk, Licht- und Kraft-Aktiengesellschaft, Munich, Germany
Filed Apr. 25, 1968, Ser. No. 723,980
Claims priority, application Germany, Apr. 28, 1967, S 109,643
Int. Cl. H01h 33/68
U.S. Cl. 200—150 5 Claims



A circuit breaker whose arcing chamber is, during separation of the contacts, placed in communication with a pressure-equalizing chamber by way of transverse channels which are successively uncovered by the movable contact element as it travels away from the stationary contact. In order to allow the preliminary flow of gas formed upon arcing, the movable contact is provided with a longitudinal blind bore and a lateral opening which together establish communication with at least one of the transverse channels before the first of these transverse channels is uncovered by the movable contact.

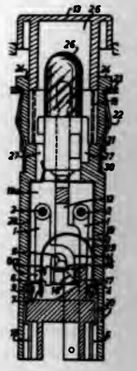
3,514,564
ILLUMINATED PUSH-BUTTON SWITCH CONSTRUCTION WITH SAFETY SET AND RESET MECHANISM
Anthony A. DiPilla, Philadelphia, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Jan. 25, 1968, Ser. No. 700,622
Int. Cl. H01h 9/18
U.S. Cl. 200—167 35 Claims

There is disclosed an illuminated pushbutton switch construction having a tubular casing that receives a push-button means at the upper casing end and has a lower switch means at the lower casing end. The push-button means is movable inward into the upper casing end by an initial pushing in action and thereafter movable upwardly by a release counterspring action. This places the push-button means in operable locked condition to operate the switch means as often as desired. The push-button means may be removed from the casing by an upward, outward movement, followed by an inward, downward pushing action of the push-button means. Thereafter, the push-button means may be removed from the casing by an upward and outward removing action completely to remove the push button from the casing. The push button is prevented from actuating the switch means during the initial introduction of the push-button means into the casing, and the push button can only operate



the switch means after it has been released from the first pushing in action.

3,514,565
ELECTRIC CONTACT DEVICE USED WITH PUSH-BUTTON ACTIVATION
Gérard Juéry, Reuil-Malmaison, France, assignor to La Telemecanique Electrique, Nanterre, Hauts-de-Seine, France, a joint-stock company of France
Filed June 26, 1968, Ser. No. 740,374
Claims priority, application France, June 30, 1967, 112,728
Int. Cl. H01h 9/16
U.S. Cl. 200—167 8 Claims

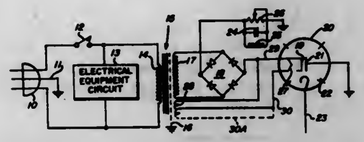


An electric contact device for push buttons utilizing a curved flexible strip gripped at its free end by one arm of an intermediate pivotal member which is activated through cam action on another of its arms.

3,514,566
ADJUSTABLE VOLTAGE TRANSFORMER FOR MICROWAVE OVEN APPARATUS
Richard Ironfield, New Boston, N.H., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Aug. 26, 1968, Ser. No. 755,246
Int. Cl. H05b 5/00, 9/06
U.S. Cl. 219—10.55 1 Claim

A high voltage transformer for an electrical energy generator having a supplementary winding capability in

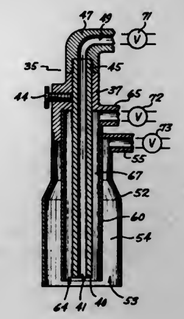
the secondary winding circuit. Low input line voltage conditions can be compensated for by mutually inductively coupling the supplementary winding to the transformer magnetic field flux lines.



ERRATUM

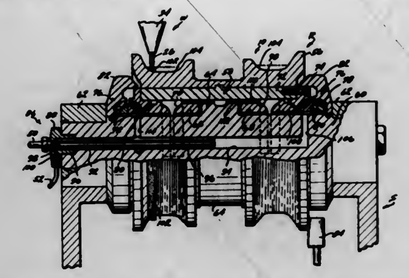
For Class 219—69 see:
Patent No. 3,513,837

3,514,567
WELDING EQUIPMENT
Virgil G. Strang, 12307 85th S., Seattle, Wash. 98178
Filed July 22, 1968, Ser. No. 746,512
Int. Cl. B23k 9/16, 9/24, 35/38
U.S. Cl. 219—75 4 Claims



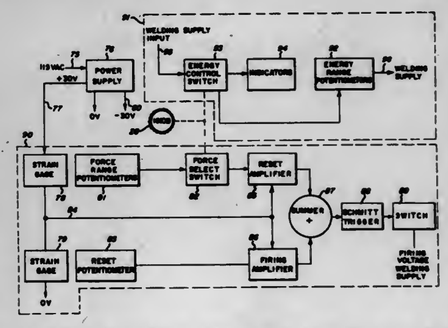
Various improved welding systems are disclosed for conveniently performing a broad range of welding operations. Associated with the intense heat generation member of the welder, there is provided a hood structure which is connected through suitable conduits to a source of suction for removing the smoke generated by the welding operation from the welding area. In addition, the hooded structure with increased suction can remove the molten material produced by the heat of the welding implement. An improved electrode is disclosed which defines a hollow channel through its length for conducting inert gases or treating chemicals to the welding area at the end of the electrode or for drawing the molten material produced at the welding area up through the electrode. A sleeve may be positioned to surround the electrode to provide many of the function related for either the hood or hollow portion of the electrode. A central welder console is disclosed having a variety of connection outlets selectively providing the necessary electrical, inert gas, or treating chemical supply services, or the molten material or smoke suction connections or any combination theerof to service the individual remotely located welding units through a combination conduit connecting hose.

3,514,568
METAL BUILD-UP SYSTEM
Larry D. Frus and John C. Lindgren, Whittier, Calif., assignors to Stoody Company, a corporation of California
Filed Sept. 20, 1967, Ser. No. 669,228
Int. Cl. B23k 9/04
U.S. Cl. 219—76 10 Claims



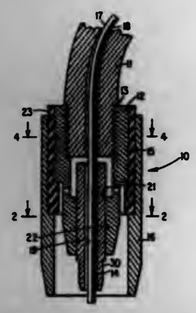
A system for depositing build-up metal on a workpiece (as a worn machine element) is disclosed. The workpiece, in the form of a rotary element is re-built and hard-faced, by arc welding, without dis-assembly. Liquid coolant is circulated between the interior structure of the workpiece and its rim, then simultaneously, the rim of the workpiece is revolved in synchronism with the deposition of metal by arc welding. The fluid coolant is introduced into the rotary workpiece, and removed therefrom through a concentric, dual-passage structure connecting the interior of the workpiece to an external circulation system including a low-pressure pump and a heat exchanger. The disclosed welding apparatus also includes means for supplying a continuous length of welding wire to a submerged arc.

3,514,569
RESISTANCE WELDER
Arthur G. Pfaelzer, Chestnut Hill, and Thomas E. Salzer, Bedford, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,145
Int. Cl. B23k 11/10
U.S. Cl. 219—110 5 Claims



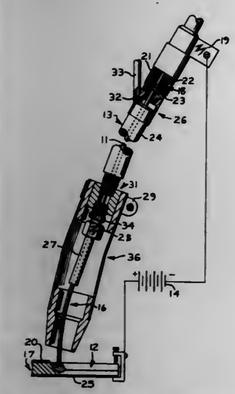
A resistance welding apparatus having dynamic force sensing and measuring means together with a self-contained electronically controlled automatic force firing level selector. A high compliance, high frequency horn structure supporting the welding electrodes results in the fabrication of the over-all welder without consideration of such critical mechanical factors as the mass in the moving system, the dynamic and static bearing response. A plurality of force-energy level combination settings are available to handle a large number of work piece material compositions and configurations.

3,514,570
ARC WELDING GUN COMPONENTS
Arthur A. Bernard, Beecher, and Richard A. Bernard, Flossmoor, Ill., assignors to Bernard Welding Equipment Company, Beecher, Ill., a corporation of Illinois
Filed Dec. 4, 1968, Ser. No. 781,151
Int. Cl. B23k 9/00
U.S. Cl. 219—130 7 Claims



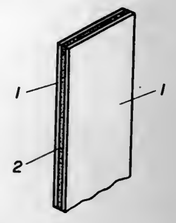
In an arc welding gun head assembly, a novel means for connecting the contact tip and gas nozzle to the head member. The head member has a periphery of oval cross-sectional shape and a bore of oval cross-sectional shape. The current contact tip has a periphery of oval cross-sectional shape such that the contact tip is adapted to be telescoped within the head member and locked in place by rotating the contact tip within the head member bore to lock the contact tip firmly in place. Insulating means are carried on the head member such that the periphery of the insulating means takes on the oval shape of the head member periphery. The gas nozzle has a bore which is also of oval cross-sectional shape such that the gas nozzle is adapted to be telescoped over the insulating means and locked in place by rotating the gas nozzle relative to the head member to wedge the gas nozzle firmly on the insulating means.

3,514,571
GAS SHIELDED ARC WELDING APPARATUS
Kenneth E. Oelschlager, Campus, George R. Herrick, Mazon, and Anton D. Togliatti, Coal City, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 12, 1968, Ser. No. 720,763
Int. Cl. B23k 9/00
U.S. Cl. 219—137 6 Claims



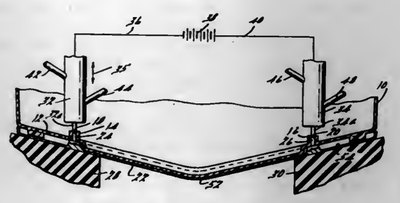
Apparatus for versatile gas shielded arc welding to provide good weld characteristics and a high deposition rate in a variety of weld joints. Flux cored wire is maintained with its arc forming end sufficiently extended from the welding gun so that it is substantially softened along its exposed length by resistance heating. Negative polarity is employed along with shielding gas of generally pure carbon dioxide. A tubular nozzle surrounds the extended flux cored wire to conduct the gas to cover the arc forming end of the wire. A method of gas shielded arc welding employing negatively polarized flux cored wire and resistive or I^2R heating of the wire.

3,514,572
STRIP ELECTRODE OF TYPE FOR SUBMERGED ARC WELDING
Yoshifumi Toritani, 9–17 1-chome, Kamikoshien, Nishinomiya, Hyogo Prefecture, Japan; Manabu Hoshihara, 95 2-chome, Higashidaimotsu-cho, Amagasaki, Hyogo Prefecture, Japan; and Tamotsu Morioka, 7–13 Suehiro-cho, Ibaragi, Osaka Prefecture, Japan
Filed Sept. 27, 1968, Ser. No. 763,333
Claims priority, application Japan, Sept. 28, 1967, 42/62,437
Int. Cl. B23k 35/00
U.S. Cl. 219—145 6 Claims



A strip electrode of clad type for submerged arc welding is made of a copper material having purity of not less than 95.0% and an aluminum material with purity of not less than 98.0%. The two materials are joined into one strip body not exceeding 2 mm. in thickness and 10 to 150 mm. in width, with the aluminum amount ranging 5 to 26% by weight.

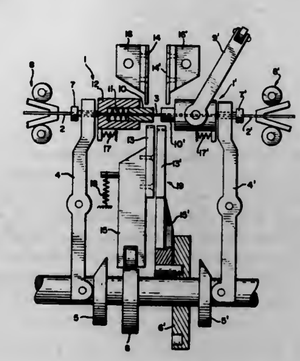
3,514,573
METHOD OF ASSEMBLING AN ELECTRICALLY CONDUCTIVE MEMBER TO AN ELECTRICALLY NON-CONDUCTING MEMBER
Archer D. Clark, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 20, 1967, Ser. No. 692,242
Int. Cl. B21j 5/08; H05b 1/00
U.S. Cl. 219—150 8 Claims



A method of assembling an electrically non-conductive member to an electrically conductive member. A pair of projections on the latter are inserted in holes formed

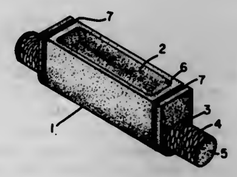
through the former. An electrical contact is brought into intimate engagement with the outer extremities of each of the projections so that current flows from one projection to the other through the body of the conductive member and heats the projections to the plastic state due to electrical resistance. The contacts are forced against the outer ends of the projections to deform the projections radially outward relative to their axes to secure the members together.

3,514,574
APPARATUS FOR MANUFACTURE OF RESISTANCE WELDED ARTICLES, ESPECIALLY BIMETALLIC CONTACT RIVETS
Kurt Forschler, Birkenfeld, Germany, assignor to Fansteel Inc., a corporation of New York
Filed Mar. 9, 1966, Ser. No. 533,060
Claims priority, application Germany, Mar. 10, 1965, 1,540,749
Int. Cl. B23k 11/02
U.S. Cl. 219—103 11 Claims



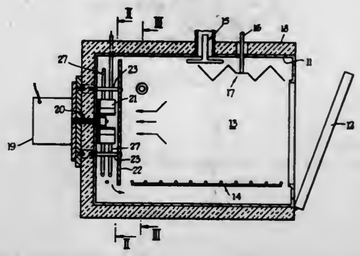
Apparatus for forming headed articles and in particular bi-metallic contacts in which two axially aligned wires of differing materials are abutted and welded together. A bi-metallic peg is cut from the welded wires by simultaneously shearing the wires, the peg being transversely shifted by one of the cutter members into alignment with a forming tool disposed adjacent to and having an axis parallel to the wires in which tool the desired headed element is formed.

3,514,575
METAL-EVAPORATING SOURCE
Harold H. Hall, Marblehead, Edmund M. Passmore, Wilmington, and Wilfrid G. Matheson, Marblehead, Mass., assignors to Sylvania Electric Products, Inc., a corporation of Delaware
Filed Aug. 10, 1967, Ser. No. 659,777
Int. Cl. C23c 13/08
U.S. Cl. 219—275 11 Claims



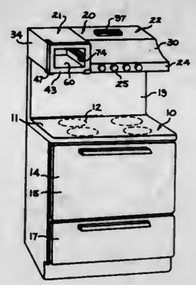
An improved evaporation source for vacuum deposition of metals has a resistance heater element of intertwisted helical coils of refractory metal wire. An elongated refractory vessel, having a cavity to contain the metal being evaporated, is supported and heated by the heater element. There is a barrier between the cavity and the heater to prevent liquid metal overflow from contacting the heater.

3,514,576
COMBINED MICROWAVE AND HOT AIR OVEN
Kenneth Hilton, Crawley, and Ronald J. W. Constable, Worthing, England, assignors to Hirst (Microwave Heating) Limited, Crawley, England, a British company
Filed June 24, 1968, Ser. No. 739,488
Int. Cl. F27d 11/00
U.S. Cl. 219—400 8 Claims



A combined microwave and hot air oven comprising a closed metal cavity, means for supplying microwave energy to the cavity and means for heating and circulating the air inside the cavity.

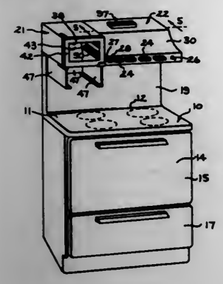
3,514,577
COMBINED EXPANSIBLE BROILER OVEN AND KITCHEN VENTILATING HOOD
Raymond L. Dills and Christian A. Eff, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Dec. 18, 1968, Ser. No. 784,752
Int. Cl. F24c 15/20, 15/32
U.S. Cl. 219—400 15 Claims



A side-by-side broiler oven and ventilating hood is shown mounted in a cantilever fashion as an integral part of a high-rise backsplash of an electric range. The oven is expansible in a downward direction by virtue of the presence of a removable drawer-like inner liner that is adapted to be telescoped into the oven liner and forms an adjustable bottom wall thereof. The oven has an exhaust vent that is open to the ventilating hood such that the hood is capable of drawing air both from the area

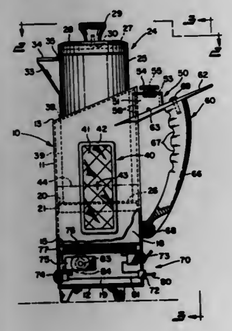
above the cooktop of the range as well as from the broiler oven. The forced air movement caused by the hood also serves to provide the oven with a travelling blanket of cooling air around the oven liner.

3,514,578
COMBINATION BROILER OVEN AND KITCHEN VENTILATING HOOD
Raymond L. Dills, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 18, 1968, Ser. No. 784,753
Int. Cl. F24c *15/20, 15/32*
U.S. Cl. 219—400 16 Claims



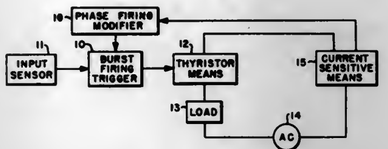
The invention of a side-by-side broiler oven and ventilating hood is shown as an integral part of a high-rise backsplash of a domestic range. The bottom wall of the oven is formed by a pair of panels each hingedly connected at the bottom edge of the opposite sidewall of the oven liner. These panels have a first horizontal position substantially closing the bottom of the oven liner, and a second vertical position serving as a downward extension of the oven liner and creating an open bottom to an enlarged cooking cavity. A broiler pan is adapted to be supported from the vertically hanging panels for supporting the food to be cooked. The oven has an exhaust vent that opens into the ventilating hood whereby the hood is capable of drawing air both from the area above the cooktop of the range as well as from the broiler oven.

3,514,579
ELECTRIC SYRUP WARMER
Fred E. Sanders, 503 E. 108th St., Cleveland, Ohio 44108
Filed July 23, 1968, Ser. No. 746,886
Int. Cl. F27d *11/02*
U.S. Cl. 219—430 4 Claims



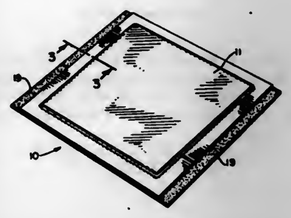
An electrically operated appliance for the warming of waffle or pancake syrup and the like consisting of a unitary jacketed syrup container, the jacketed portion providing a steam chamber for heating the syrup. An integral resistance heater and thermostat control the water temperature and generation of steam and a novel handle shield and filling spout configuration provide protection for lifting of the appliance.

3,514,580
BURST FIRING CONTROL APPARATUS WITH SOFT START
Robert M. Brockway, Edina, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 12, 1968, Ser. No. 744,378
Int. Cl. H05b *1/02*
U.S. Cl. 219—482 11 Claims



Apparatus for burst firing thyristor means to modulate the alternating current energization of a positive temperature coefficient load, with a transformer to sense the load current which flows during the initial portion of a burst, to produce phase firing and reduced load current when the initial load current is too high, and to subsequent revert to burst firing when the load resistance has increased.

3,514,581
OPTICALLY TRANSPARENT ELECTRICAL HEATING ELEMENT
Martin G. Rocholl and Ilse Rocholl, Heidelberg, Germany, assignors to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Filed May 29, 1968, Ser. No. 733,050
Claims priority, application Austria, June 2, 1967, A 5,128/67
Int. Cl. H05b *3/50, 3/34*
U.S. Cl. 219—522 18 Claims



An optically transparent heating element is described which comprises an electrolyte solution preferably absorbed on an optically transparent support material having electrical conductors in electrical contact relationship with electrical conductors of an optically transparent insulation sheet which is stable to the electrolyte solution, the electrolyte support material being sealed within the optically transparent insulating sheet. The optically transparent heating element has a positive temperature coefficient and is self-regulating in that it does not have to be controlled by interrupting the current, but adjusts itself automatically to limit its temperature in individual areas thereof according to the heat load in such individual areas by automatically varying its local resistivity in such areas.

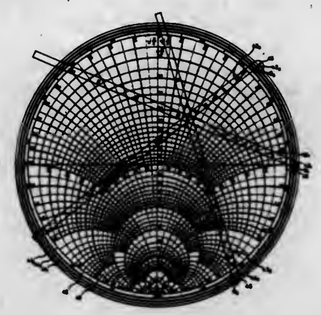
3,514,582
NAVIGATIONAL TIME, DISTANCE AND SPEED COMPUTER
William M. Sanderson, Rte. 2, Box 836A, Sierra Road, San Jose, Calif. 95131
Filed Dec. 30, 1968, Ser. No. 787,659
Int. Cl. G06g *1/16*
U.S. Cl. 235—61 20 Claims



This invention relates to a navigational computer of the slide rule type wherein calculations are performed through the manipulation of a cursor which relates time factors on a linear scale to distance factors on a graph and through the manipulation of a slider which relates the distance factors on said graph to speed factors on a linear scale. Rapid calculations are obtained with respect to aircraft navigation, to solve climbout problems, to determine estimated times of arrival at any future point, to determine ground speed at any point, to make correction from point to point along a course, and all of which is related to time and speed factor scales that are linear. This computer is an instrument characterized by a cursor movable according to clock time and establishing a line that intersects distance curves showing the locus of time and speed coordinates, and by a slider adjustable to coincide in position on the cursor, with the curves intersected by said line, to indicate speed and namely actual or ground speed. A feature of the instrument is the relative movability of the members bearing the time factors and the distance factors, facilitating corrections without disrupting relationship to actual clock time.

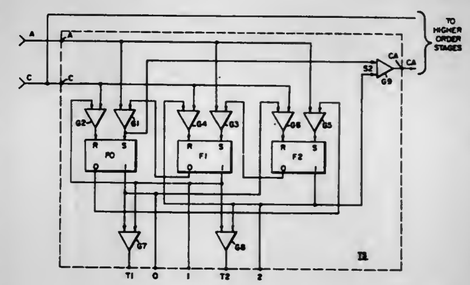
3,514,583
APPARATUS FOR MEASURING HIGH-FREQUENCY IMPEDANCES
Roger L. Gouillou, Dravell, France, assignor to Office National d'Etudes et de Recherches Aerospatiales, Bagneux, France, a body corporate of France
Filed June 20, 1968, Ser. No. 738,588
Int. Cl. G06c *3/00*
U.S. Cl. 235—88 5 Claims

Apparatus for measuring the impedances of loads fed by high-frequency currents through a high-frequency line having inserted therein three detector probes. The apparatus comprises a plate carrying a Smith chart pattern and three scale patterns rotatable about points of the zero-resistance circle of the chart. The pivot of each scale pattern can be displaced along the zero-resistance circle. The measure is achieved by setting the pivots of the scale patterns along the zero-resistance circle in dependence of the



spacings of the detector probes along the high-frequency line and by bringing into coincidence the graduations of the three scale patterns corresponding to the currents measured by the three detector probes.

3,514,584
TERNARY DIGITAL COMPUTER CIRCUITS
Claude P. Batturel, Magagnosc-de-Grasse, Alpes-Maritimes, France, assignor, by mesne assignments, to Epsco Incorporated, Westwood, Mass., a corporation of Massachusetts
Filed Jan. 11, 1967, Ser. No. 608,554
Int. Cl. G06f *7/38, 15/20;* G06j *1/02*
U.S. Cl. 235—156 7 Claims

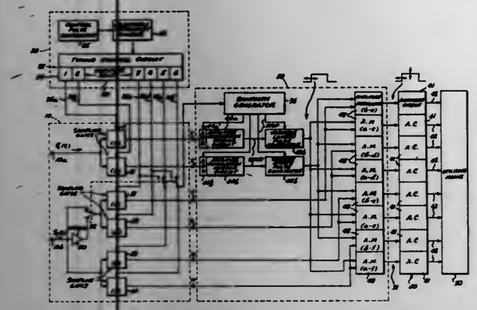


A digital operational computer comprising a ternary pulse multiplier made from tristable counters and registers. One embodiment includes three electronic switches per ternary stage. The full specification should be consulted for an understanding of the invention.

3,514,585
MULTICHANNEL CORRELATOR SYSTEM
Keith H. Norsworthy, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Continuation-in-part of application Ser. No. 256,187, Jan. 17, 1963. This application Apr. 4, 1966, Ser. No. 552,994
Int. Cl. G06f *15/34*
U.S. Cl. 235—181 40 Claims

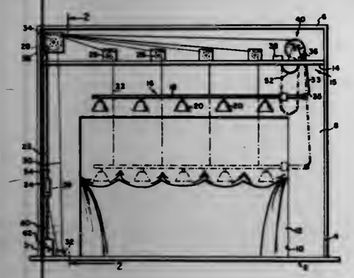
A multichannel time correlation computer is disclosed which includes means for efficiently establishing an array

of time delay differentials between signal representations to be multiplied in deriving correlation coefficients. The disclosed combinations of circuit features enable the real time presentation of a large number of simultaneous, continuously produced correlation coefficient signals which collectively represent the correlation function, so that it



can be observed as it changes with time. The array of time delay differentials enables conservation of multiplier circuitry. Specific improvements are disclosed in arrangements for establishing the time delay differential arrays and for multiplying signal values in analog and digital form.

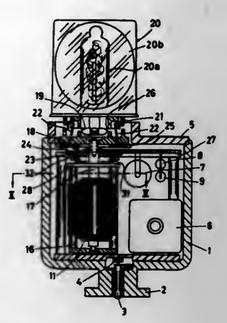
3,514,586
COUNTERBALANCING SYSTEM, PARTICULARLY FOR STAGE LIGHTING
James F. Kuebler, Tiffin, Ohio 44883
Filed Oct. 2, 1967, Ser. No. 672,145
Int. Cl. F21p *5/00*
U.S. Cl. 240—3 5 Claims



A stage lighting system having a light batten with a counterbalancing system. The electric cable to the light batten is wound on a reel assembly having two cable-winding reel portions mounted to rotate together. The two reel portions are spirally wound in opposite directions to enable simultaneous unwinding or winding of the two ends of the cable.

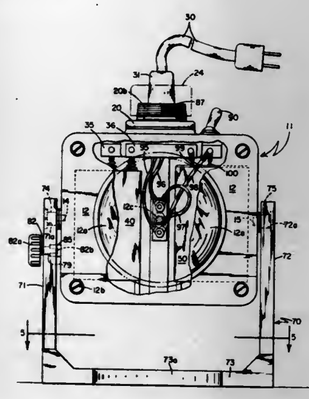
3,514,587
FLASH UNIT
Dieter Engelsmann, Unterhaching, and Rolf Schröder, Hubert Hackenberg and Englebert Fliesser, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed July 31, 1967, Ser. No. 657,279
Claims priority, application Germany, Aug. 20, 1966, A 53,303
Int. Cl. G03b *15/02*
U.S. Cl. 240—1.3 21 Claims

A flash unit for a multiple flash bulb holders consisting of a rotary support carrier for the holder, a magnetic indexing mechanism, and electrical circuit for controlling the operation of the indexing mechanism. The magnetic indexing mechanism includes a stationary magnetic part, and a rotor which is connected to the support carrier and has a plurality of stable positions of rest. The electrical circuit includes a source of electrical energy, winding coils for producing a magnetic field, and a switch element



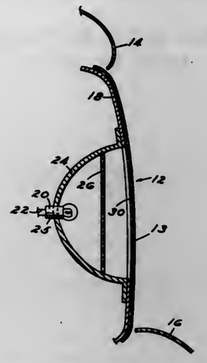
for temporarily connecting the coils to the source to thereby produce a magnetic field which turns the rotor to index the bulb holder. The rotor has flutes therein around which the coils are wound. The stationary magnetic part automatically arrests movement of the rotor in one of its positions of rest when a fresh flash bulb has been indexed into firing position and the switch element is opened.

3,514,588
RECHARGEABLE LAMP
Thomas F. Roche, 21 W. Main St., Merrimac, Mass. 01860
Filed Aug. 31, 1967, Ser. No. 664,863
Int. Cl. F21l *9/00*
U.S. Cl. 240—10.6 3 Claims



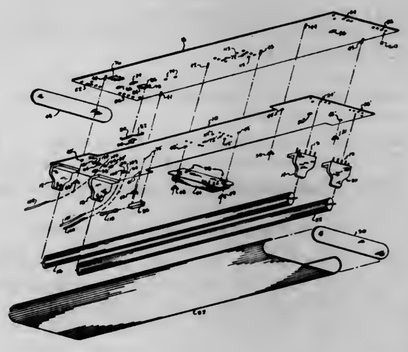
A water-resistant rechargeable electric lantern for industrial, marine or military use. The lantern has a battery and battery charger within a waterproof case. Over an opening in the case is water tightly mounted an open end hollow body with a water-tight removable cap. Within the body is a male receptacle connected to the charger within the case.

3,514,589
CONCEALED VEHICLE RUNNING LIGHT ASSEMBLY
Roy L. Huber, Romeo, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation of application Ser. No. 562,566, July 5, 1966. This application July 25, 1969, Ser. No. 847,811
Int. Cl. F21v *9/08*; B60q *1/00*
U.S. Cl. 240—46.59 5 Claims



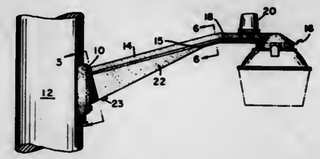
A concealed running light assembly wherein a light source carried by vehicle body structure is covered by a light permeable plastic panel. Coextensive with this panel and molded integrally therewith is an opaque color grid having a color identical to the paint color of the conventional opaque body panel surrounding the plastic panel. The opaque color grid is dimensioned so as to render a sufficient percentage area of the plastic panel opaque so that it appears to be a conventional opaque body panel when the light source is operative, but allows the passage of light therethrough when the light source is inoperative.

3,514,590
FLUORESCENT LUMINAIRE
M. David Shaeffer, Wheeling, W. Va., assignor to Calculations, Inc., Wheeling, W. Va., a corporation of West Virginia
Filed Apr. 16, 1968, Ser. No. 721,768
Int. Cl. H05b *33/02*
U.S. Cl. 240—51.11 18 Claims



The disclosure relates to light fixtures which utilize printed circuit techniques and which are so designed that they may be readily assembled without the use of tools. The fixture includes a base provided with threaded studs adapted to receive wing nuts whereby a preformed circuit board may be attached to the base. The ballast transformer and lampholders for the fixture are provided with pin connectors so that they may be plugged into the preformed circuit board. Incoming power connections are made to the preformed circuit board by inserting stripped wire ends through appropriate holes in the circuit board. The lampholders are adapted to receive the pins from conventional lamps, and are provided with preformed circuit panels to effect connections between the lamps and the main circuit board by way of the lampholder pins. The lampholders are located at the ends of the fixture and are provided with connector pins or sockets whereby a plurality of fixtures may be connected end to end through the lampholders, the circuit panels of the lampholders effecting connection between the main circuit board of the first fixture and the main circuit board of the second fixture, thus eliminating the need for additional wiring. A feature of the main circuit board is the provision of spare power circuits to permit connection of long strings of fixtures without overloading the preformed circuit boards, or their incoming power wires.

3,514,591
LIGHTING FIXTURE
Henrik A. J. deVos, Wenham, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Original application Nov. 18, 1965, Ser. No. 508,453, now Patent No. 3,403,250, dated Sept. 24, 1968. Divided and this application Dec. 19, 1967, Ser. No. 691,839
Int. Cl. F21v *21/14*
U.S. Cl. 240—52 2 Claims

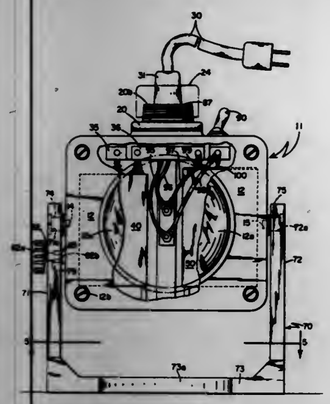


A lighting fixture for adjustable attachment to a pole, the fixture having an extruded arm extending from the lamp and a refractor to an adjustable mounting plate on the pole; the adjustment can be made by an arm having a handle. There is a hinged cover on the bottom of the arm, the hinge being at the end of the cover farthest from the mounting plate, the other end of the cover being attachable to the mounting plate.

3,514,592
LAMP HOLDER
Thomas F. Roche, 21 W. Main St., Merrimac, Mass. 01860
Continuation-in-part of application Ser. No. 664,862, Aug. 31, 1967. This application Feb. 8, 1968, Ser. No. 706,746
Int. Cl. F21l *15/12*
U.S. Cl. 240—52.3 12 Claims

An electric lantern which is non-conductive and suitable for industrial, marine or military use. The lantern has a combination cradle-handle which permits it to be tilted vertically and held in any position as a standing light. The cradle-handle has a flat end portion and a pair of sidearms upon which the lantern is pivotably mounted.

A manipulable threaded shaft extends through an orifice in one of the side arms and has a friction member on the end thereof for engaging the side surface of the lantern to



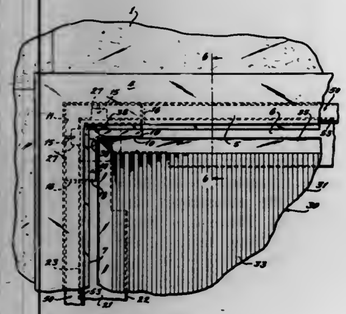
hold it in a pre-selected position. The cradle-handle is also adapted for detachable combination with a hidden swivel on a bracket to provide horizontal rotation.

3,514,593

LIGHTING FIXTURE WITH FLOATING BAFFLE FRAME

Thomas C. Halfaker, St. Louis, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed Oct. 4, 1967, Ser. No. 672,811
Int. Cl. F21s *3/02*
U.S. Cl. 240—78 10 Claims



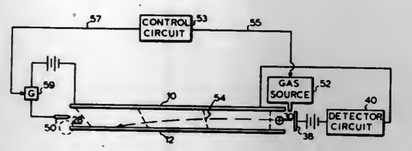
A lamp housing with a turned up flange around a central opening has a light-transmitting panel in the opening and spaced from the flange to provide an air-admitting gap. The gap is bridged by a floating continuous bridging frame above the panel and flange and spaced above the flange to permit flow of air through the lamp housing. Integral diagonally outwardly projecting knobs at the corners of the panel rest on shelves of corner brackets. The corner brackets have stop tabs cooperating with feet on the bridging frame to limit the upward movement permitted the floating frame and to prevent its dislodgment from the housing. An adjustable air baffle cooperates with the floating frame to provide adjustment of each panel edge.

3,514,594

MASS SPECTROMETER EMPLOYING A STRUCTURE SIMILAR TO AN ELECTRON MULTIPLIER TUBE TO GENERATE ELECTRON PULSES INDICATIVE OF MASS CONCENTRATION

Louis N. Heynick, Palo Alto, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California

Filed Feb. 13, 1968, Ser. No. 705,075
Int. Cl. H01j *39/36*
U.S. Cl. 250—41.9 12 Claims



A mass spectrometer comprising a channel apparatus with an axial electric field similar to the type of apparatus used in channel electron multipliers, but which also includes apparatus for creating a perpendicular field component which varies rapidly between zero and an appreciable value. Ions of a gas to be analyzed are created near the positive end of the channel, and they are impelled toward the negative end by the axial electric field. The perpendicular field component forces ions toward the channel walls, with an acceleration dependent upon the ion weight, and causes ions of only a particular weight to impact the channel walls at a time when the perpendicular field component is zero. Upon impact, ions of that particular weight eject electrons which are able to multiply in passing along the channel toward the positive end where they are detected. Other ions impact when the perpendicular field component is not zero and therefore the electrons they eject cannot multiply. As an additional means of discriminating, the channel length is relatively short, so ions which are heavier than those to be detected pass out of the channel without ever striking the channel walls.

3,514,595

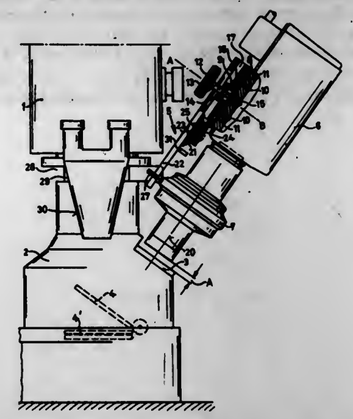
PARTICLE BEAM MICROSCOPE IN COMBINATION WITH AN ADJUSTABLE VIEWING APPARATUS AND MAGNIFIER

Karl G. Schwarz and Winfried Rusam, Karlsruhe, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Continuation of application Ser. No. 478,681, Aug. 10, 1965. This application Feb. 28, 1969, Ser. No. 804,383
Claims priority, application Germany, Aug. 17, 1964, S 92,675
Int. Cl. G01n *23/04*; H01j *37/22, 37/26*
U.S. Cl. 250—49.5 8 Claims

A particle beam microscope which includes a luminescent screen mounted in a vessel portion of the microscope capable of being viewed through a window therein. An adjustable viewing apparatus and magnifier are mounted exteriorly of the microscope at different positions on a rotatable ring which surrounds the microscope and are adapted to be selectively positioned adjacent the

window. The adjustable viewing apparatus comprises two objective lenses in tandem and a television camera which



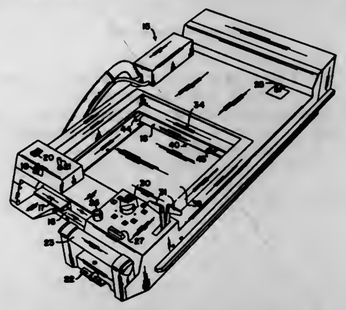
are all in optical alignment with the luminescent screen when the viewing apparatus is adjacent the window.

3,514,596

SPOT FILMER FOR X-RAY RADIOGRAPHING WHICH MINIMIZES PATIENT-TO-FILM DISTANCE

Arthur F. Naylor, East Cleveland, Ohio, assignor, by mesne assignments, to Picker Corporation, White Plains, N.Y., a corporation of New York

Filed Oct. 17, 1967, Ser. No. 675,822
Int. Cl. G03b *41/16*
U.S. Cl. 250—62 5 Claims



X-ray spot filmer for taking medical radiographs which minimizes patient-to-film distance with (1) a lead apron support which is spaced from the patient and mounted at the perimeter of the spot filmer and (2) has members external of the housing for mounting accessories.

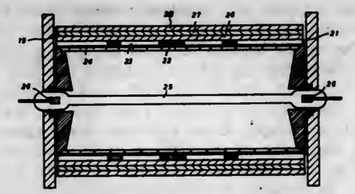
3,514,597

THERMOGRAPHIC RECORDING PROCESSES AND MATERIALS

Louis Maria De Haes, Edegem, Johannes Josephus Vanheertum, Mortsel-Antwerp, and Hugo Karel Gevers, Edegem, Belgium, assignors to Gevaert-Agfa, N.V. Mortsel, Belgium, a Belgian company

Filed Apr. 25, 1967, Ser. No. 628,603
Claims priority, application Great Britain, Apr. 5, 1966, 15,147/66
Int. Cl. G03b *41/16*
U.S. Cl. 250—65 16 Claims

A heat-sensitive recording material comprising a support, a water-permeable hydrophilic colloid layer adjacent said support and an external water-impermeable hydrophobic layer in contact with said colloid layer are subjected



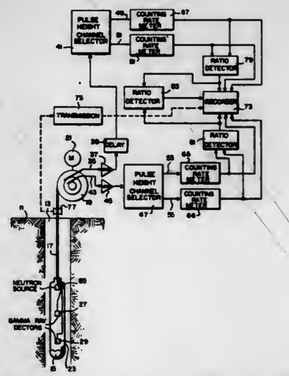
to an image-wise action of heat, so that a decrease of hydrophobicity is effected in the heat-exposed areas of said external layer.

3,514,598

WELL LOGGING SYSTEM AND METHOD FOR DETERMINING PRESENCE OF SODIUM BY DIFFERENTIATING BETWEEN FLUORINE-20 AND NITROGEN-16

Arthur H. Youmans, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Aug. 2, 1967, Ser. No. 657,864
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 8 Claims



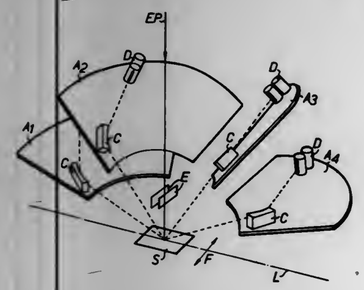
This patent specification discloses an activation well logging system and method for determining the presence and the quantity of sodium in formations surrounding a borehole. The present invention distinguishes sodium from oxygen by virtue of the fact that fast neutron reactions with sodium produce fluorine-20, which has a half life of approximately 11 seconds and emits 1.6 mev. gamma rays, whereas with oxygen, fast neutron reactions produces nitrogen-16 which has a half life of approximately 7 seconds and emits 6 mev. gamma rays.

A well logging instrument containing a deuterium-tritium source of 14 mev. neutrons is moved continuously through the borehole. Two gamma rays detectors are positioned in the instrument to detect gamma radiation resulting from bombardment of the borehole formation by neutrons from the neutron source. A first gamma ray detector is positioned far enough from the neutron source so that the detector does not detect prompt radiation resulting from reactions of the borehole formations with the neutron bombardment. A second gamma ray detector is spaced from the first gamma ray detector by an amount such that it will detect gamma radiation from a given

location in the borehole at a time equal to at least about one oxygen activation half life, or about 7 seconds, after gamma radiation is detected from such location by the first gamma ray detector.

The two gamma ray detectors produce pulse spectra corresponding to the energies of the detected gamma rays. Pulse height channel selectors are used to produce signals representing the 1.6 mev. gamma rays and the 6 mev. gamma rays detected by each detector. These signals are converted to counting rates and are recorded as a function of depth in the borehole. Also, signals representing the ratios of the two counting rates for each detector are recorded as a function of depth for both detectors. In addition, a signal representing the ratio of the two ratios is recorded also as a function of depth. These recorded signals can be compared to determine the presence and quantity of sodium.

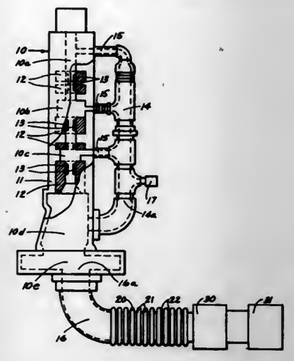
3,514,599
ELECTRON PROBE MICROANALYZER HAVING A PLURALITY OF X-RAY SPECTROMETERS POSITIONED TO MINIMIZE X-RAY DEFOCUSSING DURING SPECIMEN SCANNING
Alistair John Campbell, Cambridge, England, assignor to Cambridge Instrument Company Limited, London, England, a British company
Filed Feb. 16, 1968, Ser. No. 706,002
Claims priority, application Great Britain, Feb. 16, 1967, 7,462/67
Int. Cl. H01j *37/28*; G01n *23/20*
U.S. Cl. 250—49.5 **6 Claims**



In a scanning electron probe X-ray micro-analyser employing at least three separate X-ray spectrometers of the crystal or grating type, the electron beam is caused to scan the specimen surface in only one dimension along a given line and the spectrometers are arranged around the specimen in such a manner that the plane of each spectrometer contains a line that is perpendicular both to the above-mentioned given line and to the path of the X-rays from the specimen to the spectrometer, thereby allowing the maximum number of spectrometers to be used with the minimum of de-focussing resulting from the scan.

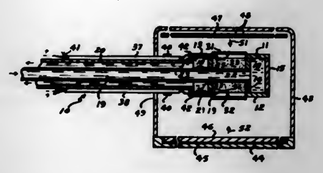
3,514,600
FLEXIBLE CONDUIT MEANS FOR CONNECTING AN ELECTRON MICROSCOPE TO A VACUUM PUMP
Alton R. Taylor, Grosse Pointe Park, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
Filed Nov. 20, 1967, Ser. No. 684,387
Int. Cl. H01j *37/26*
U.S. Cl. 250—49.5 **6 Claims**

A mechanically stable high vacuum system is provided for operations at 10^{-6} torr, comprising a vacuum chamber connected to a turbine molecular pump by way of a shock attenuating coupling. The coupling is a flexible metal tube or conduit formed with axially aligned circumferential pleats. The spaces between the outside of the pleats are filled with resilient flexible material (e.g., rubber) such that when the vacuum is drawn on the system the pleats are prevented from making metal-to-metal contact. Vibration imparted by pumping is thus attenuated and kept from



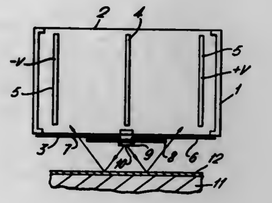
reaching the vacuum chamber so that the chamber remains mechanically stable. The reduced pressure atmosphere (vacuum) within the chamber, unlike vacuum systems using an oil pump, is oil-free, since the turbine pump contains no working fluid to contaminate the system. In a preferred form of the invention the chamber is an electron microscope column preferably equipped with high capacity pumpout manifold means.

3,514,601
TRANSDUCER APPARATUS FOR THERMAL FLUX MEASUREMENT
William E. Alexander, Yellow Springs, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 5, 1968, Ser. No. 750,330
Int. Cl. G01t *1/16*
U.S. Cl. 250—83 **9 Claims**



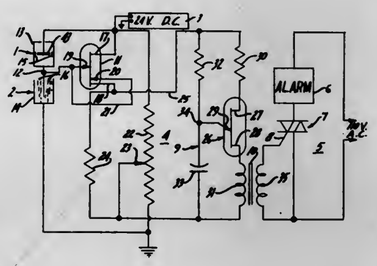
A flux metering apparatus for sensing net thermal radiation between heat source and test structure to obtain transducer electrical output signal independently of test structure properties and where temperatures exceed usable limits of thermocouples in oxydizing atmospheres. Two metal discs receive radiant thermal energy from two opposing directions. Two thermocouples monitor the temperatures at the center of corresponding discs so that difference in their signals is proportional to net thermal flux impinging on the discs. The discs are thermally isolated from each other and welded peripherally to a liquid cooled heat sink which has a chamber that interconnects concentric inlet and outlet tubes.

3,514,602
DIFFERENTIAL ION CHAMBERS
John Rathbone Rhodes, Austin, Tex., assignor to United Kingdom Atomic Energy Authority, London, England
Filed Dec. 16, 1966, Ser. No. 602,355
Claims priority, application Great Britain, Sept. 8, 1966, 40,108/66
Int. Cl. G01t *1/18*
U.S. Cl. 250—83.6 **2 Claims**



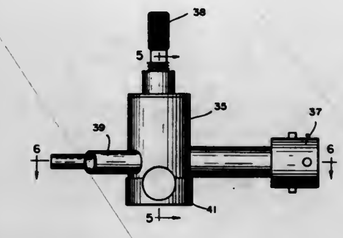
A differential ion chamber has spaced positively and negatively polarized electrodes together with a substantially central collecting electrode. The chamber includes a front window giving access to the spaces enclosed by the collecting electrode, the other electrodes and a back window on the side of the spaces remote from the front window. A pair of balanced differential filters is provided, one associated with each half of the front window, whereby radiation passing through the first balanced filter enters the space between the first electrode and the collecting electrode, and similarly for the second balanced filter. A shield covers a substantially central portion of the front window, and has one or more sources mounted on the side thereof remote from such window.

3,514,603
IONIZATION CHAMBER DETECTION APPARATUS HAVING A LOW VOLTAGE SOURCE MEANS
Carl F. Klein, Milwaukee, Wis., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 22, 1966, Ser. No. 604,058
Int. Cl. G01t *1/18*
U.S. Cl. 250—83.6 **11 Claims**



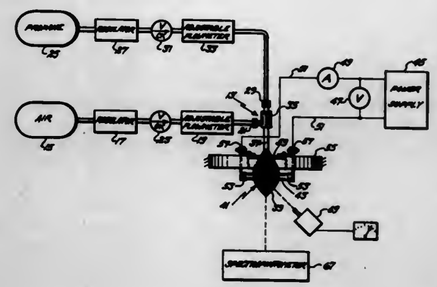
This disclosure relates to a double ionization chamber connected to a D.C. voltage source of the order of twenty-five volts. A common electrode is connected to the input element of a field effect transistor which is connected in a circuit to supply power from the low voltage source to a unijunction transistor oscillator. A pulse transformer connects the oscillator to the gate of a "Triac" which is connected in series with an A.C. power supply and an audible alarm.

3,514,604
PULSED MICROWAVE LIGHT SOURCE
Richard E. Grojean, North Weymouth, Mass., assignor to McPherson Instrument Corporation, Acton, Mass., a corporation of Delaware
Filed June 28, 1968, Ser. No. 741,036
Int. Cl. H01j *37/00*
U.S. Cl. 250—84 **9 Claims**



Gaseous light sources for emitting relatively high intensity radiation in the vacuum ultraviolet region, employing microwave excitation to sustain a gas discharge and provide the energy for exciting gas molecules. A tuned microwave cavity couples the energy from a magnetron to the gas contained in a quartz envelope. The microwave source is operated in the pulsed mode within a specific range of repetition rates with a carefully controlled pulsed duration between 2 and 4 microseconds.

3,514,605
ELECTRO-CHEMICAL SYNERGISTIC CONTINUOUS INFRARED SOURCE
William S. Cronk and Ignatius W. Semmes, Fort Walton Beach, Fla., assignors to the United States of America as represented by the Secretary of the Air Force
Filed July 17, 1967, Ser. No. 654,017
Int. Cl. H01j *35/00*
U.S. Cl. 250—85 **1 Claim**

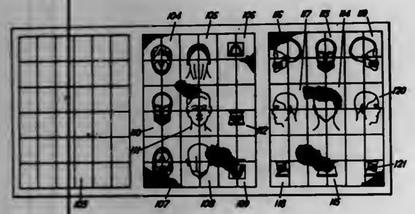


An electrical infrared element including a silicon carbide resistor is mounted for radiation in a cone reflector housing. The infrared element is combined with a propane-air flame which emanates from a modified vortex tube through an opening behind the element and is directed so as to envelope the active emission length of the element. The radiation source thus created by the cooperative action of the flame and element combination produces a total synergistic output approximately one and one-half times greater than the sum of the effect of the flame and the element taken independently.

3,514,606
APPARATUS FOR USE IN RECORDING DETAILS OF HEADS

Graham P. Rabey, Greenbanks, Trout Rise, Loudwater, Hertfordshire, England

Filed May 12, 1967, Ser. No. 638,011
Int. Cl. G03b 41/16
U.S. Cl. 250—65 20 Claims



The invention concerns a photographic record of the head consisting of internal and external photographs all to the same scale and superimposed on a standard lattice grid. The photographs are taken in directions along three mutually perpendicular reference axes in the head. The invention is also concerned with photographic and model making units for use in preparing the record.

3,514,607
COMPOSITE SHIELDS AGAINST LOW ENERGY X-RAYS

Edward W. Webster, Lexington, Mass., assignor to The Massachusetts General Hospital, Boston, Mass., a corporation of Massachusetts

No Drawing. Continuation-in-part of application Ser. No. 484,893, Sept. 3, 1965. This application Dec. 6, 1967, Ser. No. 688,377
Int. Cl. G21f 1/12, 3/02
U.S. Cl. 250—108 10 Claims

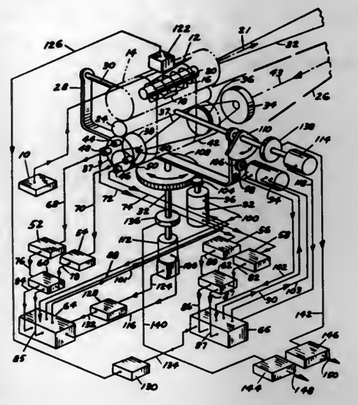
An invention is described which makes use of the discovery that the absorption of low energy X-ray photons in a specified element when combined with lead is greater than the sum of the absorptions measured separately for this element and for lead. The X-ray fields for which this synergistic effect occurs are those generated with X-ray tube voltages up to 130 kvp. and comprise those commonly used in medical X-ray examinations and light industrial radiography. The special elements for which this effect occurs include tin, antimony, iodine and barium. The effect is optimized when lead and one of these elements are arranged in layers with the lead layer next to zone to be protected against radiation, and when the amount by weight of the special element exceeds that of lead. The invention specifically relates to flexible or rigid radiation shields which may take the form of protective garments or structural radiation barriers for the express purpose of absorbing X-rays generated at kilovoltages below 130 kvp.

3,514,608
LASER ERRORED AZIMUTH-ELEVATION SERVO LOCKON TRACKING SYSTEM

Lloyd A. Whetter, Ferndale, Mich., assignor to the United States of America as represented by the Secretary of the Army

Filed Sept. 8, 1967, Ser. No. 667,330
Int. Cl. G01c 3/08; G01j 1/20
U.S. Cl. 250—203 7 Claims

A system for tracking a moving object utilizing a laser beam which is caused to follow the target by means of a servomechanism which is responsive to the output of detectors which convert the return light beam into electrical signals. The servomechanism operates on a nulling principle such that the servo will cause the system to turn until

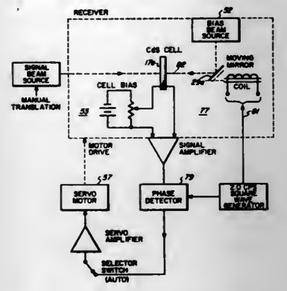


the beam is on target when the system will balance and be in the null condition.

3,514,609
LIGHT SOURCE TRACKING APPARATUS BY LIGHT STANDARD COMPARISON

Raymond P. Borkowski, Dallas, Pa., Daniel Grafstein, Morristown, N.J., and Robert A. Flower, White Plains, N.Y., assignors to Singer-General Precision, Inc., a corporation of Delaware

Filed Oct. 13, 1967, Ser. No. 675,231
Int. Cl. G01b 11/27; G01j 1/10; H01j 39/12
U.S. Cl. 250—203 3 Claims



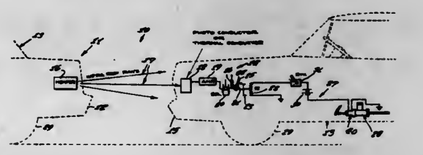
A beam tracking device, comprising in combination, optics receiver means including means for gathering and focusing energy as a beam, e.g. star energy, laser beam, etc. a flat photocell disposed to receive said energy focused as a spot on one side thereof including cell electrical bias means and an output line; an internal beam source in said device producing a beam which is to be focused on the other side of said photocell as a spot; scanning means including a mirror and means for moving said mirror in a scan pattern disposed for moving said internal beam spot on said other side of the photocell in the scan pattern; and, a servo means connected to said output line including means to detect the coincidence of said energy beam spot and said internal beam spot by the current multiplication effect output caused thereby

including moving means to move said device so that said internal beam spot seeks to maintain coincidence with said energy beam spot.

3,514,610
PHOTOCELL DEVICE TO PREVENT AUTOMOBILE REAR END COLLISIONS

Victor J. Huston and Roberta L. Huston, both of 2363 Dangl Road, Muskegon, Mich. 49444

Filed Jan. 4, 1967, Ser. No. 607,311
Int. Cl. G01j 1/32
U.S. Cl. 250—206 1 Claim

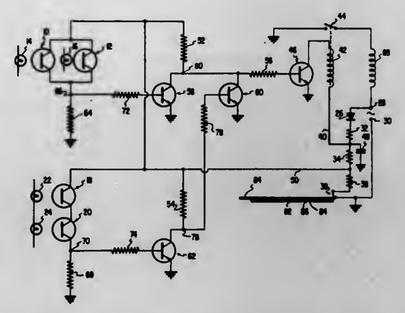


A sensing device for preventing automobile rear end collisions, the device comprising a ray emitting device in the rear end of an automobile which activates a photo or thermo-conductor in the front end of a following vehicle, the conductor operating a mechanism which activates the automobile brake in case the vehicles approach too close together.

3,514,611
ELECTRICALLY ACTUATED SECURITY SYSTEM

Roy M. Cohen, Little Compton, R.I., assignor to International Dryer Corporation, New Bedford, Mass., a corporation of Massachusetts

Filed Jan. 26, 1968, Ser. No. 700,909
Int. Cl. H01j 39/12; G01n 21/30
U.S. Cl. 250—208 3 Claims



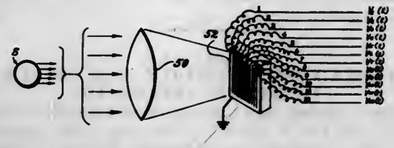
Two sets of photocells, one set in series with each other and the other set in parallel with each other, individually control circuit elements such that a coded card masking all of the parallel photocells while unmasking all of the series photocells operates to energize the circuitry to a mechanism-unlocking condition.

3,514,612
ASTRONOMICAL SEEING CONDITIONS MONITOR

Albert L. de Graffenried, 30 Washington Ave., Glen Head, N.Y. 11545

Filed Aug. 23, 1967, Ser. No. 662,708
Int. Cl. G01n 21/26
U.S. Cl. 250—218 6 Claims

Apparatus for measuring the effect of perturbations of a medium on a beam of energy propagated therethrough, by measuring the center-of-gravity of image

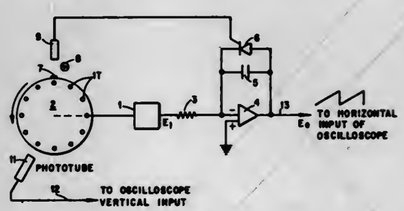


intensity as a function of time.

3,514,613
SYSTEM PROVIDING STABLE PULSE DISPLAY FOR SOLUTION ANALYZER

Douglas N. Washburn, Clinton, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 18, 1968, Ser. No. 784,719
Int. Cl. H04n 3/12; G01n 21/26
U.S. Cl. 250—218 4 Claims

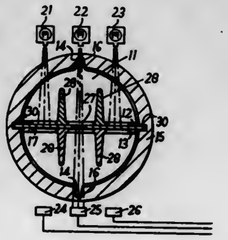


In a photometric solution analyzer including an oscilloscope display device for the simultaneous determination of the concentration of a common substance in a plurality of discrete samples, an electronic system is provided for automatically matching the horizontal sweep time of the oscilloscope to the time required for each revolution of a centrifuge rotor of the analyzer, the rotor containing a plurality of the samples being analyzed, thus providing a stable display despite the fact that the generation-times for the trains of pulses from the analyzer are short and variable.

3,514,614
PNEUMATIC INFORMATION-TRANSFER SYSTEM

Alfred Freeman, 94 Orlingbury Road, Isham, Northamptonshire, England

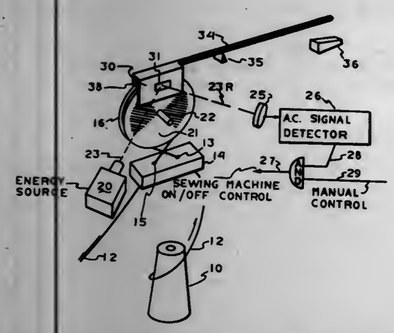
Filed Feb. 20, 1967, Ser. No. 617,328
Claims priority, application Great Britain, Feb. 19, 1966, 7,388/66
Int. Cl. G01n 21/30
U.S. Cl. 250—219 6 Claims



A system in which information coded on tickets and carried by a form of bullet is transmitted through a tube under pneumatic impulsion to a scrutinizing point at which

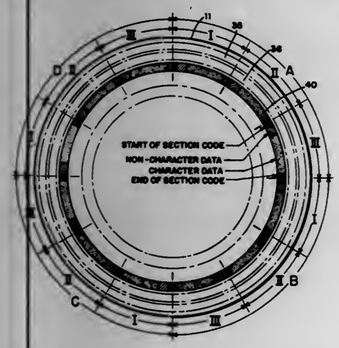
the information is read by light-sensitive means and may be used to control machine operations or for other purposes.

3,514,615
THREAD DISCONTINUITY AND DEFECT DETECTION APPARATUS
Douglas G. Nolles, New Canaan, Charles Szentkuti, Ridgefield, and Alan F. Swenson, Norwalk, Conn., assignors, by mesne assignments, to Ivanhoe Research Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 28, 1967, Ser. No. 619,380
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **16 Claims**



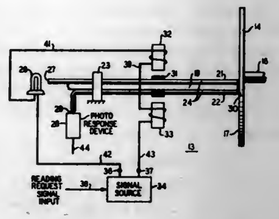
Thread fed to a sewing machine needle from a supply is threaded around a freely rotatable wheel. The wheel is rotated as the thread is drawn from the supply. Part of the wheel, when rotating, converts substantially continuous wave energy intersecting with the wheel to pulsating or pulsed wave energy. The characteristics of the energy are detected with the pulsating or pulsed wave characteristic indicative of continued rotation and therefore thread continuity. Thread knots, tangles, fiber bunching, enlargement and/or other bulging defects are detected by displacement of a mask which simulates cessation of rotation.

3,514,616
RAPID ACCESS CHARACTER MEMORY
Edwin R. Kolb, University Heights, Ohio, assignor to Harris Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Continuation of application Ser. No. 710,348, Mar. 4, 1968. This application Feb. 26, 1969, Ser. No. 805,105
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **19 Claims**



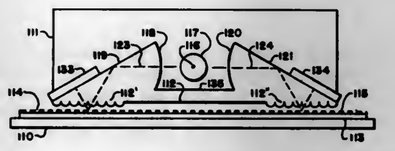
An optical character memory containing digital information is used in conjunction with a light source and a plurality of photoelectric transducers to produce electrical signals for the generation of alphanumeric characters of typesetting quality on a cathode ray tube for photographic recordation. The digital data representing the single character is divided into a plurality of sections to provide for rapid access to that data. Each of the sections is supplied with digital codes indicating the start of the section, and the coordinates for positioning the cathode ray tube beam within the character field thereby permtting the character to be generated from any sequence of sections making up a complete character.

3,514,617
VIBRATING FIBER OPTIC DEVICE FOR SENSING ANGULAR DISPLACEMENT OF A SHAFT
Battle H. Klyce, Sea Bright, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Apr. 11, 1968, Ser. No. 720,584
Int. Cl. G02b *5/14*
U.S. Cl. 250—227 **7 Claims**



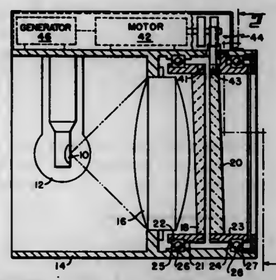
An angular position to frequency transducer suited for remote utility meter reading systems is described. The transducer utilizes cantilevered light pipes to scan an optically coded disc. A light source mounted adjacent one of said light pipes illuminates the disc. A photoresponsive device mounted adjacent a second of the light pipes provides a signal dependent upon illumination reflected by the disc.

3,514,618
GRATING-TYPE ELECTROOPTICAL TRANSDUCER WITH LENTICULAR LENSES
Harold H. Seward, 16 Frost St., Arlington, Mass. 02174
Continuation-in-part of application Ser. No. 520,446, Jan. 13, 1966. This application Sept. 12, 1968, Ser. No. 759,467
Int. Cl. G01d *5/34, 5/38*
U.S. Cl. 250—233 **17 Claims**



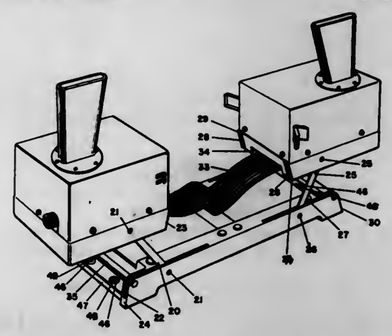
A grating-type optical electromechanical transducer is shown wherein a fringe pattern is developed between a lenticular lens and a single grating, to provide improved optical efficiency over the prior art in which the fringe pattern is developed between a pair of gratings. Embodiments are shown for both linear and circular motion and with pairs of transducers in quadrature to show the sense of the motion. It is also shown that lenticular-lens and collimating lens elements may be combined into an integral quadrature pair.

3,514,619
OPTICAL-MECHANICAL SCANNING APPARATUS UTILIZING OPPOSITELY OSCILLATING OPTICAL WEDGES
Andrew T. Ireland, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Nov. 30, 1967, Ser. No. 686,869
Int. Cl. G02b *17/00;* **G02f** *1/16*
U.S. Cl. 250—235 **6 Claims**



Infrared energy directed onto a detector is scanned by means of two oppositely oscillating optical wedges. The drive for the mechanism includes a reversible D.C. motor supplied with a square wave, the energy level of which may be varied.

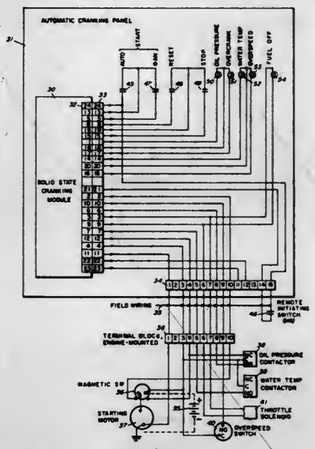
3,514,620
EXPANDABLE ELECTRO-OPTICAL HEIGHT SENSOR
Ronald E. Wiggerman, McHenry, Ill., assignor to Chicago Aerial Industries, Inc., Lake County, Ill., a corporation of Delaware
Filed Dec. 15, 1967, Ser. No. 691,025
Int. Cl. H01j *5/02, 39/12*
U.S. Cl. 250—239 **5 Claims**



An expandable electro-optical pickup unit that allows variation of the in-line separation of the sensing elements of a multiple sensor detecting device. Expansion is achieved by means of parallel arm hinges that swing the sensors in opposite directions away from a base member while retaining control of their relative spacing and alignment.

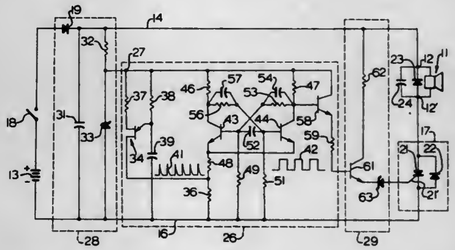
3,514,621
SOLID STATE CRANKING MODULE
Lowell T. Farmer, Hyde Park, N.Y., and Leon B. Crocker, Richmond, Va., assignors to Power Systems and Controls, Incorporated, Richmond, Va., a corporation of Virginia
Filed Feb. 13, 1967, Ser. No. 615,556
Int. Cl. F02n *11/00*
U.S. Cl. 290—37 **25 Claims**

Solid state circuitry for controlling starting operation of internal combustion engine, for monitoring its condition during running, and for automatically shutting down engine upon occurrence of a fault. Circuit includes timing



networks for limiting the cranking time and for allowing the engine to run a selected period of time after shutdown, unless shutdown is due to a fault condition.

3,514,622
ACTUATOR CIRCUIT FOR A VEHICLE HORN
Philip J. Costa, Chillicothe, and Weldon L. Phelps, Dunlap, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 29, 1968, Ser. No. 724,966
Int. Cl. B60g *5/00*
U.S. Cl. 307—10 **4 Claims**



A horn of the type which sounds intermittently during certain vehicle operating conditions, such as when the vehicle is traveling in reverse, is provided with a highly reliable solid state actuator circuit comprised of a multivibrator beep timer with an input and output buffered against voltage fluctuations in the vehicle power supply to provide for extreme stability of the beep frequency.

3,514,623
CONTROL SYSTEM FOR OPERATING ELECTRICAL AUTOMOTIVE ACCESSORIES INDEPENDENTLY OF OTHER AUTOMOTIVE ACCESSORIES
John D. Ballard, 15270 Winton Way, San Jose, Calif. 95124
Filed Nov. 20, 1967, Ser. No. 684,275
Int. Cl. B60g *1/44*
U.S. Cl. 307—10 **4 Claims**

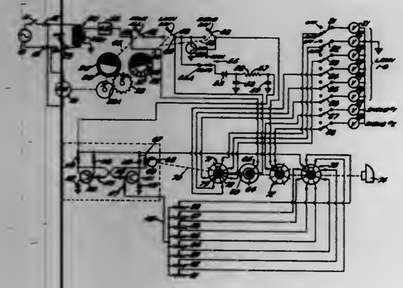
An electric control system which can be simply attached, mechanically and electrically to an existent automotive

vehicle to provide control for various accessories such as the light system of a trailer. The control system is a circuit including a pressure operated switch responsive to



foot pressure and manual controls housed in a box which may be placed on the central floor section of the passenger compartment of an automobile.

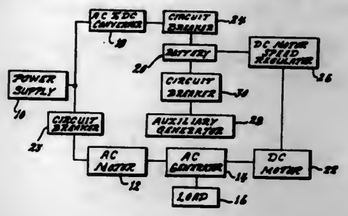
3,514,624
SPRINKLER SYSTEM AND VARIABLE TIMING MEANS
John T. Jans, 19321 E. Richardson, Glendora, Calif. 91740; Marvin E. Jones, Valinda, Calif. (P.O. Box 37, Glendora, Calif. 91740); and William E. Swanson, 1015 Carolyn Ave., San Jose, Calif. 95125
Continuation of application Ser. No. 532,450, Mar. 7, 1966. This application Mar. 10, 1969, Ser. No. 805,903
Int. Cl. H02j *3/14*
U.S. Cl. 307—41 12 Claims



An automatic water sprinkling system with two rotatable discs mounting circumferentially spaced adjustable pins and a electrical circuit including a multivibrator connected to the motor. The motor shaft drives a plurality of wafer type switches associated with various operating stations. The system has a manual override.

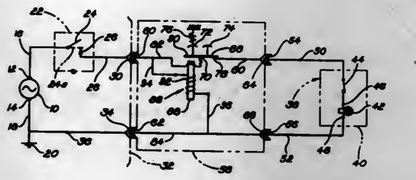
3,514,625
SYSTEM FOR PROVIDING UNINTERRUPTED ELECTRICAL POWER
Abbot A. Lane, West Acton, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 20, 1968, Ser. No. 706,978
Int. Cl. H02j *7/00, 9/00*
U.S. Cl. 307—67 1 Claim

A system for providing uninterrupted electrical power including an AC motor, AC generator and DC motor mechanically connected whereby, if the AC motor fails the DC motor will continue to operate on battery power, or alternatively, a similar system whereby the DC motor is replaced by a DC motor generator which normally



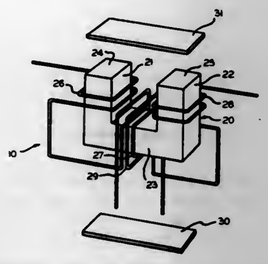
operates as a generator charging a battery and a flywheel being provided to operate the generator during the changeover to a DC motor in the event of an AC power failure.

3,514,626
SWITCHING CIRCUIT
George E. Platzer, Jr., Southfield, Mich., assignor of ten percent to Lon H. Romanski, Detroit, Mich.
Filed Oct. 16, 1968, Ser. No. 767,942
Int. Cl. H02j *13/00*
U.S. Cl. 307—114 11 Claims



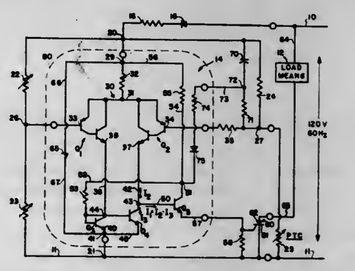
Typically, a circuit adapter provides additional switching members which when employed with, for example, a switched electrical wall outlet enables the energization of a load, remotely situated from said outlet, with either one of the additional switching members or the switch controlling the switched wall outlet.

3,514,627
PROXIMITY SWITCH
Richard C. Bridgeman, Northbrook, Ill., assignor to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 20, 1968, Ser. No. 714,647
Int. Cl. H01h *35/00*
U.S. Cl. 307—116 16 Claims



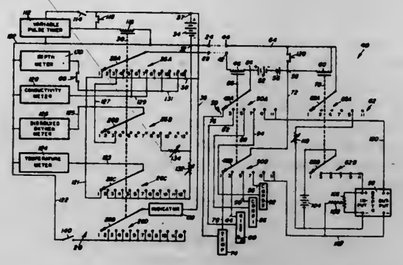
Proximity switch including an inductive sensor and circuitry associated with the sensor comprising an amplifier for amplifying the signal from the sensor, a discriminator receiving the output of the amplifier, a differential amplifier receiving the output of the discriminator, and a switching amplifier receiving the output of the differential amplifier.

3,514,628
CONDITION RESPONSIVE CONTROL APPARATUS
Balthasar H. Pincksers, Edina, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 13, 1968, Ser. No. 783,597
Int. Cl. G05f *1/44*
U.S. Cl. 307—117 10 Claims



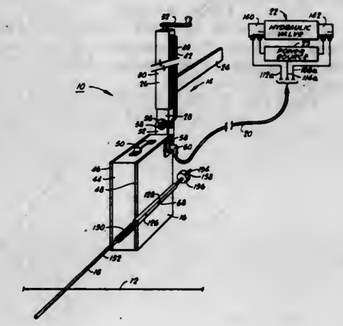
A solid state heating control system that uses a bridge network and differential amplifier to fire a silicon controlled rectifier to in turn energize a heating load. The bridge network is paralleled by a four-layer diode which breaks down at a selected voltage level to limit the operation of the system to the early part of the applied alternating current voltage cycle. The differential amplifier utilizes a current comparator to control the firing of the silicon controlled rectifier when there is a need to energize the load, and a charged capacitor is utilized to create a constant differential in operation of the system.

3,514,629
TWO-CONDUCTOR REMOTE SWITCHING AND TRANSMITTING CONTROL SYSTEM
Donald K. MacDonald, 1203 Belknap Court, Cupertino, Calif. 95014
Filed Jan. 23, 1969, Ser. No. 794,483
Int. Cl. H04g *9/14*
U.S. Cl. 307—140 12 Claims



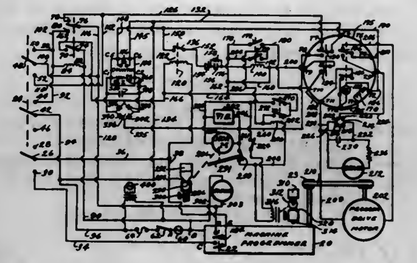
Electrical switching power is transmitted from a master station to a slave station over two conductors which are also used to transmit information signals between the master and slave stations. The slave station discriminates between switching and information signals, enabling simultaneous connection of switching and information circuitry to the two conductors.

3,514,630
LINE TRACER CONTROL DEVICE
Thomas L. Steele and Ralph K. Snow, Jr., Oklahoma City, Okla., assignors to CMI Corporation, a corporation of Oklahoma
Filed Nov. 15, 1967, Ser. No. 683,256
Int. Cl. H01h *3/16*
U.S. Cl. 307—118 10 Claims



Apparatus for providing a control indication of variations of moving machinery or such relative to a line tracer, the apparatus consisting of a movable sensing rod which can be maintained in contact with the line tracer and which transmits its movement to a rotary contact device which provides electrical output indicative of movement of the tracer from a preselected disposition with respect to the machinery or such. The rotary contact device consists of a pair of oppositely oriented, commutating contact surfaces in cooperation with a pair of contacts such that an electrical output will be provided on one or the other in response to a variation of the rotor position to one or the other sides of a preselected null point.

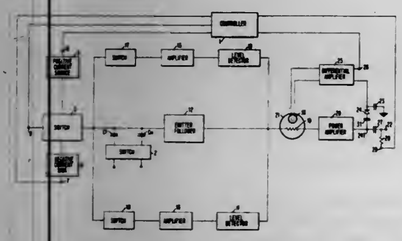
3,514,631
AUTOMATIC RECYCLING OF WASHING MACHINE AND AUTOMATIC DISPENSING OF DETERGENT
Robert H. Best, Greensboro, N.C., John Maxcy Cochran, Jr., Greenville, S.C., and Kenneth Y. Wang, Greensboro, N.C., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Feb. 21, 1968, Ser. No. 707,255
Int. Cl. H01h *7/14*
U.S. Cl. 307—141 4 Claims



The invention relates to apparatus for recycling a machine such as an automatic washing machine of the type which automatically performs a complete cycle compris-

ing a number of operations in a predetermined order. A predetermined amount of liquid or solid detergent may be dispensed into the machine at the beginning of each cycle. A counter may record the number of cycles started and prevent further recycling after a predetermined number of cycles.

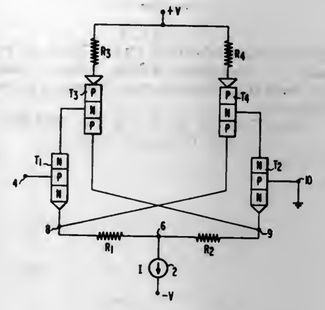
3,514,632
PROGRAMMABLE SAWTOOTH WAVEFORM GENERATOR
James W. Henderson, Bedford, Mass., and Leonard Prymak, Endicott, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 5, 1967, Ser. No. 673,218
Int. Cl. H03k 4/00
U.S. Cl. 307—228 **5 Claims**



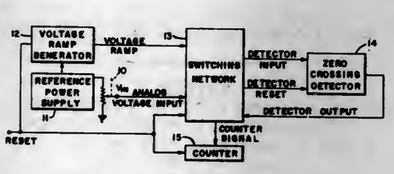
The amplitude, period, polarity and reference level of a sawtooth waveform are rapidly and precisely controlled. A positive current source or a negative current sink is selectively connected to one or more integrating capacitors. Discriminating means are rendered effective when the voltage across the capacitors reaches a selected positive or negative value for activating switch means to discharge the capacitors; and the cycle is repeated. The capacitor voltage is applied to a power amplifier. The peak amplitude at the output of the power amplifier is compared with a reference voltage in a differential amplifier in a negative feedback loop around the power amplifier. The feedback loop adjusts the peak amplitude at the output of the power amplifier to the reference voltage level. The polarity of the sawtooth signal at the output of the power amplifier is determined by which of the current sources (positive or negative) is applied to the integrating capacitors. The current level of the source is externally controlled to determine the period of the sawtooth waveform. The level of the reference voltage applied to the differential amplifier determines the maximum level of the sawtooth waveform at the required load driving capability, and a controllable D-C power supply coupled to the power amplifier output determines the offset or reference level of the sawtooth waveform.

3,514,633
THRESHOLD DETECTOR CIRCUIT WITH CROSS COUPLED TRANSISTOR PAIRS
Eugene N. Schroeder, Bethesda, Md., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 14, 1966, Ser. No. 520,585
Int. Cl. H03k 5/20
U.S. Cl. 307—235 **2 Claims**

A voltage level detector circuit is shown in which four transistors are arranged to be stable in either of two states such that the first and third transistors are on when the second and fourth transistors are off and vice versa. The voltage level applied to the bases of the first and second transistors with reference to the threshold level determines which pair of transistors will conduct. The emitter of the first transistor is cross-coupled to the collector of the fourth transistor and the emitter of the second transistor is cross-coupled to the collector of the third transistor to achieve a change in voltage across the emitter reference impedances in response to the current through the respective third and fourth transistors.



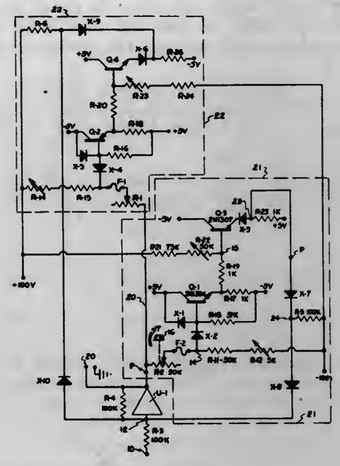
3,514,634
CIRCUIT FOR CONVERTING VOLTAGE TO TIME
Orville R. Balcom, Jr., San Pedro, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 2, 1967, Ser. No. 672,387
Int. Cl. H03k 5/20
U.S. Cl. 307—235 **4 Claims**



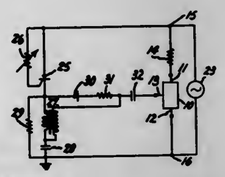
A voltage ramp generator supplies a negative-going ramp voltage through a switching network to a zero crossing detector which supplies a pulse to the switch network when the ramp voltage crosses through zero. Upon receipt of the pulse, the switching network starts a counter and also adds the analog input voltage to the ramp voltage. When the input to the zero crossing detector again crosses zero, another pulse is fed to the switching network which then stops the counter. The output of the counter is a representation of the analog input voltage.

3,514,635
ANALOG COMPUTER FEEDBACK LIMITER CIRCUIT
Edward O. Gilbert, Ann Arbor, Mich., assignor to Reliance Electric Company, Cleveland, Ohio, a corporation of Delaware
Continuation of application Ser. No. 412,481, Nov. 19, 1964. This application Sept. 18, 1968, Ser. No. 764,018
Int. Cl. H03k 5/08
U.S. Cl. 307—237 **15 Claims**

An analog computer active limiter circuit including a feedback amplifier, an adjustable voltage divider excited by the amplifier output, a current-amplifier responsive to a voltage level determined by adjustment of the voltage divider and operative to apply feedback current degeneratively to the feedback amplifier through a diode, with calibration and protective circuitry.



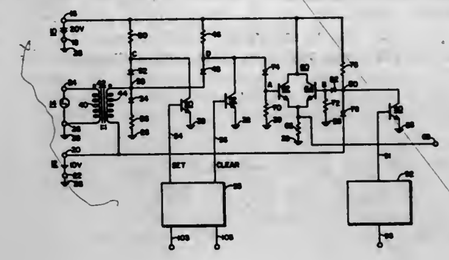
3,514,636
TRIGGERING CIRCUIT FOR POWER SWITCHING VACUUM GAP DEVICE
George A. Farrall, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 11, 1965, Ser. No. 494,464
Int. Cl. H03k 17/00
U.S. Cl. 307—252 **8 Claims**



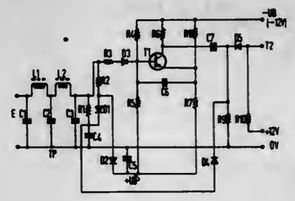
Triggering circuits for a power switching vacuum gap device constrain trigger current to rise at substantially the same rate as anode or main gap current. This control is achieved by using a silicon controlled rectifier or other switching device wherein the initial instant of conduction occurs at a time largely determined by the characteristics of the circuit protected by the vacuum gap device. The trigger electrode of the vaccum gap device is energized throughout a predetermined interval in order to insure conduction through the main gap during the entire interval.

3,514,637
CONTROL APPARATUS
Robert L. Herrmann, New Brighton, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 27, 1967, Ser. No. 693,843
Int. Cl. H03k 17/00
U.S. Cl. 307—254 **9 Claims**

An electronic switch responsive to control pulses to switch an A-C signal in such a way that voltage steps or spikes are not produced at the output during switching.



3,514,638
PULSE DETECTION APPARATUS
Hans Blauert, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany
Filed Sept. 28, 1967, Ser. No. 671,482
Claims priority, application Germany, Sept. 29, 1966, S 106,215
Int. Cl. H03k 5/00
U.S. Cl. 307—268 **14 Claims**

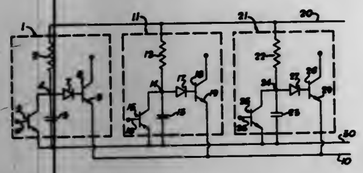


A receiving circuit to detect applied synchronization pulses that are subject to distortion during transmission to said receiving circuit. An integration circuit is utilized to evaluate applied synchronization pulses and control operation of a transistor switch, so that the receiving circuit is responsive to the trailing edges of received synchronization pulses to corresponding control pulse generating means associated with the receiving circuit. The pulse generating means therefore produce pulses corresponding to applied pulses evaluated as synchronization pulses. The receiving circuit is not responsive to distortions in the amplitude of transmitter synchronization pulses, to harmonic distortions thereof, or to other disturbance signals, and therefore ensures accurate detection and evaluation of received synchronization pulses.

3,514,639
VARIABLE CONDUCTION ANGLE POLYPHASE SYNCHRONIZATION CIRCUIT
Philip M. Gundlach, Belleville, Ill., and Robert D. Munson, Jennings, Mo., assignors to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Oct. 17, 1966, Ser. No. 587,296
Int. Cl. H03k 5/00, 17/00
U.S. Cl. 307—269 **6 Claims**

A control circuit for generating signals synchronized with the phases of a polyphase alternating current, at variable conduction angles, having particular use as a gating circuit for controlling the firing angles and synchronizing the firing pulses for a full wave three-SCR bridge-type three phase AC rectifier. Each of three identical firing cir-

cuits, each connected to one phase of the current, including a capacitor charged by a single constant current source, a shunting switch connected to a line carrying the respective phase associated with the firing circuit, and a sensing means for sensing the ramp voltage generated at the capacitor when the switch is open and comparing this

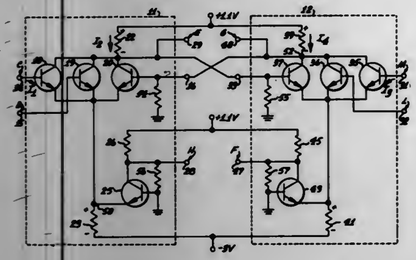


voltage with a variable control voltage. The switch is preferably a transistor having its base connected to a line synchronized with a phase of the current, and the voltage sensing means is a transistor having its base connected to the capacitor and a variable control voltage applied to its emitter.

3,514,640
MEMORY FLIP-FLOP

Darrell L. Fett, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York

Filed Feb. 3, 1967, Ser. No. 613,944
Int. Cl. H03k 3/12
U.S. Cl. 307—289 9 Claims



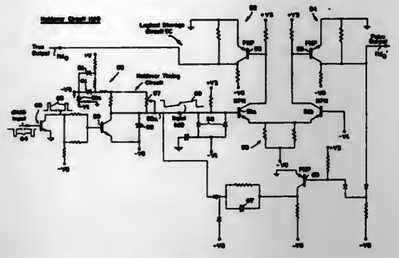
A pair of current-mode NOR/OR-gates and a pair of current-mode NOR-gates provide a flip-flop having a plurality of output terminals which are isolated from each other. The current-mode operation of these gates allows small values of input signals to set or reset the flip-flop when a predetermined combination of signals is applied to a plurality of input terminals. A single signal applied to a reset input terminal resets the flip-flop regardless of the signals which may be applied to the other input terminals.

3,514,641
HOLDOVER CIRCUIT

Robert O. Gunderson, Sidney L. Valentine, and Martin H. Jurick, Torrance, and Paul Higashi, Gardena, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Original application Jan. 18, 1965, Ser. No. 426,105, now Patent No. 3,426,328, dated Feb. 4, 1969. Divided and this application Oct. 24, 1968, Ser. No. 770,286
Int. Cl. H03k 17/26
U.S. Cl. 307—293 4 Claims

A logical circuit having true and false output stages has a "normal" output condition wherein the true and false output stages are respectively at complementary high and low signal levels if the input line to the logical circuit is at its high binary signal level. When a signal input pulse puts the input line at its low binary signal level, then the complementary signal levels of the true and false output stages will invert in signal level for a predetermined period of time and then revert to their normal condition level outputs. The predetermined time

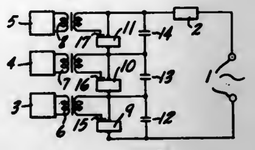


period is adjustable through an RC network having an adjustable resistor and a Zener controlled voltage circuit. The precision of the timing period is made certain and definite by use of a positive feedback circuit from the false output stage to the input of a transistor in a differential amplifier which "triggers on" the transistor when its input reaches the critical threshold level.

3,514,642
ELECTRICALLY CONTROLLED SWITCH

Arne Jensen, Havnbjerg, Als, Denmark

Continuation of application Ser. No. 437,983, Mar. 8, 1965. This application Oct. 10, 1968, Ser. No. 789,626
Claims priority, application Germany, Mar. 13, 1964, D 43,872
Int. Cl. H03k 17/74
U.S. Cl. 307—305 6 Claims



A switching circuit for use in logic operations and the like having a plurality of serially connected voltage-responsive, bilateral, solid state switching elements of the type changing from a high resistance value to a low resistance value when a predetermined switching threshold voltage is applied thereacross assuming an "on" condition upon application of voltage trigger pulses of the same polarity as the half-waves of a voltage source connected to the circuit without necessity of absolute synchronism of the trigger pulses applied to the various switching elements within the same half-wave voltage from the voltage source. A voltage divider of series impedances applies holding current to the switching elements individually to maintain the "on" condition to avoid necessity of synchronism of the pulses.

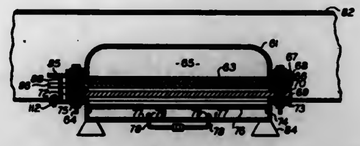
3,514,643
THERMIONIC GENERATOR

Alexander M. Senkewich, New York, N.Y., assignor of seven and one-half percent each to Marjorie Kingston, Flushing, N.Y., and Linda Hellman, Rye, N.Y.

Filed Feb. 20, 1968, Ser. No. 706,851
Int. Cl. H01j 45/00
U.S. Cl. 310—4 11 Claims

This invention proposes a new design or new construction for an electrical energy source, i.e., the thermionic

generator wherein the anode and the thermionic cathode function in a vacuum or a gas atmosphere in contact with

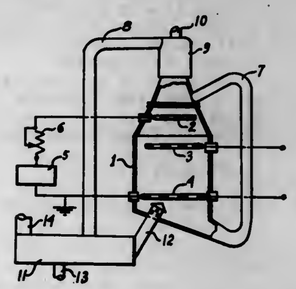


sponge platinum, and the anode is the upper part of the metallic body of the generator.

3,514,644
PLASMA ELECTROSTATIC GENERATOR OF ELECTRICITY

Zygmunt Fonberg, 41 Earls Court Square, London SW. 5, England

Filed Jan. 28, 1964, Ser. No. 340,652
Int. Cl. H02k
U.S. Cl. 310—10 7 Claims

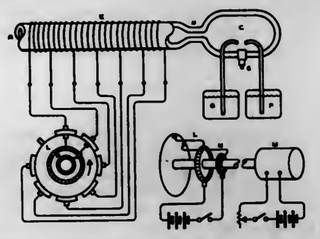


This disclosure is of an electric generator in the nature of a thermal converter as distinguished from one using magnetic fields and moving conductors. Solid granules of particulate matter are driven through a chamber by hot ionized gases which are the products of combustion (of fossil fuels for example). Free electrons are collected at electrodes and potential differences are developed to produce electrical power.

3,514,645
MAGNETOHYDRODYNAMIC TURBINE

Louis Richard O'Hare, 2700 Indiana NE., Albuquerque, N. Mex. 87110

Filed May 24, 1968, Ser. No. 732,803
Int. Cl. H02n 4/00
U.S. Cl. 310—11 2 Claims

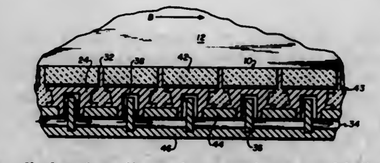


A movable conductive member is supported adjacent to a duct and means provided to pass hot conductive gases through the latter. A winding encircling the duct is arranged to be periodically energized to produce transverse annular currents in the gas by MHD action in order that the resulting moving magnetic fields can impart movement to said conductive member by inducing eddy currents therein.

3,514,646
HEAT RESISTING INSULATION WALL

Toshio Ito, Tetsuya Morikawa, Yutaka Murai, Yukito Kobayashi, and Masato Yanase, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan

Filed Apr. 22, 1968, Ser. No. 723,046
Claims priority, application Japan, Apr. 24, 1967, 42/26,118; June 15, 1967, 42/38,432; Aug. 1, 1967, 42/49,425, 42/49,427, 42/49,428
Int. Cl. G21d 7/02; H02k 45/00
U.S. Cl. 310—11 5 Claims



The disclosed walls each comprise a multiplicity of wall blocklets made of a heat resisting, electrically insulating material disposed at equal intervals in aligned relationship to form a narrow gap between them, which is filled with refractory cement. The exposed surface of the wall is composed of one surface of the blocklets while the opposite surfaces of the blocklets are metallized and brazed to metallic members adapted to be cooled with water.

3,514,647
COOLING ARRANGEMENT FOR DYNAMO-ELECTRIC MACHINES

Norman J. Lipstein, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Sept. 30, 1968, Ser. No. 763,662
Int. Cl. H02k 9/00
U.S. Cl. 310—60 4 Claims



A manifold is provided in each of the spaces between adjacent pole members on the rim of the rotor of a salient-pole dynamoelectric machine for separately directing axial flow of air entering from the ends of the pole members and radial flow entering from the interpolar spaces from ducts in the rim. A generally U-shaped member is provided in the central section of the manifold for maintaining a high velocity over the elements of the sides of the pole members and balance the pressure capabilities of the axial and radial flow induction systems.

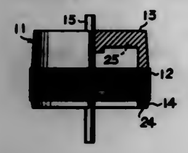
3,514,648
OUTER ROTOR TYPE MOTOR

Toshimasa Fujiwara and Takao Miyasaka, Yokohama, Seiichi Watanabe, Zushi, and Hidekazu Shimizu, Yokohama, Japan, assignors to Victor Company of Japan, Limited, Yokohama, Japan

Filed Sept. 11, 1967, Ser. No. 666,814
Claims priority, application Japan, Sept. 12, 1966, 41/85,496
Int. Cl. H02k 7/00
U.S. Cl. 310—67 8 Claims

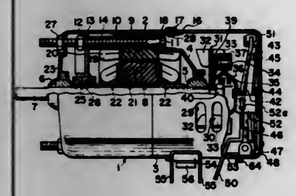
An outer rotor type motor incorporating the following improvements: an end plate and an end ring of a rotor

of this motor are formed to provide on their undersides holes drilled therein or chips inserted in a number of small perforations formed beforehand to effect dynamic balancing adjustments of the rotor; the rotor of this motor has on its outer circumferential surface a portion which is not tapered to facilitate removal of the rotor from a die in forming the rotor by die casting, so that



the rotor can readily be gripped by chuck means and subjected to high precision machining operations; a rotor shaft of this motor or a bore in which is received said rotor shaft is formed with an adhesive reservoir for firmly securing the rotor shaft in the bore; and bearing means of this motor to replace tubular spindle and bearing members of the prior art is formed integrally of an oilless bearing alloy.

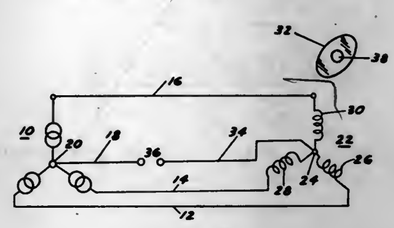
3,514,649
ELECTRIC MOTOR WITH BUILT-IN CENTRIFUGAL GOVERNOR
Fumio Nomura, Hirakata-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Apr. 26, 1967, Ser. No. 633,804
Claims priority, application Japan, Oct. 15, 1966, 41/65,234; Apr. 30, 1966 (utility model), 41/41,162; May 16, 1966 (utility model), 41/46,351; May 30, 1966 (utility model), 41/51,387
Int. Cl. H02k *7/02*
U.S. Cl. 310—68 **2 Claims**



An electric motor for driving sewing machines at varying speeds by varying the operation point of a built-in centrifugal governor by means of a flexible wire which projects in response to actuation of a foot pedal. The electric motor has a built-in centrifugal governor section which controls the motor speed to a desired value and makes possible a wide speed control especially in a low speed rotation range, a contact assembly which can be adjusted from outside, and a cooling fan for suppressing temperature rise due to internal generation of heat.

3,514,650
VARIABLE RELUCTANCE SYNCHRONAL DYNAMO
William P. Caywood, Jr., Murrysville, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 2, 1968, Ser. No. 764,512
Int. Cl. H02k *17/42*
U.S. Cl. 310—168 **13 Claims**

A rotor for a variable reluctance dynamoelectric machine having a stator on which are mounted a series of stator coils which receive a high frequency carrier signal. The outer surface of the rotor is shaped to vary sinusoidally with angular displacement about the rotor



axis. Rotation of the rotor modulates the high frequency carrier signal with the sine wave due to the shape of the rotor.

3,514,651
ELECTRICAL COMPONENT
Kenneth Barry Jarrett, Codicote, Hitchin, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Continuation of application Ser. No. 525,111, Feb. 4, 1966. This application Apr. 2, 1969, Ser. No. 812,928
Claims priority, application Great Britain, Feb. 22, 1965, 7,596/65
Int. Cl. H02k *3/36, 15/00*
U.S. Cl. 310—215 **7 Claims**

Slot liners for insulating coils of dynamo electric machines having a reduced tendency to fibrillate and delaminate are provided. The slot liners are formed of lengths of polyethylene terephthalate film which has therein a filler selected from titanium dioxide and china clay, the particle sizes of which are between 0.1 and 2.0 microns and the amount of the particles in the film is between 0.25 and 10% by weight.

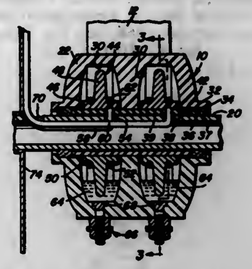
3,514,652
HERMETIC MOTORS
Michael J. Lacy, Florissant, and Jack D. Smith, Wentzville, Mo., assignors to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
No Drawing. Filed Feb. 25, 1969, Ser. No. 802,197
Int. Cl. H02k *1/18*
U.S. Cl. 310—217 **3 Claims**

In an electric motor assembly of the type in which a wound stator with a core made up of a stack of laminations is bolted in face-to-face relation to a base made of an electrically conductive material, the bolts go entirely through the stack of laminations and into the base; the underside of the head of the bolts and at least a substantial portion of the shank of the bolts are coated with a metal oxide deposited by flame or plasma spraying to form a suitably electrically resistive layer.

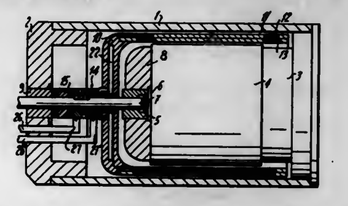
3,514,653
ANTIFRICTION SLIPRING DEVICE
Oakley A. Kendall, Huntsville, Wash. (Rte. 1, Box 100, Dayton, Wash. 99328)
Filed Jan. 21, 1969, Ser. No. 792,613
Int. Cl. H02k *31/00*
U.S. Cl. 310—232 **5 Claims**

A slipring device including an insulated housing having axially spaced cavities therein. A pool of mercury is contained in each cavity. An insulated sleeve axially extends through the housing and mounts a conductive disk in each cavity. When the shaft rotates, each disk is caused

to continually rotate through a mercury pool. Electrical leads are connected between each cavity wall and a respective disk so that electrical contact is achieved without frictional engagement.

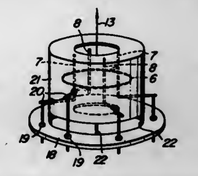


3,514,654
MINIATURE ELECTRIC MOTOR
Franco Moresi, Lausanne, Switzerland, assignor to S. A. Paillard, Vaud, Switzerland, a company of Switzerland
Filed Jan. 30, 1968, Ser. No. 701,695
Claims priority, application Switzerland, Feb. 17, 1967, 2,337/67
Int. Cl. H02k *1/22, 13/04, 21/00*
U.S. Cl. 310—266 **7 Claims**



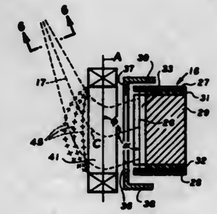
A miniature motor wherein a bell-shaped rotor without an iron core is provided at one end with two commutator systems each including conductive elements corresponding to the strips of the corresponding commutator. The conductive elements are insulatingly carried in substantially radial relationship by the same or by the surface of a disc rigid with the rotor shaft, said elements also being connected with the windings embedded in the rotor body which is made of synthetic material.

3,514,655
ION GAUGE FOR MONITORING VAPOR FLOW
Shozi Arai and Tsutomu Higashidera, Hirakata-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Apr. 18, 1968, Ser. No. 722,357
Int. Cl. G01f *1/00;* **G01n** *27/68;* **G01j** *41/00*
U.S. Cl. 313—7 **5 Claims**



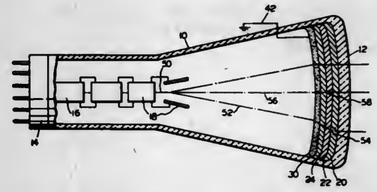
A monitoring gauge for vapor flow used to measure a vapor flow for controlling the thickness and composition of a thin film to be formed by the vacuum evaporation of said vapor, which monitoring gauge comprises at least one ring filament or two wire filaments arranged to surround the vapor flow to be measured and which is capable of measuring the vapor flow without the disturbing of the density of distribution of said vapor flow and simple in structure and can be produced easily at low costs.

3,514,656
ELECTRON BEAM GUN ASSEMBLY FOR PRODUCING A RIBBON SHAPED BEAM AND MAGNET MEANS FOR TRANSVERSELY DEFLECTING THE BEAM ABOUT ITS MAJOR AXIS
Robert W. Fisk, Sunnyvale, Calif., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 11, 1967, Ser. No. 660,024
Int. Cl. H01j *29/70*
U.S. Cl. 313—75 **12 Claims**



Apparatus is described which establishes a transverse magnetic field to deflect an electron beam from an initial path while causing convergence of the beam.

3,514,657
STATIC COLOR SHIFT CATHODE RAY TUBE HAVING CONTROL FOR SHIFTING COLOR AT TIME AFTER THE PATTERN PICTURE CHANGES
William F. Abbott, Homer, Alaska, assignor, by mesne assignments, to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 16, 1966, Ser. No. 602,236
Int. Cl. H01j *29/26*
U.S. Cl. 313—92 **10 Claims**



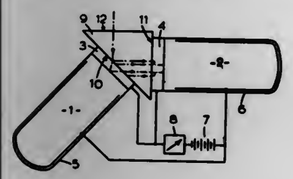
A static color-shift cathode ray tube having the characteristics otherwise general to a black annd white cathode ray tube, being provided with two or three phosphor films having the elements thereof being presented with changes in voltage-dwell time or frequency repetition rate characteristics of the beam, so that a static charge is derived from the voltage-dwell time characteristics in response to energization of the control layer electrode to shift the production of the static charge to the phosphor film receiving the beam at an element next adjacent beamward, and in this way produce a static charge, each of the static charges producing and emitting a color characteristic of the phosphor material. The control layer electrode may be of resistive dielectric material such as semiconductive material including titanium dioxide (TiO_2) or silicon monoxide (SiO), and a spatially disposed screen or conductive layer segments of wire such as platinum may also be disposed in constructing the control layer electrode.

3,514,658

PHOTOELECTRICALLY SENSITIVE DEVICES WITH WINDOW MEANS ADAPTED TO INCREASE THE ABSORPTION OF RADIATION BY THE PHOTOELECTRICALLY SENSITIVE CATHODE

Gordon Peter Davis, Sunbury-on-Thames, and Susan Margaret Burns, West Drayton, England, assignors to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain

Filed Feb. 13, 1967, Ser. No. 615,633
Claims priority, application Great Britain, Feb. 16, 1966, 6,701/66; May 20, 1966, 22,515/66
Int. Cl. H01j 39/06
U.S. Cl. 313—96 10 Claims



A photoelectrically sensitive device, for example a photocell, has a window means having a planar front surface and a rear surface coated with a photoelectrically sensitive material. The rear surface of the window has portions so inclined to the front surface and to each other that radiation received at normal incidence on the front surface passes into the coating on a first portion of the rear surface. Any unabsorbed radiation reaching the free surface of the coating undergoes total internal reflection and passes back through the coating. Any radiation still not absorbed impinges on the coating on another portion of the rear surface of the window means.

3,514,659

HIGH PRESSURE VAPOR DISCHARGE LAMP WITH CESIUM IODIDE

Warren C. Gungle, Danvers, Frederic Koury, Lexington, and John F. Waymouth, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed July 3, 1967, Ser. No. 651,010
Int. Cl. H01j 61/18
U.S. Cl. 313—184 4 Claims



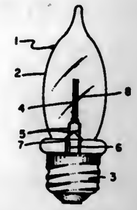
The addition of cesium atoms as the halide to a discharge device containing a fill of mercury, halogen and light emitting metal(s) will control the reignition voltage of such devices.

3,514,660

ELECTRIC DISCHARGE FLICKER LAMP

Bernard Kopelman, Salem, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed July 10, 1968, Ser. No. 743,753
Int. Cl. H01j 17/20
U.S. Cl. 313—185 8 Claims



The electrodes of a flicker lamp are coated with a mixture comprising an alkaline earth azide and an alkaline halide. The use of a halide enables the lamp to flicker in the presence of nitrogen and thereby permits such lamps to be manufactured on continuous sealing machines.

3,514,661

DIRECTLY HEATED DISPENSER CATHODE STRUCTURE AND THE METHOD OF FABRICATING SAME

Ronald T. Reaves, Watsonville, Calif., assignor to Spectra-Mat Inc., Watsonville, Calif., a corporation of California

Filed July 5, 1968, Ser. No. 742,814
Int. Cl. H01j 1/14, 19/06
U.S. Cl. 313—346 6 Claims

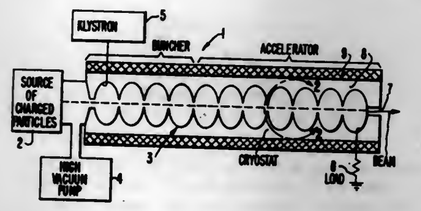
A self-supporting, directly heated, dispenser cathode is described and method of making same wherein grooves are cut in a body, filler material added to the grooves, the body counter bored, and the filler material removed.

3,514,662

SUPERCONDUCTIVE R.F. LINEAR PARTICLE ACCELERATOR SECTION HAVING A SCALLOPED TUBULAR SHAPE

Arnold L. Eldredge, Woodside, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Dec. 22, 1967, Ser. No. 692,896
Int. Cl. H01j 25/10, 25/34; H01v 11/00
U.S. Cl. 315—3.5 3 Claims



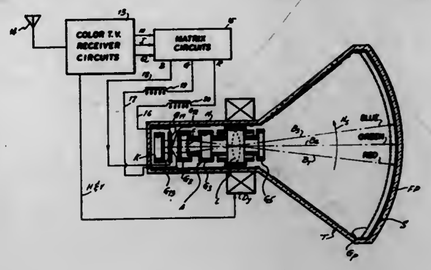
A superconductive microwave linear particle accelerator is disclosed. The particle accelerator structure includes a superconductive microwave accelerator section comprised of a plurality of superconductive coupled cavities arranged in a linear path and energized with microwave energy from a suitable source such as a high power power klystron for accelerating charged particles passable through the microwave structure to nearly the velocity of light. The microwave accelerator structure is formed by a tube of superconductive material such as niobium or lead having its side wall scallop-contoured to define a plurality of axially spaced coupled cavity resonators for interaction with the beam passable therethrough. The accelerator structure is immersed in a cryogenic fluid such as liquid helium at approximately 2° K. to render the coupled cavity structure superconductive to minimize microwave energy losses within the accelerator structure.

3,514,663

CATHODE RAY TUBE

Susumu Yoshida and Akio Ohgoshi, Tokyo, Seuri Miyaoka, Kanagawa-ken, and Yoshiharu Katagiri, Tokyo, Japan, assignors to Sony Corporation, Tokyo, Japan, a corporation of Japan

Continuation-in-part of application Ser. No. 697,414, Jan. 12, 1968. This application June 2, 1969, Ser. No. 829,292
Claims priority, application Japan, Jan. 14, 1967, 42/2,629; Mar. 22, 1967, 42/17,856
Int. Cl. H01j 29/50
U.S. Cl. 315—13 4 Claims



In a cathode ray tube of the type in which a single electron gun emits a plurality of electron beams to produce a color picture, for example, as in color television receiver, the beams are made to cross each other or intersect substantially at the optical center of electrostatic focusing lens common to all of the beams and by which the latter are focused on the color phosphor screen of the tube while avoiding the introduction of coma and/or spherical aberration by reason of such focusing of the beams, and the video signals modulating the plural beams have time differences imparted thereto to compensate for the spacing of the beam landing spots on the screen arising from the divergence of the beams from the focusing lens, whereby to achieve correspondence between the pictures produced on the screen by the respective beams.

3,514,664

ELECTRON GUNS

John David McCann, Abingdon, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Oct. 28, 1968, Ser. No. 771,045
Claims priority, application Great Britain, Oct. 31, 1967, 49,528/67
Int. Cl. H01v 29/56
U.S. Cl. 315—31 14 Claims

An electron gun comprising a tubular anode having an inner electrode assembly disposed therein. The space defined by the anode is evacuable and the inner electrode assembly includes an elongated electron emitter and a first electrode positioned between the emitter and an electron permeable portion of the anode. A greater potential difference is applied between the first electrode and the anode than between the first electrode and the emitter. The first electrode serves to focus, direct and accelerate the electrons emitted by the emitter and also serves to prevent the electric field between the first electrode and the anode from penetrating the space between the first electrode and the emitter.

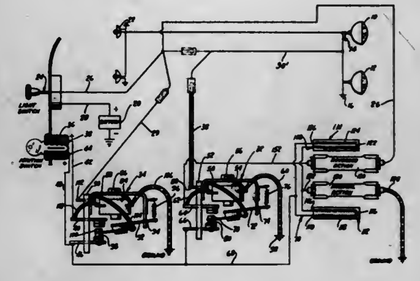


3,514,665

DELAY SWITCH CIRCUIT FOR AUTOMOTIVE HEADLAMPS

Gabriel A. Chanstowich, Detroit, Mich., assignor to A. J. Plattner Company, Detroit, Mich., a corporation of Michigan

Filed July 18, 1967, Ser. No. 654,265
Int. Cl. B60q 1/08; H01h 7/06
U.S. Cl. 315—82 12 Claims

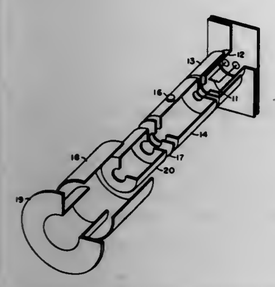


This specification describes a lamp circuit adapted especially to be used in the electrical system of an automotive vehicle. It comprises a switch assembly which is adapted to open and close a portion of the vehicle lamp circuit in response to changes in temperature caused by electric heater elements situated in a composite assembly together with thermostatic switch-elements.

A solenoid circuit is used to establish an electrical connection between a driver controlled switch and the headlamps of the vehicle. This same solenoid circuit is connected electrically to thermostatic switch elements. When the switch elements are in an open circuit condition, the lamp circuit is completed through a first set of relay-operated switch contacts. When the thermostatic switch elements are closed, the relay is energized to establish a direct electrical connection through the thermostatic switch elements and through a second set of relay operated switch contacts to the lamps. After the thermostatic switch elements assume a closed circuit condition, the headlamps are extinguished while the ignition system for the vehicle electrical circuit is de-activated. The lamps are extinguished; however, only after a predetermined time delay

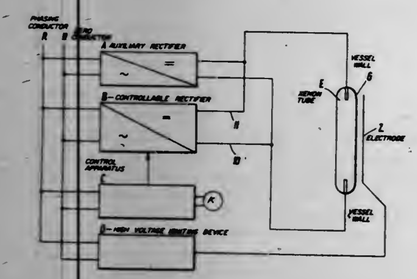
that is measured by the time required for the temperature of the thermostatic switch elements to fall below a calibrated value.

3,514,666
CHARGED PARTICLE GENERATOR YIELDING A MONO-ENERGETIC ION BEAM
Robert Eugene Elmore, Tulsa, Okla., assignor to Avco Corporation, Tulsa, Okla., a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,684
Int. Cl. H01j 7/24, 27/00, 39/34
U.S. Cl. 315—111 3 Claims



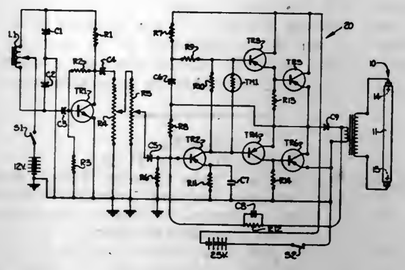
This charged particle generator produces a highly concentrated beam of ions. An electron gun, at ion chamber, an ion accelerator, and an electrostatic lens are cascaded and provided with aligned apertures whereby this ion beam is produced, focused, and directed in a well-controlled manner.

3,514,667
GAS-FILLED DISCHARGE TUBE IMPULSE CONTROL AND OPERATING APPARATUS
Roger Dessoulavy, Lausanne, and Francois Riolo, Territe, Switzerland, assignors to Bron Elektronik Aktiengesellschaft, Basel, Switzerland
Filed May 23, 1968, Ser. No. 731,413
Claims priority, application Germany, May 24, 1967, 1,589,092
Int. Cl. G05f 1/00; H05b 37/02, 39/04
U.S. Cl. 315—194 9 Claims



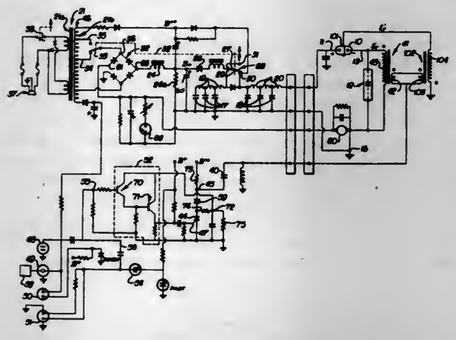
Control circuit for a gas discharge tube supplied from an alternating current source of supply which includes rectifier means for connecting the alternating current from said source into direct current to be delivered to said tube and wherein said rectifier means includes controlled rectifier elements having control terminals or gates, and a controllable supply of impulses connected to said control terminals or gates and operable to determine the portion of a cycle of said alternating current supply during which direct current flows through said tube.

3,514,668
CONTROLLABLE INTENSITY ILLUMINATION SYSTEM AND METHOD
Rollie C. Johnson, 211 S. Church St., and Eugene B. Melchor, 406 Water St., both of Mooresville, N.C. 28115
Filed May 17, 1967, Ser. No. 639,210
Int. Cl. G05f 1/08; H05b 37/02, 41/392
U.S. Cl. 315—205 3 Claims



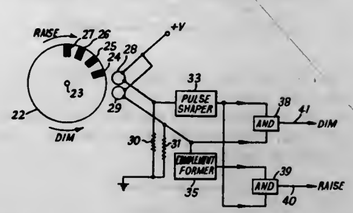
An illumination system and method wherein light is emitted from a vapor lamp, including a lamp envelope and a pair of electrodes in electrically conductive relationship with an electrically conductive atmosphere contained within the envelope, upon application of an audio frequency electrical current of predetermined frequency and amplitude characteristics to the electrodes and atmosphere, and wherein the emission of light from the lamp is controlled by controlling at least one of the characteristics of the audio frequency current.

3,514,669
HIGH REPETITION RATE STROBE LIGHT
James G. Helmuth, Monrovia, Calif., assignor to Chadwick-Helmuth Electronics, Inc., Monrovia, Calif., a corporation of California
Filed Jan. 3, 1967, Ser. No. 607,044
Int. Cl. H05b 37/00
U.S. Cl. 315—241 7 Claims



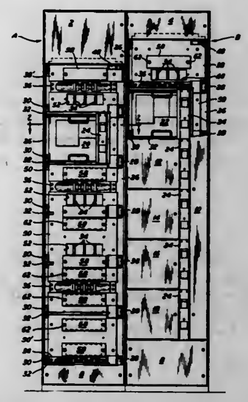
Improvements in triggering of a particular flasher circuit involve application to one flasher tube electrode of trigger voltage E_T of a polarity such that tube discharge diodes present high impedance to E_T, and application to a terminal exterior of the tube of trigger voltage E'_T to enhance tube gas ionization, $|E_T|$ and $|E'_T|$ having such time and magnitude relationship as to result in several benefits.

3,514,670
APPARATUS CONTROLLING THE BRIGHTNESS OF LAMPS
Anthony Leonard Isaacs, London, England, assignor to Thorn Electronic Limited, London, England
Filed Oct. 23, 1967, Ser. No. 677,275
Claims priority, application Great Britain, Oct. 21, 1966, 47,343/66
Int. Cl. H05b 37/02
U.S. Cl. 315—292 7 Claims



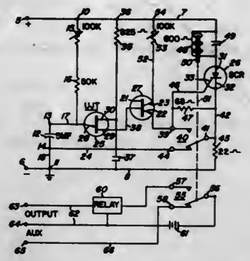
Apparatus for changing lamp brightness, in which a contact has voltage applied to it intermittently by a rotating member, and electronic apparatus, in a circuit including the contact and the lamp, responsive to the frequency with which voltage is applied to the contact so that it changes the brightness of the lamp at a rate dependent on said frequency. The rotating member contains magnets which actuate contacts in reed switches. The circuitry is arranged so that it will either dim or raise the brightness, depending on which of two reed switches is closed first.

3,514,671
INSULATING BUS BAR BARRIERS WITH PLUG-IN OPENINGS AND STORABLE COVERS THEREFOR
Robert N. Eck, Whitefish Bay, Philip W. Emley, Nashotah, and Allan E. Grams, West Allis, Wis., and Karl H. Kleinert, Fullerton, Pa., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 24, 1968, Ser. No. 747,146
Int. Cl. H05b 11/04; H05k 5/02
U.S. Cl. 317—119 9 Claims



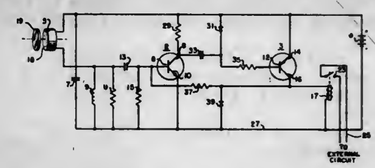
A sheet of electrical insulation is secured within an electrical control center cabinet to extend transversely between the sides thereof at the front of the vertical bus bars therein. The sheet is provided with regularly spaced openings to permit connection of control units to the bus bars and each opening is provided with a snap-on, removable cover which may be stored on the sheet adjacent the opening. Two basic sheet profiles may be readily modified to permit an entire cabinet to be covered by using a plurality of sheets in various profile combinations.

3,514,672
SOLID-STATE TIMER SYSTEM
Lowell V. Westbrook, Excelsior, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Apr. 10, 1968, Ser. No. 720,251
Int. Cl. H01h 47/32
U.S. Cl. 317—146 6 Claims



An electronic pulsing timer system or timer using a resistance-capacitance or RC circuit and a unijunction transistor or UJT connected therewith to gate a silicon-controlled rectifier or SCR alternately ON and OFF on successive pulses. A relay coil in the rectifier output circuit operates single-pole double-throw relay contacts to back-bias and reset the rectifier on alternate pulses.

3,514,673
REMOTE CONTROLLED RELAY SWITCH
Richard J. Newton, Wall Township, Monmouth County, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 26, 1967, Ser. No. 678,460
Int. Cl. H01h 47/24, 47/32
U.S. Cl. 317—130 1 Claim

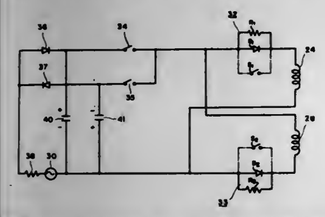


A remote controlled relay switch which responds to quickly pulsed light signals. A photosensitive element placed in the base circuit of a complementary monostable multivibrator provides pulses to trigger the multivibrator in response to momentary illumination of the photosensitive element. A reversal of state of the multivibrator energizes a relay coil which in turn actuates contacts in an external circuit. The particular circuit configuration makes possible an extremely long ready-to-respond state with only minimal transistor power supply requirements.

3,514,674
DEVICE FOR ELECTROMAGNETICALLY CONTROLLING THE POSITION OFF AN ARMATURE
Toshio Ito, Toshimoto Okura, and Toshiji Takami, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan
Filed May 9, 1967, Ser. No. 637,155
Claims priority, application Japan, May 18, 1966, 41/31,707
Int. Cl. H01h 47/00
U.S. Cl. 317—155.5 5 Claims

The disclosed operating device for moving, for example, a movable contact of a current interrupter from its closed position to its open position and vice versa comprises a

pair of stationary magnetic cores of permanent magnet material disposed in spaced relation to opposed internal walls of a magnetic housing and a movable armature movably disposed between the stationary cores to move the movable contact. Each stationary core is surrounded by an exciting coil having a parallel combination of current-limiting resistor and a semi-conductor diode. In the closing operation a closing switch is closed to discharge a charge with one polarity on one of two capacitors into both coils through the respective resistor and diode combinations. The particular stationary core by which the armature is

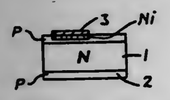


to be attracted is completely magnetized because of conduction of the associated diode while the other core magnetized oppositely to the particular core is substantially completely demagnetized by means of the action of the associated limiting resistor with the result that the armature is moved to contact the movable contact with the associated stationary contact. Therefore, the armature and hence the movable contact is maintained at its moved position even after deenergization of the coils. In the interrupting operation, a process reversed from that above described is effected.

3,514,675
SEMI-CONDUCTOR ELEMENTS FOR JUNCTION DEVICES AND THE MANUFACTURE THEREOF

Neil S. Perdom, London, England, assignor to Westinghouse Brake and Signal Company, Limited, London, England

Filed Sept. 3, 1965, Ser. No. 484,872
Claims priority, application Great Britain, Sept. 9, 1964, 36,848/64; Dec. 8, 1964, 49,881/64; Jan. 18, 1965, 2,115/65
Int. Cl. H01l 11/10
U.S. Cl. 317—235 15 Claims



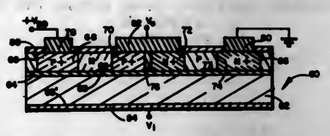
A three-terminal semi-conductor device comprises a body of semi-conductor material which includes four zones of alternate opposite conductivity type such that a p-n junction is provided between each pair of adjacent zones. An impurity material such as nickel introduced into a low resistivity outermost zone reduces the injection efficiency at low current densities while maintaining a high injection efficiency at high current densities.

3,514,676
INSULATED GATE COMPLEMENTARY FIELD EFFECT TRANSISTORS GATE STRUCTURE

Charles H. Fa, Newport Beach, Calif., assignor to North American Rockwell Corporation

Filed Oct. 25, 1967, Ser. No. 678,079
Int. Cl. H01l 11/14
U.S. Cl. 317—235 3 Claims

Insulated gate field effect devices including a field effect transistor (FET), a tetrode, and complementary FET inverters. Each device comprises a semiconductor layer having diffused source and drain regions separated by a channel region of different conductivity. Beneath the layer and separated therefrom by a thin insulating film, is a region of low resistivity semiconductor having a metallized electrode on its lower surface. The low

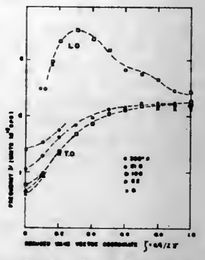


resistivity semiconductor and the electrode together function as the FET gate. A passivation layer and metallized source and drain connections are provided atop the semiconductor layer. Appropriate process steps are described for fabrication of the device.

3,514,677
SEMI-CONDUCTING FERROELECTRIC TRANSDUCERS

Roger A. Cowley, Deep River, Ontario, Canada, Gerald Dolling, Oak Ridge National Laboratory, Oak Ridge, Tenn., William W. Cochran, Godfrey S. Pawley, Edinburgh, Scotland, and Issai Lefkowitz, Princeton, N.J., assignors, by mesne assignments to the United States of America as represented by the Secretary of the Army

Filed Aug. 30, 1967, Ser. No. 665,208
Claims priority, application Canada, Sept. 14, 1966, 970,302
Int. Cl. H01l 3/00, 3/20
U.S. Cl. 317—237 8 Claims

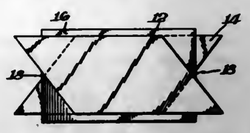


New ferroelectric semi-conductor materials made of germanium-telluride or an alloy or solid solution of germanium-telluride and tin-telluride, for example, with means for doping said materials to provide regions of differing carrier density, one of said regions having an enhanced piezo-sensitivity, and methods for manufacturing said semi-conductor materials.

3,514,678
FLAT PACK CAPACITOR

Mark Markarian, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Dec. 24, 1968, Ser. No. 786,710
Int. Cl. H01g 1/00
U.S. Cl. 317—261 5 Claims



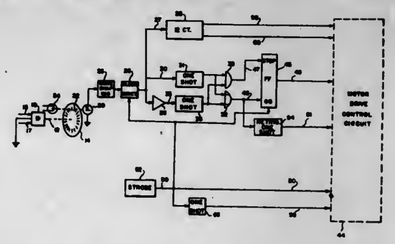
Planar electrodes having triangular end portions are arranged in a stacked unit with interposed dielectric spacers. Alternate electrodes are reversed such that the triangular portions are longitudinally extended and laterally spaced

at the ends of the unit which permits direct connection to each electrode at both ends of the stacked unit.

3,514,679
DIGITAL PULSE MOTOR CONTROL CIRCUIT

Raymond B. Larsen, Riverton, Wyo., assignor, by mesne assignments, to Datel Corporation, Falls Church, Va., a corporation of Delaware

Filed Nov. 2, 1967, Ser. No. 680,086
Int. Cl. H02p 5/16
U.S. Cl. 318—314 11 Claims

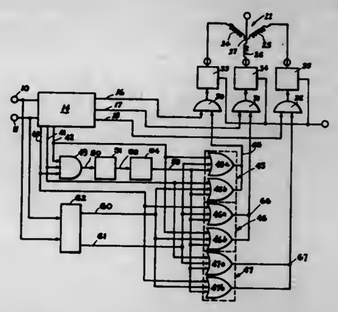


The speed of a DC motor can be accurately determined and controlled by generating digital pulses representative of actual motor speed and applying each pulse and inversion of each pulse to a novel form of discriminating circuit having a pair of one shot delays in which the time constants of the delays are equated to the desired motor speed. When the motor is above desired speed, the positive-going leading edges of each pulse and inverted pulse will overlap within the time constants; or if the motor is below desired speed, no overlapping of the leading edges occurs within the time constants. A gating circuit is enabled only in response to the latter condition to apply motor energizing pulses until the motor reaches the constant speed selected.

3,514,680
RETROTORQUE BRAKING FOR STEP SERVOMOTORS

Richard R. Williams, Los Angeles, Calif., assignor to IMC Magnetics Corporation, a corporation of California

Filed Nov. 23, 1966, Ser. No. 596,642
Int. Cl. H02p 1/00, 3/00
U.S. Cl. 318—138 10 Claims

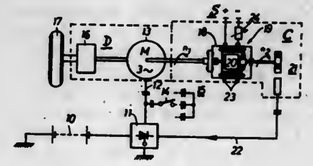


The invention is an improvement in controllers for step servomotors. Plural windings are energized in sequence either for clockwise (CW) or counterclockwise (CCW) rotation. Upon delivery of each energizing pulse to a motor winding an inverse pulse is generated. A single delay means is provided to impart a predetermined delay to the inverse pulse which is then applied by way of selective control circuitry, and dependent upon the direction of rotation to the winding that was energized preceding the currently energized winding to apply a retrotorque thereby preventing hunting and oscillation of the motor. Single components are utilized for providing the delay and its duration to create the retropulse which is controllably applied as stated to the correct winding and depending upon the direction of rotation.

3,514,681
ELECTRIC DRIVE SYSTEM FOR VEHICLES

Walter Dorn and Hans Reimbeck, Stuttgart-Rohr, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany, a firm

Filed Oct. 23, 1967, Ser. No. 677,137
Claims priority, application Germany, Oct. 25, 1966, B 89,550
Int. Cl. H02p 5/00
U.S. Cl. 318—139 1 Claim

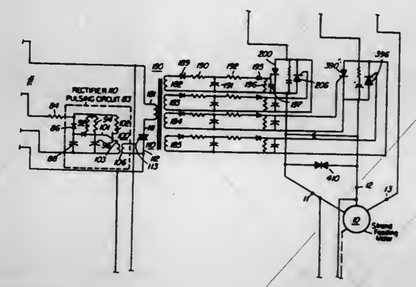


A D.C. power source, preferably a fuel cell arrangement, provides direct current to a D.C.-polyphase A.C. inverter having a variable frequency output, the frequency of the inverter being controllable by a signal; the output is supplied to an asynchronous polyphase motor. The slip of the motor from synchronous frequency is sensed and a signal is obtained proportional to the slip, which signal is manually modified by a manual control, and used to control the frequency of the inverter.

3,514,682
VARIABLE SPEED MOTOR CONTROL ARRANGEMENT

Lawrence G. Corey, Rockville, Conn., assignor to Arrow-Hart, Inc., Hartford, Conn., a corporation of Connecticut

Filed Feb. 24, 1967, Ser. No. 618,379
Int. Cl. H02p 3/24
U.S. Cl. 318—212 15 Claims

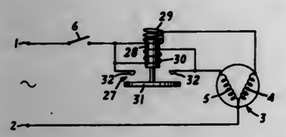


An electrical control circuit for continuously varying the speed of a motor armature. Motor accelerating and decelerating circuit combinations are respectively adapted to alternately supply adjustable amounts of alternating current motor driving power, and dynamic braking direct current energy to selected motor windings.

3,514,683
STARTING APPARATUS FOR SINGLE-PHASE MOTORS

Holger V. Vind, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Filed Oct. 26, 1966, Ser. No. 589,556
Claims priority, application Germany, Oct. 26, 1965, D 48,506
Int. Cl. H02p 1/44
U.S. Cl. 318—221 10 Claims

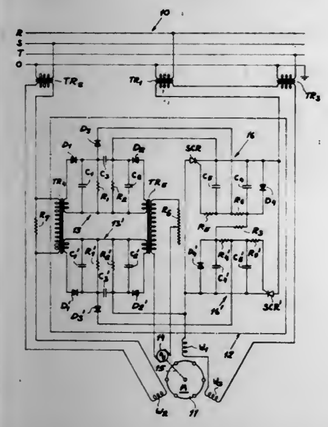


Motor starting apparatus for single-phase asynchronous induction motors comprising a switch having a movable contact operable to a position disconnecting the motor starting winding. The apparatus has an electromagnetic device having a holding coil shunting the switch contact in series with the motor starting winding holding the contact opening the starting winding circuit. The holding coil has a voltage applied consisting of a combination of the line voltage and the voltage induced in the auxiliary winding by the rotating magnetic field sufficient to hold the movable contact in its open position.

3,514,684
REGULATING SYSTEM FOR INDUCTION MOTOR

Heinz Schaffersmann, Bielefeld, Germany, assignor to Firma Schleicher Regelautomatik G.m.b.H., Bielefeld, Germany, a corporation of Germany

Filed Dec. 9, 1966, Ser. No. 600,637
Claims priority, application Germany, May 31, 1966, 1,273,058
Int. Cl. H02p 7/62
U.S. Cl. 318—227 9 Claims

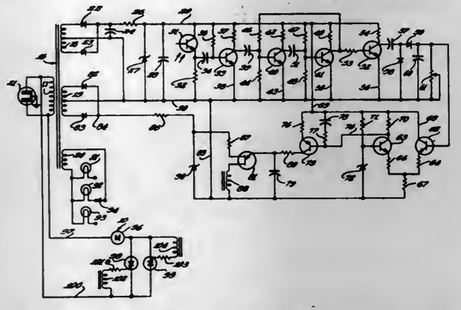


Speed-regulating system for induction motor, particularly 3-phase motor, wherein one phase winding is unregulated and is used to generate a control voltage dependent on the slip of the rotor, this control voltage serving to regulate the current flow in the remaining phase winding or windings which preferably are interconnected in a single series circuit; the latter may include a pair of oppositely poled electronic gates (solid-state thyratrons) connected in parallel and responsive to the control voltage from the unregulated phase.

3,514,685
OPTICAL SPEED TRANSDUCER

Thomas H. Burgess, Little Rock, Ark., assignor to Fan Tron Corporation, Little Rock, Ark., a corporation of Arkansas

Filed Apr. 24, 1967, Ser. No. 633,082
Int. Cl. H02p 5/34
U.S. Cl. 318—313 12 Claims

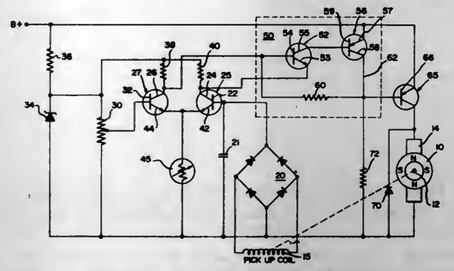


A control circuit incorporating an optical scanning device for controlling the speed of rotation of a dynamoelectric machine. The control circuit includes a disc mounted for rotation in response to the rotation of the dynamoelectric machine. The disc has one or more circular segmented elements disposed concentrically thereon and associated with a light source and a photocell to generate pulse signal information indicative of the speed of rotation of the dynamoelectric machine and indicative of the number of segments within the segmented elements. The pulse signal information is delivered to a solid state circuit which includes a one-shot multivibrator for generating pulses having a fixed pulse width but having a variable repetition rate, which rate varies in accordance with the frequency of the pulse signal information, and a detector circuit for developing a direct current voltage responsive to the repetition rate of the square wave pulses. The solid state circuit also includes a unijunction oscillator circuit for generating control signal oscillations which are used to render a pair of silicon controlled rectifiers alternately conductive thereby energizing the dynamoelectric machine.

3,514,686
SPEED RESPONSIVE MOTOR CONTROL CIRCUIT

Charles L. Shand, Morton Grove, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Continuation of application Ser. No. 605,034, Dec. 27, 1966. This application May 9, 1969, Ser. No. 824,755
Int. Cl. H02p 5/16
U.S. Cl. 318—327 3 Claims

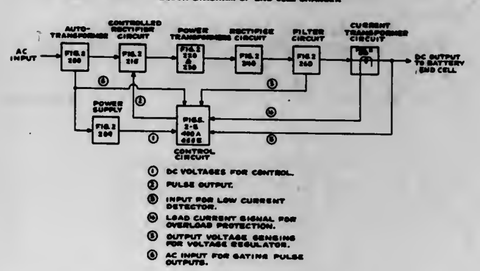


This circuit uses a differential amplifier for comparing a variable control bias and a generated potential which is proportional to the motor r.p.m. The output of the differential amplifier is used to operate a transistor switch which selectively applies a potential to the motor for controlling its r.p.m.

3,514,687
EMERGENCY END CELL BATTERY CHARGER

Patrick L. Hunter, Worthington, and William H. Bixby, Columbus, Ohio, assignors, by mesne assignments, to North Electric Company, Galion, Ohio, a corporation of Ohio

Filed Dec. 8, 1966, Ser. No. 600,161
Int. Cl. H02j 7/04, 9/06
U.S. Cl. 320—15 10 Claims

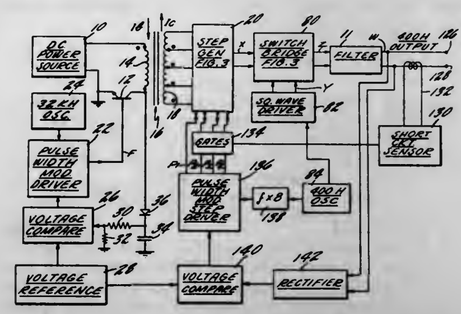


Automatic battery charger for charging emergency end cells associated with a main battery, such as used for example in a telephone central office. If the alternating current source which charges the main battery fails, and the voltage of the main battery decreases to a given value, emergency end cells are automatically switched in series with the main battery to provide additional voltage. When the alternating current source is reestablished, a first automatic charging means charges the main battery and at least one separate end cell charger is automatically enabled to charge the end cells.

3,514,688
OUTPUT-TRANSFORMERLESS STATIC INVERTER

Henry E. Martin, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 28, 1968, Ser. No. 716,744
Int. Cl. H02m 3/32, 1/12; G05f 1/14
U.S. Cl. 321—2 4 Claims

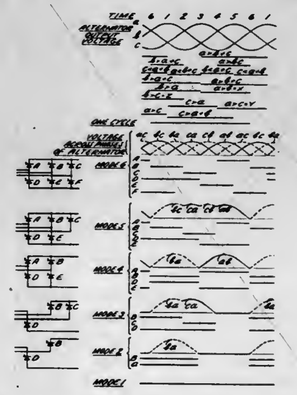


A high frequency flyback converter including a transformer having a tapped secondary for charging a plurality of condensers supplies plural DC voltage levels which are selectively switched so as to provide a sequence of staircase power wave forms. A polarity reversing switching bridge provides alternating polarity, which with filtering generates the neo-sinusoidal AC output. Sensing of excessive current blocks the switching of the higher voltages in the staircase during short circuit operation. Conventional pulse width modulation is used for voltage regulation. Reverse currents due to power factor lag are accommodated.

3,514,689
THREE-PHASE AC-OPERATED DC POWER SUPPLY

Ronald Giannamore, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 21, 1968, Ser. No. 754,411
Int. Cl. H02m 7/00, 1/08
U.S. Cl. 321—5 6 Claims

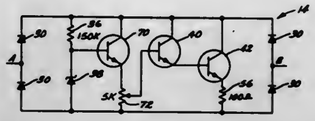


Selectively gated parametric rectification of three-phase alternating current supplies a DC power output which is voltage regulated by controlling the number of phases which conduct during each cycle. The main current switches are controlled so as to commence conduction during zero crossover, thereby to maintain R.F.I.—radio frequency interference—generation at a minimum. Zero crossover turn-on is guaranteed by switch gate signals which control the current switches, the gate signals being permissibly timed in dependence upon comparison of the three-phase wave form which indicates the effective point in time within a cycle.

3,514,690
CURRENT REGULATOR FOR PROVIDING A CONSTANT OUTPUT CURRENT IN A TELEGRAPH LOOP

Alvaro Quiros, Springfield, Va., assignor to The Susquehanna Corporation, a corporation of Delaware

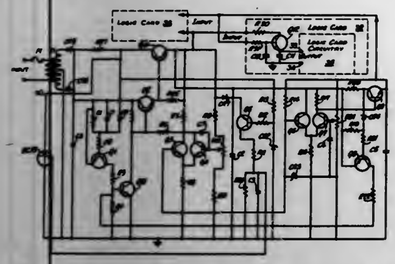
Filed Nov. 17, 1967, Ser. No. 683,912
Int. Cl. G05f 1/44
U.S. Cl. 323—4 6 Claims



A two-terminal constant-current source for a telegraph loop. The regulator incorporates a diode bridge to make it polarity insensitive. Connected across the bridge is a high-gain circuit, one version of which is as a Darlington

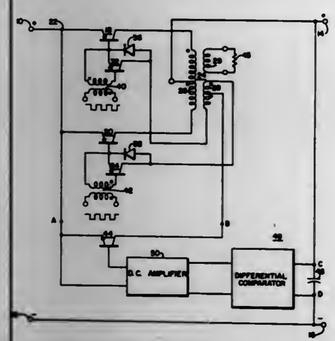
transistor pair. A Zener diode is placed at the input to the first transistor in the pair to provide a stable reference voltage. The output is taken from the emitter of the second transistor through a variable resistor which is used to set the desired current level. The use of the Darlington pair keeps the unregulated current, which is derived from the input circuit to the pair, to a very small percentage of the total regulator output.

3,514,691
POWER SUPPLY FOR PLURAL LOGIC CARDS
Morton S. Levin, Woodcliff Lake, and James Q. Maloy, Wayne, N.J., assignors to Datascan Incorporated, Clifton, N.J., a corporation of New Jersey
Filed Nov. 22, 1967, Ser. No. 685,159
Int. Cl. G05f *1/58, 1/64*
U.S. Cl. 323—9 12 Claims



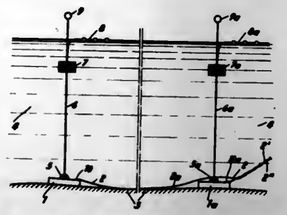
A direct current power supply for each of a plurality of logic cards in which an alternating voltage supply is converted to direct current for a source. A low quality direct current regulated power supply is fed by said direct current source. A reference voltage is provided and used to control the low quality power supply and to control a voltage regulator at each logic card supplied by the low quality power supply.

3,514,692
HIGH EFFICIENCY VOLTAGE REGULATING CIRCUIT
John T. Lingle, Bloomington, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 22, 1967, Ser. No. 648,067
Int. Cl. G05f *1/58*
U.S. Cl. 323—22 7 Claims



A DC voltage regulating circuit comprising two parallel transistors and means for switching the two transistors in such a way that only one of them is conducting at any particular time, thus increasing the current carrying capacity of the circuit. The output voltage is compared to a reference voltage to generate an error signal indicative of the deviation from a predetermined level. This error signal is used to control the conductivity of the two series transistors. The current to the load is directed through an output transformer which has windings connected in controlling relationship to the series transistors, and further has an additional winding connected to an impedance for serving as a sink into which any excess amount of feedback current is shunted.

3,514,693
METHOD OF SUBMARINE MAGNETOTELLURIC SURVEYING AND APPARATUS FOR CARRYING OUT SAME
Louis Paul Emile Cagniard, Paris, France, assignor to Centre National de la Recherche Scientifique, Paris, France
Filed June 14, 1967, Ser. No. 646,105
Claims priority, application France, June 23, 1966, 66,688
Int. Cl. G01v *3/00*
U.S. Cl. 324—1 9 Claims

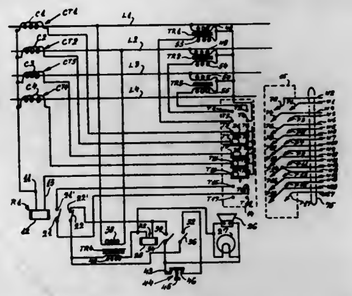


A method for use in submarine magnetotelluric surveying is disclosed in which measurements of the telluric and magnetic fields are made only on the sea bed, thus excluding interference due to waves, tidal currents, and the like. The method includes placing two terminal electrodes on the sea bed, separated by a distance of the order of a kilometre, placing a magnetic sensing device on the sea bed, orienting the device to sense the variations in the desired magnetic component, and recording the telluric and magnetic data produced. Also disclosed is a magnetometric means adapted to rest in a stable manner on the sea bed, comprising essentially a frame supported by weighted feet and three platforms adapted to move in relationship to each other, the magnetometer being carried on a vertical rod adapted to rotate in relation to one of the platforms. The magnetometric means is used in conjunction with a pair of telluric electrodes which are positioned on the sea bed. The magnetometer and electrodes are connected to recording means which are positioned at surface of the water.

3,514,694
MEANS FOR GROUND FAULT DETECTION, METERING AND CONTROL OF ALTERNATING CURRENT ELECTRICAL SYSTEMS
Robert W. Beachley, 5163 Murryhill Road, Charlotte, N.C. 28210
Filed Jan. 9, 1968, Ser. No. 696,535
Int. Cl. G01r *31/02*
U.S. Cl. 324—51 4 Claims

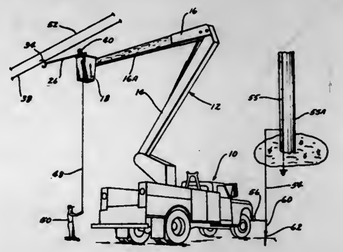
A control system is disclosed for monitoring alternating current electrical circuits to detect ground fault currents of relatively small magnitude and to permit metering of the circuit as may be desired. The control system involves the vector summation of currents in all current carrying conductors of the circuit and detection of any unbalance resulting from ground fault of any of the current carrying conductors. The deviation from zero of the vector sum is locally monitored by a current sensitive relay which, when the vector sum exceeds a preset amount, closes contacts, sounds a horn, lights a light and

provides for contacts for extending the trouble signal to any desired location. A second feature of the control scheme is the inclusion of a terminal board or plug and receptacle to which control circuit wiring is brought for metering of the circuit in normal operation. The same



current transformers and circuit wiring may be used for metering and ground fault current detection. An enclosure is described for current carrying cables or busbars. In the enclosure are current transformers, potential transfomers, the sensitive relay and the necessary control wiring.

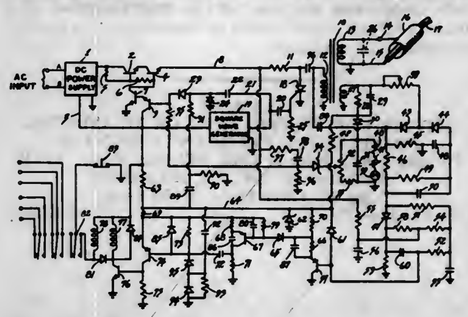
3,514,695
PORTABLE CURRENT INTENSITY DETECTOR FOR AERIAL BOOMS
Paul E. Skarshaug, 4607 Dover Drive, Ames, Iowa 50010
Filed May 23, 1968, Ser. No. 731,458
Int. Cl. G01r *31/02, 31/12*
U.S. Cl. 324—54 11 Claims



A boom structure to be operated in the vicinity of high voltage power lines including a current intensity detector for indicating through a meter visible from the ground the extent the insulated workman's bucket and the top end of the boom are insulated from the truck whereby it can be determined if it is safe to allow workmen in the insulated bucket and if not provide a warning for taking corrective action to make the unit safe from electrical shock and stray currents when the bucket or outer boom end comes in contact with a high voltage power line.

3,514,696
DEVICE FOR TESTING THE INTEGRITY OF ELECTRICAL WIRE INSULATION BY MEANS OF HIGH VOLTAGE IMPULSE
Henry H. Clinton, Ridgewood, Clinton, Conn. 06413
Filed Sept. 5, 1968, Ser. No. 757,587
Int. Cl. G01r *31/14*
U.S. Cl. 324—54 11 Claims

A device for testing the integrity of the insulation of an electrical wire or cable by means of high voltage impulses applied to the insulation consists of a capacitor repeatedly discharged through the primary winding of a step-up transformer having its secondary winding connected to a suitable electrode. Peak output voltage is measured by a tertiary winding on the transformer. A discriminating circuit connected to the same tertiary winding provides a

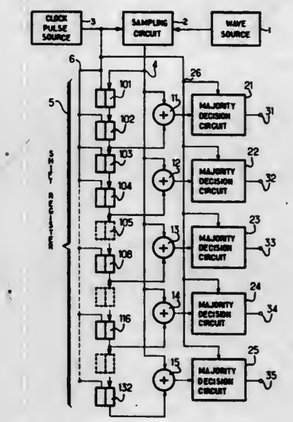


signal which is a measure of the power dissipated in the electrode-wire path and which indicates a fault when it exceeds a predetermined value, whether such increased power dissipation is caused by a faulty area of insulation or by an electrical arc which penetrates a hole or weak spot in the insulation.

ERRATUM

For Class 324—58.5 see:
Patent No. 3,514,703

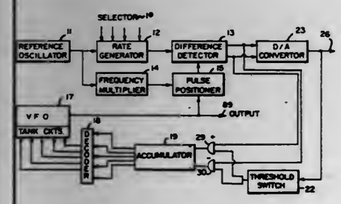
3,514,697
METHOD AND DEVICES FOR WAVE FREQUENCY DISCRIMINATION AND DIGITAL MEASUREMENT, USING SAMPLING AND LOGIC CIRCUITS
Jacques Oswald, Versailles, France, assignor to C.I.T.-Compagnie Industriell des Telecommunications, Paris, France
Filed Mar. 27, 1967, Ser. No. 626,079
Claims priority, application France, Apr. 4, 1966, 56,352; Mar. 10, 1967, 98,324
Int. Cl. G01r *23/02*
U.S. Cl. 324—78 4 Claims



A method and a device for digital measuring of the ferquency of a periodic wave have two half-cycles of opposite polarities, in which samples taken from said wave

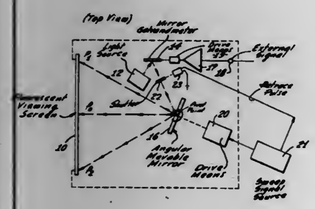
at instants recurring with a short period are translated into binary signals of values depending on sample polarity, and in which such signals corresponding to sampling instants spaced by various multiples of said short period are combined into coded signals representing said frequency through logical "modulo 2" addition of pairs of such signals and selection of the majority value of a plurality of said coded signals corresponding to a number of consecutive samplings.

3,514,698
DEVICE FOR GENERATING OR MEASURING PRESELECTED FREQUENCY SIGNALS
Thomas J. Rey, Nashua Road, Billerica, Mass. 01730
Filed July 17, 1967, Ser. No. 653,835
Int. Cl. G01r 23/00; H03b 3/04
U.S. Cl. 324—79 8 Claims



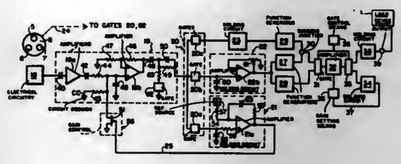
This invention is a frequency synthesizer wherein an integrated digital error signal from an accumulator is used to control the frequency output of a variable frequency oscillator. Pulse signals in a closed loop are pre-positioned and compared to develop an error signal. By means of a stroboscopic sampling of the phase difference between signals where they are within specified ranges, fine tuning is provided. Alternatively, when stroboscopic sampling for fine tuning is not used, detecting the output of a difference detector and comparing signals in a threshold switch eliminates hunting when quiescence between signals is approached.

3,514,699
LIGHT BEAM OSCILLOSCOPE HAVING SUBSTANTIAL PERSISTENCE
William E. Thornton, 205 Echo Ave., Friendswood, Tex. 77546
Filed Nov. 6, 1967, Ser. No. 680,765
Int. Cl. G01r 13/38
U.S. Cl. 324—97 7 Claims



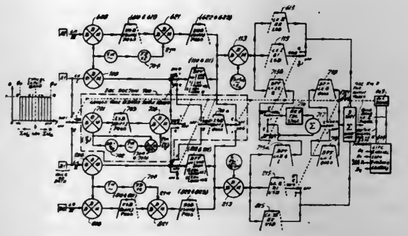
A low-cost oscilloscope is described in the following specification, which finds particular utility, for example, in medical electronics for electrocardiograph applications, electro-encephalograph applications, and the like; and which is advantageous in that it does not require a cathode-ray tube, or any similar fragile instrument, and in that it does not require the relatively high voltages associated with the prior art cathode-ray tube oscilloscope.

3,514,700
VOLTAGE RATIO COMPUTER
Walter F. Kalin, Fairport, and Richard L. Mitchell, Rochester, N.Y., assignors to Sybron Corporation, a corporation of New York
Filed May 15, 1967, Ser. No. 638,494
Int. Cl. G01r 7/04; G06g 7/16
U.S. Cl. 324—140 7 Claims



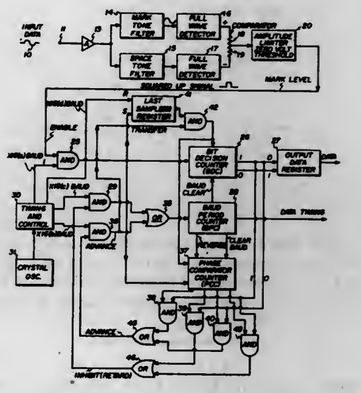
A first input voltage is applied across a pair of resistances in series, the voltage at the junction of the resistors being used to vary the drain to source resistance of a field effect transistor forming part of one of said pair of resistances, the FET's drain to source resistance being caused to vary so as to make the last said voltage assume a predetermined value. The first input voltage is then replaced by a second input voltage, while the resistance of the FET is maintained at the value it took when the first input voltage was applied across the pair of resistance, and accordingly the voltage at the junction of the resistances becomes a measure of the ratio of the second input voltage to the first input voltage.

3,514,701
QUADRATURE SELECT, MULTICHANNEL INDEPENDENT SIDEBAND SYSTEM
Anthony C. Palatinus, 15 Rooney, Maspeth, N.Y. 11542
Filed Mar. 15, 1967, Ser. No. 624,122
Int. Cl. H04b 1/66, 1/68; H04j 1/00
U.S. Cl. 325—50 9 Claims



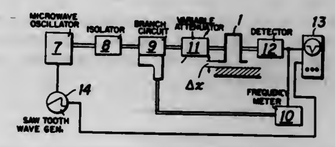
A quadrature select, multichannel independent sideband (MC–ISB) communication system employing an audio quadrature phase shift filtering technique termed "intermediate quadrature modulation" (IQM). The "IQM" process utilizes an unoccupied spectrum bandslot resulting from a frequency sideband displacement. A direct modulation path centers the modulation input within the vacated channel region. Simultaneously, in an intermediate quadrature operation that phase interrelates an audio quadrature carrier signal with a pair of audio offset I.F. carrier signal, locates the modulation input in a formerly used corresponding channel. Thereafter, the quadrature sidebands are symmetrically filtered, amplitude equalized, and time delay compensated, to additively combine and produce the desired SSB result.

3,514,702
DIGITAL DEMODULATOR SYSTEM
Lawrence P. Nahay, Cinnaminson, and Bernard E. Patrusky, Upper Dublin, N.J., assignors to RCA Corporation, a corporation of Delaware
Filed Sept. 26, 1967, Ser. No. 670,650
Int. Cl. H04l 27/10
U.S. Cl. 325—320 12 Claims



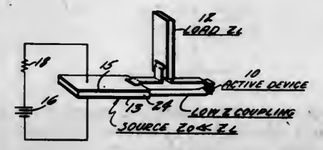
This application describes a compact, high performance digitalized frequency-shift keyed or phase-shift keyed data demodulator which does not require the receipt of remotely generated transmitted timing signals for synchronization. Snychronization is obtained by sampling the energy level of the incoming data signals over a bit-interval and by examining the samples of the energy level from the standpoint of balance with respect to locally generated timing signals.

3,514,703
METHOD FOR MEASURING THE CONFIGURATION OR THICKNESS OF A MOVING METAL BODY BY MICROWAVE RESONATORS
Hiromu Soga, Kawasaki, Japan, assignor to Yawata Iron & Steel Co., Ltd., Tokyo, Japan
Filed Feb. 3, 1967, Ser. No. 613,959
Claims priority, application Japan, Feb. 10, 1966, 41/7,857; Mar. 29, 1966, 41/19,470, 41/19,471; Aug. 2, 1966, 41/50,706
Int. Cl. G01r 27/04
U.S. Cl. 324—58.5 8 Claims



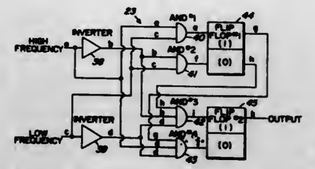
A method for measuring the configuration or thickness of a running metal body without contacting it with any measuring equipment. One or a plurality of one-end-open cylindrical resonant cavities is directed toward the surface of the metal body while keeping it spaced therefrom. Microwaves are applied to the cavity or cavities and the frequency at which the cavity or cavities are resonant is detected. This is used to determine the spacing of the cavity from the body from the known relationship between the resonant frequency and the spacing.

3,514,704
PICOSECOND ENERGY SOURCE HAVING TRANSMISSION LINE COUPLING OF NON-CRITICAL POWER SUPPLY
Albert W. Penney, Jr., Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,375
Int. Cl. H03k 1/00
U.S. Cl. 328—67 11 Claims



A transmission line having a low characteristic impedance is connected through very low series inductance to a load circuitry which may include an active device capable of pulsing with a fractional nanosecond rise time. The transmission line is also connected, by non-critical means, at any source of energy, such as regular battery or DC power supply; this transmission line provides energy to the load with essentially no standing waves or oscillations notwithstanding the characteristics of the power supply.

3,514,705
DIGITAL SUBTRACTOR CIRCUIT
Charles O. Feigleson, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Original application Aug. 4, 1965, Ser. No. 477,111, now Patent No. 3,440,645, dated Apr. 22, 1969. Divided and this application Sept. 11, 1968, Ser. No. 798,817
Int. Cl. G06f 7/385; H03d 13/00; H03k 19/22
U.S. Cl. 328—133 1 Claim

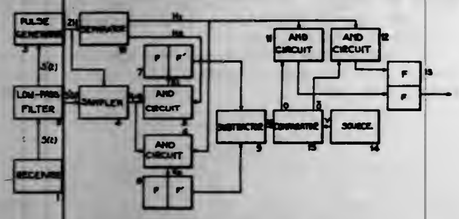


A digital subtractor logic circuit having first and second frequency inputs limited to the relationship for normal operation of frequency input applied through the first frequency input being always higher in frequency than the frequency input applied through the second frequency input, and that the higher freguency is less than twice the lower frequency.

3,514,706
BIPHASE SIGNALS SEQUENCE IDENTIFICATION SYSTEM
Jacques Dupraz and Thaddeus Hawkes, Paris, France, assignors to GSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Dec. 20, 1967, Ser. No. 692,014
Claims priority, application France, Dec. 30, 1966, 89,608
Int. Cl. H03k 5/00
U.S. Cl. 328—164 4 Claims

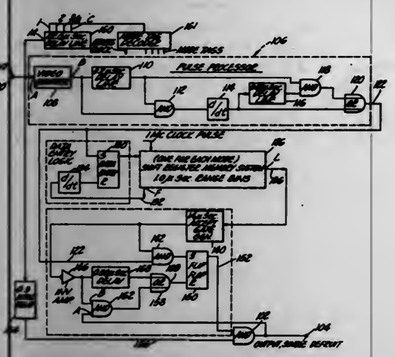
A system capable of restoring a sequence of biphase signals including noise. The system comprises a low pass filter and sampling means supplying samples of the fil-

tered sequence in each half of the period of said biphase signals; comparator means are coupled to said sampling means for comparing the two samples supplied in each of



said periods; generator means are coupled to said comparator means for supplying a restored sequence of said biphase signals in synchronism with a clock.

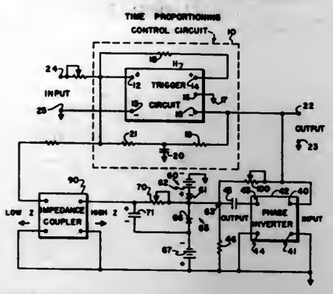
3,514,707
MEANS AND TECHNIQUES USEFUL IN BLANKING INTERFERENCE
Peter L. Canepasaro, Chatsworth, and Marvin O. Sleven and William E. Webb, Los Angeles, Calif., assignors to Whittaker Corporation, a corporation of California
Filed Apr. 25, 1967, Ser. No. 633,625
Int. Cl. H03b 1/04
U.S. Cl. 328—165 7 Claims



An IFF System using shift register memory in which individual pulses of IFF responses are stored as binary quantities and compared with subsequent IFF response pulses on a pulse-to-pulse basis to eliminate (defruit) undesired pulses either as a result of one such comparison (single defruit) or as a result of two comparisons (double defruit).

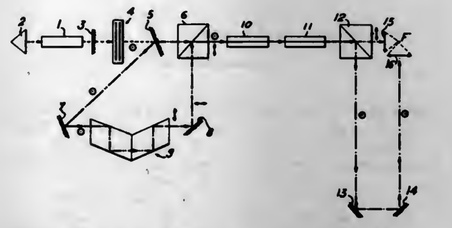
3,514,708
TIME PROPORTIONING CONTROL CIRCUIT WITH RESET FEEDBACK AND AUTOMATIC RESET LOCKOUT
Yves de Bretagne, Maximilien Brossmer, and Claude Lagrenée, Amiens, France, assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 7, 1967, Ser. No. 658,722
Claims priority, application France, Dec. 16, 1966, 87,129
Int. Cl. H03k 7/08
U.S. Cl. 328—209 10 Claims

A series connected phase inverter, capacitor and load resistor connected to receive the cyclic pulse-width-modulated output signal of a control circuit, to thus develop a cyclic control voltage across the load resistor only when the control circuit is operating within its proportioning band, a pair of diodes connected to the load resistor to clip opposite half cycles of the cyclic control voltage, R-C integrating means connected to the diodes to integrate the clipped cyclic control voltage and produce a DC reset voltage, a positive feedback circuit connecting the DC



voltage to the input of the control circuit as a reset signal, and a resistance connected in parallel with only the series connected phase inverter and capacitor to develop an anti-reset signal only when the control circuit is operating outside its proportioning band.

3,514,709
METHOD AND DEVICE FOR AMPLIFICATION OF A LASER PULSE
Louis Jacob, Saint-Germain-les-Arpajon, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Feb. 27, 1969, Ser. No. 802,839
Claims priority, application France, Mar. 12, 1968, 143,426
Int. Cl. H01s 1/00
U.S. Cl. 330—4.3 9 Claims

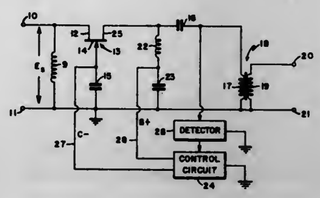


A method and device for the amplification of a laser pulse in an amplifying stage comprising at least one solid-state laser and consisting in separating said pulse into two pulses *a* and *b*, in subjecting the pulse *a* to an optical-path delay while the pulse *b* is amplified within said stage, then in subjecting the pulse *b* to the same optical-path delay while the pulse *a* is in turn amplified in the same stage and finally in recombining the two amplified pulses in space.

3,514,710
SIGNAL AMPLIFIER WITH DIRECT CURRENT ENERGY SUPPLY AND DYNAMIC RANGE CONTROLLED IN ACCORDANCE WITH COMPOSITE INPUT SIGNAL LEVEL
Eugene A. Jansing, Jr., West Chester, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Nov. 4, 1968, Ser. No. 773,227
Int. Cl. H03g 3/30
U.S. Cl. 330—29 4 Claims

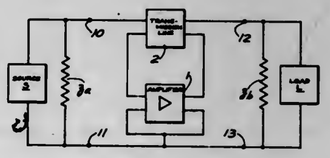
This invention provides a circuit exemplified by a radio frequency (R.F.) amplifier in which direct current (D.C.) power is automatically supplied in accordance with pre-

vailing input signal conditions. The circuit disclosed comprises a field effect transistor and associated circuit elements selected and proportioned to have the characteristic that the product of transconductance and the internal resistance of the input or signal generator is greater than 1. This invention exploits the fact that in a field effect transistor (FET) the noise figure is essentially independent of the direct current operating power level while the forward transconductance (g_m) of a field effect transistor is a function of the direct current quiescent operating



point. The associated parameters are so proportioned that the over-all gain of the amplifier circuit is rendered independent of forward transconductance over wide excursions of the latter. In this circuit signal level is sensed and the resultant control biases cause direct current power to be supplied to the field effect transistor as a function of input signal level. Thus, relatively large direct current power is supplied when necessary and economies of power are automatically accomplished when such relatively large direct current power is not required.

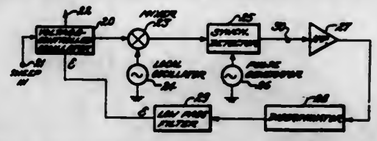
3,514,711
AMPLIFIER CIRCUIT INCLUDING A LOSSLESS TRANSMISSION LINE
Tore Torstensson Fjällbrant, Fjaras, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Continuation-in-part of application Ser. No. 569,628, Aug. 2, 1966. This application May 5, 1969, Ser. No. 821,621
Int. Cl. H03f 3/60, 21/00
U.S. Cl. 330—53 4 Claims



An amplifier circuit comprises an amplifier device interconnected with a lossless transmission line. The characteristic impedance and the length of the transmission line are chosen to neutralize any variations of the amplifier device with frequency and ambient conditions.

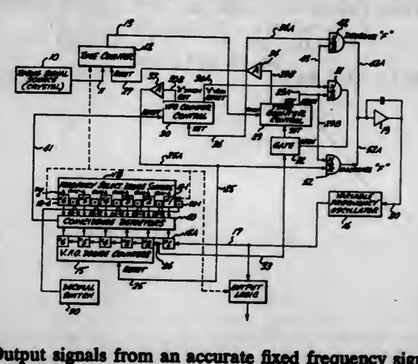
3,514,712
AUTOMATIC FREQUENCY CONTROL LOOP INCLUDING A SYNCHRONOUS DETECTOR AND A FREQUENCY DISCRIMINATOR
Ronald R. Sinclair, Burlington, Mass., Russell B. Hawes, Nashua, N.H., and Martin R. Richmond, Burlington, Mass., assignors to the United States of America as represented by the Secretary of the Air Force
Filed May 6, 1968, Ser. No. 726,953
Int. Cl. H03b 3/04; H03d 13/00
U.S. Cl. 331—4 4 Claims

Apparatus for maintaining stability in a voltage-controlled oscillator by locking the oscillator to a crystal standard by a frequency control loop which includes a mixer to mix the oscillator output with that of the crystal



standard, a synchronous detector to beat with the mixer output, and a discriminator to feed back a locking signal to the oscillator.

3,514,713
VARIABLE FREQUENCY SIGNAL GENERATOR WITH DIGITAL AUTOMATIC FREQUENCY STABILIZATION
Warren L. Leyde, Seattle, Wash., assignor to Pacific Technology, Inc., Seattle, Wash., a corporation of Washington
Filed Oct. 18, 1968, Ser. No. 768,847
Int. Cl. H03b 3/04
U.S. Cl. 331—14 10 Claims

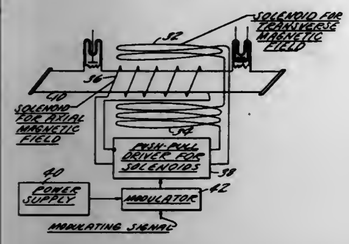


Output signals from an accurate fixed frequency signal source are used to define an accurate time interval for counting output signals from a variable frequency oscillator (VFO). A counter control circuit associated with the timing signal generator and a VFO counter control circuit determine whether the number of signals from the VFO during the set time interval is too high or too low for the selected setting of the frequency selection switches. A logic control network then serves to adjust the parameters of the VFO so that the output frequency thereof is either increased or decreased. The duration for counting output signals from the VFO during each updating cycle as well as the division factor associated with the lowest order counting unit in the counter associated with the VFO are adjusted in response to adjustment of the highest order selection switch in the frequency selection portion of the system so that the dialing resolution and accuracy of the overall system remain essentially constant throughout the entire range of system operation.

3,514,714
GAS LASER HAVING AXIAL AND TRANSVERSE MAGNETIC FIELDS CONNECTED IN PUSH-PULL RELATIONSHIP
Albert W. Angelbeck, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 16, 1965, Ser. No. 472,551
Int. Cl. H01s 3/10
U.S. Cl. 331—94.5 3 Claims

The light output and power from a DC discharge gas laser is increased by generating a magnetic field and ap-

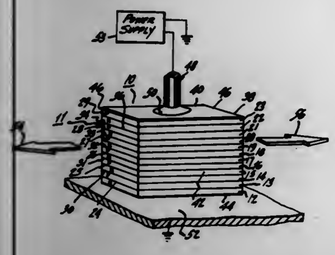
plying the field transversely across the laser. Varying the transverse magnetic field permits control of the laser output. Simultaneous application of transverse and axial magnetic fields through the laser provides push-pull type modulation with low power requirements.



3,514,715
MULTILAYER, LIGHT-EMITTING SEMICONDUCTOR DEVICE

Walter F. Kosonocky, Skillman, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed June 29, 1967, Ser. No. 650,107
Int. Cl. H01s 3/00
U.S. Cl. 331—94.5 8 Claims



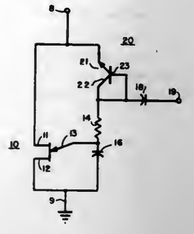
A multilayer, light emitting, semiconductor device comprises a stack of at least four relatively thin, rectangular layers of semiconductor material. The layers are alternately of P type and N type conductivity, each of the layers forming a PN junction with an adjacent layer. The stack comprises a resonant cavity including two opposite light-reflecting ends that are perpendicular to the PN junctions. When a current of at least a threshold value is sent through the stack, an inverted population of charge carriers takes place adjacent each forward-biased PN junction, and stimulated emission of light is produced thereat. The layers of the stack are thin enough to be transparent and thus permit optical coupling between the light produced at adjacent forward-biased PN junctions, whereby the emitted light beam from the device comprises the synchronized combined emission from all of the layers of inverted population.

3,514,716
SOLID-STATE, AMPLITUDE-MODULATOR, WIDE-BAND RADIO-FREQUENCY NOISE GENERATOR

Russell A. Gilson and Randy A. Reitmeyer, Asbury Park, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Jan. 9, 1968, Ser. No. 696,586
Int. Cl. H03b 29/00
U.S. Cl. 331—78 1 Claim

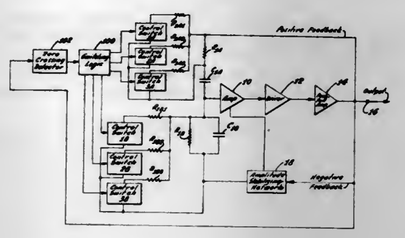
This disclosure relates to noise generators and particularly to solid-state, amplitude-modulated noise generators. More particularly this disclosure describes the connection of a reverse-biased, noise-generating, solid-state junction in a relaxation-oscillator circuit to produce an amplitude-modulated, wideband noise signal.



3,514,717
WIEN BRIDGE OSCILLATOR WITH LOW TRANSIENT FREQUENCY SWITCHING CIRCUIT

Harold B. Rose, Monterey Park, and David B. Nielsen, Pasadena, Calif., assignors to Behlman-Invar Electronics Corp., Santa Monica, Calif., a corporation of Delaware

Filed Aug. 14, 1968, Ser. No. 752,691
Int. Cl. H03b 5/26; H03j 5/24
U.S. Cl. 331—141 9 Claims



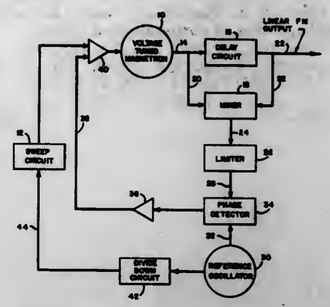
A Wien bridge oscillator which may be switched rapidly, from one frequency to another for frequency multiplexing, or other purposes, and which exhibits negligible switching transients. The switching cycles are controlled by logic circuitry so that switching from one frequency to another occurs, for example, at the low energy levels of the individual signal frequencies.

3,514,718
APPARATUS FOR LINEARIZING THE OUTPUT FREQUENCY VARIATION RATE OF VOLTAGE TUNABLE OSCILLATORS OR THE LIKE

Daniel J. Newton, Depew, N.Y., assignor to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York

Filed Aug. 30, 1967, Ser. No. 664,473
Int. Cl. H03c 3/08, 3/32
U.S. Cl. 332—5 8 Claims

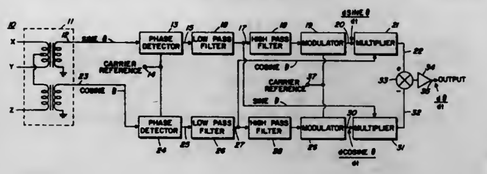
A system for maintaining a voltage on a voltage tuned magnetron which produces a linear frequency modulated output utilizing a nondispersive delay circuit on the magnetron output which in conjunction with a mixer and a reference oscillator senses deviations from linearity in the magnetron output, and corrects the input voltage to the magnetron in accordance with such deviations.



3,514,719
ELECTRIC ANALOG ANGULAR RATE DERIVING CIRCUIT

Melvin H. Rhodes, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed June 21, 1967, Ser. No. 647,760
Int. Cl. H03c 3/40; H03d 13/00
U.S. Cl. 332—23 7 Claims



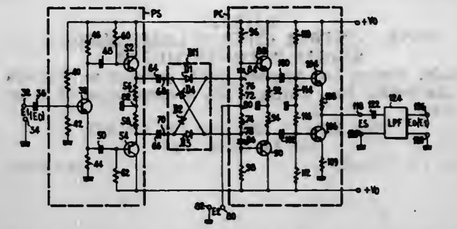
A static circuitry for developing a signal proportional to the rate of change of an angular parameter as defined by multiwire synchro signals. The circuitry eliminates the need for electromechanical rate-generator servo loop approaches by rate-taking in two channels to which sine and cosine functions of the variable are applied, followed by cross-multiplications of each signal with the rate of change of the other, with subsequent differential combination of products to arrive at a signal proportional to the rate of change of the angular parameter with respect to time.

3,514,720
TRANSFORMERLESS BALANCED-TYPE AMPLITUDE OR PHASE MODULATOR-DEMODULATOR CIRCUIT

Robert Roucache, Croissy-sur-Seine, and Daniel Rousseau, Paris, France, assignors to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation

Filed Mar. 17, 1967, Ser. No. 623,852
Claims priority, application France, Mar. 31, 1966, 55,838
Int. Cl. H03c 1/54; H03d 3/18
U.S. Cl. 332—43 10 Claims

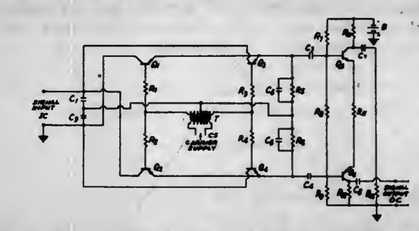
A balanced modulator-demodulator circuit having one or two pairs of diodes interconnected with impedances in a balanced network having three pairs of terminals across two of which respective input signals in phase-coherent relation can be applied, so as to derive across the third pair of terminals an output signal in phase-coherent relation with the input signals and representing the modulation or demodulation product thereof, and having an inductance-free signal-coupling arrangement for applying one input signal as two opposite-phase voltages across the related pair of terminals, comprising a transistor receiving the signal on its base and having emitter and collector load resistances connected to said terminals.



3,514,721
BRIDGE TYPE MODULATOR WITH UNBALANCED INPUT AND LOAD CIRCUITS

Leo K. Lugten, St. Petersburg, Fla., assignor to Electronic Communications, Inc.

Filed Dec. 30, 1966, Ser. No. 606,421
Int. Cl. H03c 1/54
U.S. Cl. 332—47 4 Claims

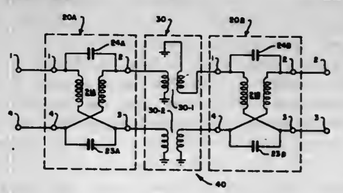


A modulator for unbalanced modulating input and load circuits includes a transistor switching bridge, the transistors of which are complementarily switched by a carrier signal. A pair of equal valued resistor-capacitor parallel networks are coupled in series on the output side of the bridge and a pair of equal valued capacitors are coupled in series on the input side of the bridge. A shunt joins the mid-point of the input capacitors and output RC networks, and balanced to unbalanced means, including a pair of complementary transistors, couple the output resistor-capacitor network to the load circuit.

3,514,722
NETWORKS USING CASCADED QUADRATURE COUPLERS, EACH COUPLER HAVING A DIFFERENT CENTER OPERATING FREQUENCY

Joseph D. Cappucci, Wayne, N.J., assignor to Merrimac Research and Development, Inc., West Caldwell, N.J., a corporation of New York

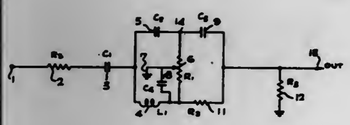
Filed July 2, 1968, Ser. No. 742,052
Int. Cl. H03h 7/04
U.S. Cl. 333—10 11 Claims



This invention relates to networks using a plurality of symmetrical quadrature coupler sections connected

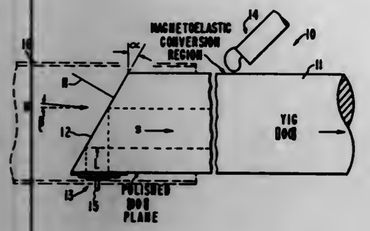
together in cascade to provide coupler and filter networks which are readily synthesized.

3,514,723
TONE CONTROL CIRCUIT COMPRISING A SINGLE POTENTIOMETER
Stanley Cutler, Los Angeles, Calif., assignor to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
Filed June 23, 1966, Ser. No. 559,847
Int. Cl. H03h 7/10
U.S. Cl. 333—28 4 Claims



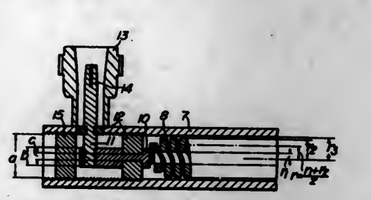
A tone control circuit is described having a single potentiometer for selectively attenuating or boosting either the high or low frequencies of the audio spectrum with respect to a given reference frequency. The circuit comprises a four-terminal LRC network and a common control potentiometer which differentially adjusts the network's transmission characteristics to function as either a low-pass filter, a high-pass filter, or a frequency-flat transmission channel with a continuously variable transition in the gain-versus-frequency response.

3,514,724
MAGNETOELASTIC SIGNAL PROCESSING APPARATUS
Glenn E. Bennett, Menlo Park, and Frank A. Olson, Palo Alto, Calif., assignors to Teledyne, Inc., Hawthorne, Calif., a corporation of Delaware
Filed Sept. 18, 1967, Ser. No. 668,553
Int. Cl. H03h 7/30, 9/30
U.S. Cl. 333—30 6 Claims



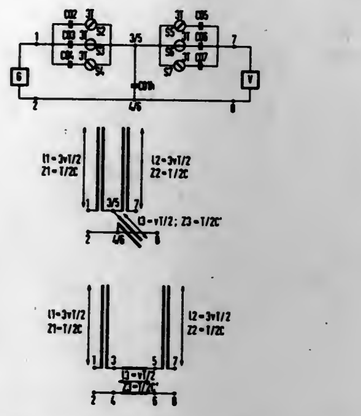
A magnetoelastic signal processing apparatus is described formed of a YIG rod with a polished end beveled with respect to the rod axis for converting between transversely propagating longitudinal elastic waves and axially propagating shear elastic waves. A transducer coupling assembly is provided on the side of the rod on a transverse path intersecting the beveled end for converting between microwave energy and longitudinal elastic waves, and a transducer coupling assembly is provided along the length of the rod for magnetoelastic conversion between microwave energy and shear elastic wave energy. The magnetic field for biasing the YIG rod can be arranged with respect to the rod axis at a small angle toward the normal to the beveled end face.

3,514,725
COAXIAL TYPE HELICAL STRIP SLOW WAVE STRUCTURE
Tsutomu Nishino, Yokohama, and Haruo Maeda, Tokyo, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Jan. 31, 1967, Ser. No. 613,003
Claims priority, application Japan, Feb. 7, 1966, 41/7,561; Feb. 14, 1966, 41/9,496
Int. Cl. H03h 7/30, 7/38
U.S. Cl. 333—31 5 Claims



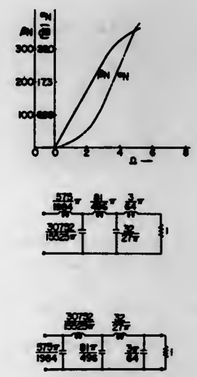
A coaxial type helical strip slow wave structure comprising a helical conductor and a cylindrical shielding outer conductor, wherein impedance matching at the signal input or output connection is realized from DC to 7000 mc. by inserting a contact pin into the center hole of said strip conductor, the insertion length being not more than one turn thereof and by reducing the outer diameter of that part of the strip conductor into which said pin is inserted or alternatively by connecting a coaxial resistor directly to the termination of said slow wave structure.

3,514,726
PULSE CONTROLLED FREQUENCY FILTER
Werner Poscheurieder, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany
Filed Jan. 24, 1967, Ser. No. 611,315
Claims priority, application Germany, Jan. 28, 1966, S 101,671
Int. Cl. H03h 7/10, 7/14
U.S. Cl. 333—70 10 Claims



An improved frequency filter responsive to control pulses which determine the characteristic frequencies thereof. A plurality of selectively actuated switches operated by the control pulses complete circuits for effecting pulse-type energy exchanges between associated storage capacitors. Circuit elements are provided to substantially eliminate energy losses in the filter. Long line transmission segments, analogous to the filter, are developed to determine the frequnecy characteristics of the filter.

3,514,727
FILTERS HAVING LOW DELAY AND ATTENUATION DISTORTIONS
Akio Matsumoto, Sapporo-shi, and Kinya Toyama and Kiyomi Kondo, Yokohama-shi, Japan, assignors to Toyo Tsushiki Kabushiki Kaisha, Kanagawa-ken, Japan, a joint-stock company of Japan
Continuation-in-part of applications Ser. No. 298,149, July 29, 1963, and Ser. No. 699,977, Jan. 19, 1968. This application Feb. 18, 1969, Ser. No. 800,238
Int. Cl. H01h 7/10
U.S. Cl. 333—76 2 Claims



An improved filter having low delay and/or attenuation distortion and consisting of a lumped constant four terminal network and an improved filter having low delay and attenuation distortions and real frequency attenuation poles at attenuation range and consisting of a lumped constant four terminal network. The network is composed of circuit elements including respectively inductance and capacitance which are obtained from a spectral impedance

$$(Z_{3a}^{(m+1)})_{sp}$$

or spectral admittance

$$(Y_{3a}^{(m+1)})_{sp}$$

thereof corresponding to two terminal short-circuit impedance

$$(Z_{3a}^{(m+1)})$$

or admittance

$$(Y_{3t}^{(m+1)})$$

thereof which is obtained by superposing the short-circuit impedances

$$(Z_{3a}^{m})$$

and

$$(Z_{3a}^{(m+1)})$$

or superposition of the short-circuit admittances

$$(Y_{3t}^{m})$$

and

$$(Y_{3t}^{(m+1)})$$

at a ratio of $1/n$, where m and n are integers and in which

$$Y_{3t}^{m} \text{ (or } Z_{3a}^{m})$$

and

$$Y_{3t}^{(m+1)} \text{ (or } Z_{3a}^{(m+1)})$$

are represented by the following equations respectively;

$$Y_{3t}^{m} \text{ (or } Z_{3a}^{m}) = j\frac{\Omega\left(1-\frac{1}{4}\Omega^2\right)\cdots\left(1-\frac{1}{(m-2)^2}\Omega^2\right)}{(1-\Omega^2)\left(1-\frac{1}{9}\Omega^2\right)\cdots\left(1-\frac{1}{(m-1)^2}\Omega^2\right)}$$

(in the case of grade m)

$$Y_{3t}^{(m+1)} \text{ (or } Z_{3a}^{(m+1)}) = j\frac{\Omega\left(1-\frac{1}{4}\Omega^2\right)\cdots\left(1-\frac{1}{m^2}\Omega^2\right)}{(1-\Omega^2)\cdots\left(1-\frac{1}{(m-1)^2}\Omega^2\right)}$$

(in the case of grade $(m+1)$

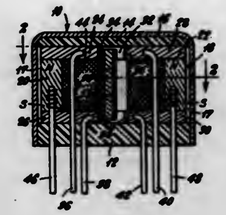
where Ω is equal to

$$2\sqrt{L_oC_o}\frac{l}{\pi}$$

in which l is a length of a lossless uniform line, L_o and C_o are respectively inductance and capacitance per unit length of said line. The above-mentioned spectral impedance and spectral admittance are defined, for example as follows:

In a lumped constant four terminal network, the spectral impedance $(Z_{3a})_{sp}$ and spectral admittance $(Y_{3t})_{sp}$ are defined respectively as ($\pi/2\times$residue number of secondary short-circuit impedance (Z_{3a})) and $\pi/2\times$residue number of one -circuit admittance (Y_{3t})) of said network.

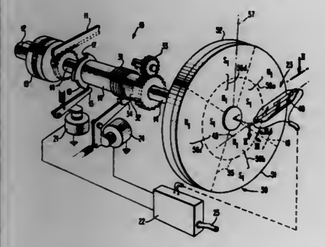
3,514,728
FREE VANE MAGNETIC CIRCUIT
Pierre Eugene Ugon, 21 Rue Claude de Bussy, 78 St. Germain-en-Laye, France
Filed Nov. 3, 1967, Ser. No. 680,550
Claims priority, application France, Nov. 4, 1966, 82,556; Sept. 27, 1967, 122,395
Int. Cl. H01h 9/00
U.S. Cl. 335—179 12 Claims



An electromagnetic switching apparatus including electromagnetic means defining an armature housing cavity and having at least two spaced stops each formed of electrically conductive material. Means are also included providing a low reluctance path outside the cavity from one stop to the other and one section of the path is electrically nonconductive to electrically isolate the stops. A coil is provided to vary the magnetic field conditions within the cavity in accordance with an operating signal applied thereto. Each stop is electrically connected to a utilization circuit. An armature of magnetic material is provided within the cavity and either the armature or the electromagnetic means includes a permanent magnet. The armature is freely movable and floating within the cavity to operatively engage both said stops and disengage and move away from at least one of the stops in response to the magnetic field conditions developed by the control signal. The armature has an outer layer of electrically conductive material to contact and electri-

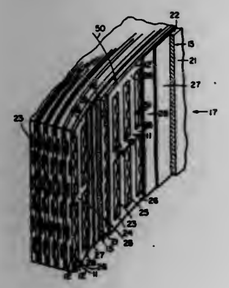
cally connect the stops when the armature engages therewith. Either one or both of the stop material or the armature outer layer material has high reluctance to provide a high reluctance but electrically conductive material extending from the magnetic part of the armature to the low reluctance path when the armature engages said stops.

3,514,729
PULSE GENERATING SWITCH DEVICE
George T. Webb, Austin, Tex., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 14, 1969, Ser. No. 790,954
Int. Cl. H01h *1/66*; H01f *7/02*
U.S. Cl. 335—207 13 Claims



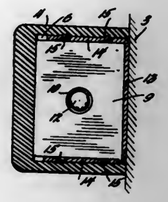
Sequential pulses are generated by opening a normally closed magnetically operable reed switch as it passes transitions between equally strong oppositely directed magnetic fields. Closely adjacent equal fields provide a precise field change for controlling switch transfer in a manner that is highly tolerant of stray fields.

3,514,730
COOLING SPACER STRIP FOR SUPERCONDUCTING MAGNETS
David A. Kassner, Patchogue, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 27, 1968, Ser. No. 716,496
Int. Cl. H01f *7/22*
U.S. Cl. 335—216 2 Claims



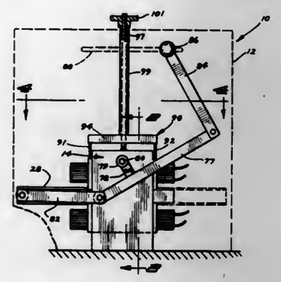
Cooling spacer strip for receiving a cooling fluid for circulating it in a uniformly fine network of small, rectangular cross-section, mutually perpendicular streams that communicate with each other in a helically wound maze having transverse openings for contacting the fluid with the face of a helically wound, edge cooled superconductor strip. The cooling spacer strip also provides an easily fabricated, helically wound, uniformly fine, grid shaped matrix for supporting the superconductor strip in a large bore, high-field, superconducting magnet.

3,514,731
MAGNETIC CLAMP
King B. Drake, 14307 Bessemer St., Van Nuys, Calif. 91401
Filed Nov. 30, 1967, Ser. No. 686,927
Int. Cl. H01f *7/20*
U.S. Cl. 335—285 3 Claims



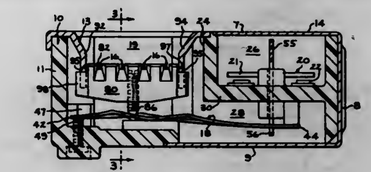
A supporting casing which is provided with a cavity in which a magnetic element is mounted for detachably securing the casing to a metallic surface, and means by which the magnetic element is securely held within the casing.

3,514,732
SHUNT CENTERING AND LOCKING APPARATUS
Robert H. Jackman, Crystal, Minn., assignor to Twentieth Century Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 31, 1969, Ser. No. 795,486
Int. Cl. H01f *21/06*
U.S. Cl. 336—133 7 Claims



A movable sliding shunt type of welder including a pair of shunting members comprising a pair of frame members housing shunts for movement thereof, a leverage arm moving said frame members, a U-channel member supporting each of said frame members, an inverted U-channel member overlying each of said frame members, said frame members and said channel members being disposed within the core of said welder, said frame members and said channel members respectively having beveled mating surface portions, a member bridging said core bearing against engaged end portions of the upper of said channel members, and securing means in connection with said core applying pressure to said bridge member to clamp said channel members against said frame members to respectively center and lock said frame members and the shunts therein in operating position.

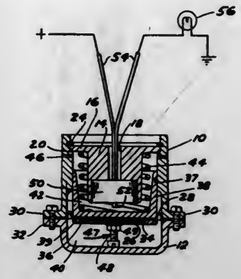
3,514,733
SNAP-ACTION HOT WIRE POWER SWITCHING RELAY
Paul R. Staples, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed June 14, 1968, Ser. No. 737,139
Int. Cl. H01h *61/06, 71/18*
U.S. Cl. 337—133 7 Claims



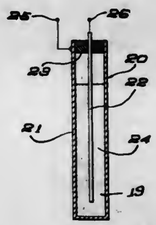
A hot wire, power switching relay having a hollow housing formed by an insulating base and several metal cover plates which substantially close the base, especially the part of the base surrounding the power switch thereof. The base supports four main elements; a hot wire of sinuous shape with multiple strands suspended from opposite sides of the base, a snap-acting spring mechanism having one end underlying the hot wire, and a power switch with fixed and movable contacts. The fourth element is an adjustable actuator interposed between the hot wire and the one end of the spring mechanism so that the tension of the strands of the hot wire may be equalized and transferred to the spring mechanism as a compressive force. The spring mechanism has an opposite end that is connected to the movable contacts of the power switch for the sudden operation thereof. Hence, when the hot wire is electrically energized it becomes heated and it stretches. This reduces the tensile stress on the hot wire which in turn reduces the force of the actuator bearing on the spring mechanism and permits the spring mechanism to perform a snap-action which in turn operates the movable contacts of the power switch. One of the cover plates which overlie the hot wire has guide means in engagement with the actuator. These guide means include motion limit means for the actuator so as to relieve the tensile stress of the hot wire during its energization. The hot wire relay is calibrated by first applying a small voltage to the hot wire. This stretches the wire. The adjusting screw of the actuator is turned until the actuator engages the motion limit means of the guide means of the cover plate. Then the same screw is reversed between one and two turns to select a neutral or central position for the armature.

3,514,734
THERMAL SENSING PRESSURE SWITCH
James K. Garrett, Inkster, Mich., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Nov. 28, 1967, Ser. No. 686,153
Int. Cl. H01h *37/40*
U.S. Cl. 337—320 3 Claims

A thermo-sensing pressure switch for sensing air temperature in an engine compartment having a chamber which expands and responds to increased temperature thereby causing a diaphragm to flex against a piston which is slidably mounted in the switch housing. A piston which is biased against the diaphragm is caused to move so as to contact a micro-switch mounted within the switch housing thereby completing an electrical circuit and energizing a warning light in the drivers compartment.



3,514,735
TEMPERATURE SENSITIVE SWITCHING DEVICE
Kiyoichi Nijo, 4–10 3-chome, Furuichi Odori, Joto-ku, Osaka, Osaka Prefecture, Japan
Filed Mar. 8, 1968, Ser. No. 711,648
Int. Cl. H01h *37/36*; H01c *7/00*
U.S. Cl. 337—331 6 Claims

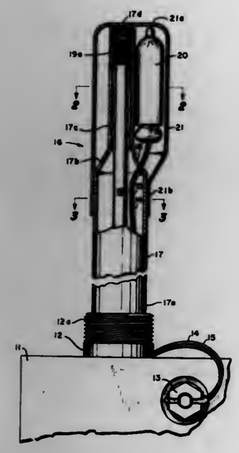


A temperature controlled switching device and detector comprising two electrodes immersed in a quantity of water which, in one embodiment, includes therein a chemical compound which has an effect on the descent of the freezing point of the water. The device operates in accordance with the difference in resistivity of the water between its liquid and solid states to close or open an external circuit connected to the electrodes thereof, and is well suited for use in refrigerators or the like apparatus for temperature and humidity control and defrosting thereof.

3,514,736
THERMOSTATIC CONTROL AND SAFETY CONTROL COMBINATION
Kyung C. Synn, Compton, Robert A. Rountry, Canoga Park, and Louis L. Mucciante, Cerriots, Calif., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Dec. 20, 1968, Ser. No. 785,684
Int. Cl. H01h *37/46, 37/48*; A21b *1/40*
U.S. Cl. 337—394 9 Claims

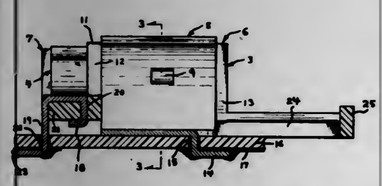
A rod and tube thermostatic control and a thermocouple powered high limit safety control combination, for water heaters and the like, wherein a normally closed thermostatic high limit switch is positioned within a cap

that encloses and seals the threaded connection between the rod and tube and also encloses an opening in the



tube through which a lead wire or two extends from the switch to the thermocouple powered safety control.

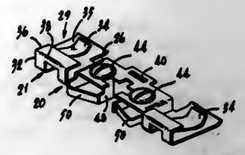
3,514,737
PRINTED CIRCUIT BOARD SOCKET CONNECTOR
Floyd Harold Renshaw, Jr., Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 21, 1968, Ser. No. 707,059
Int. Cl. H01r *17/18, 13/40*
U.S. Cl. 339—17 6 Claims



A socket connector for printed circuit boards comprises a dielectric housing in which electrical contacts are carried in spaced and insulated relationship, the axes of the contacts being coextensive, the contacts being secured in the housing and provided with sections for engagement with conductive paths on a printed circuit board.

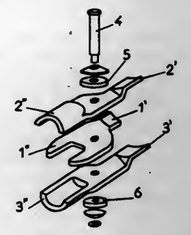
3,514,738
COMBINED CONTACT AND TERMINAL FOR CONVENIENCE OUTLETS
Kenneth H. Walterick and Walter H. Anthony, Levittown, and Julius F. Tibolla, Yardley, Pa., assignors to Circle F Industries, Inc., Trenton, N.J., a corporation of New Jersey
Filed Apr. 3, 1968, Ser. No. 718,554
Int. Cl. H01r *13/12, 13/36*
U.S. Cl. 339—32 6 Claims

A contact and terminal structure for a convenience outlet includes an integral copper or copper alloy strip, preferably about .020 inch thick. The strip has spaced spring arms having a longitudinal grain though deflecting in perpendicularly related planes. One of these contacts an inserted plug blade and the other grips a wire termination. The strip is formed with offset walls joined integrally by a connecting web. One spring arm is struck from one of



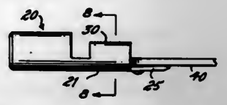
the walls with the other extending from the web, adjacent an alternative terminal provided by a screw and nut carried by the other wall.

3,514,739
ELECTRICAL CONTACT ARRANGEMENT OF HIGH CURRENT CARRYING CAPACITY FOR CABLE JOINTS
Henri Hubert Jamon, Soicy-sous-Montmorency, France, assignor to Etablissement Satra, Societe Achat et Transactions, Vaduz, Liechtenstein
Filed Jan. 12, 1968, Ser. No. 697,436
Claims priority, application France, Jan. 14, 1967, 536/67
Int. Cl. H01r *25/04*
U.S. Cl. 339—47 8 Claims



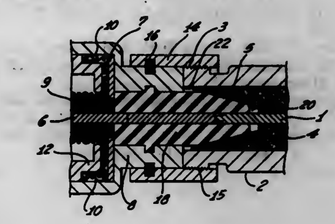
An electrical contact arrangement of high current carrying capacity for cable joints comprising a pair of contact members interengageable with each other for releasably and conductively connecting two conductors with each other, wherein the contact members are of the identical configuration.

3,514,740
WIRE-END CONNECTOR STRUCTURE
John Richard Filson, 95 N. Lakeside Drive, Medford, N.J. 08055
Filed Mar. 4, 1968, Ser. No. 710,211
Int. Cl. H02r *13/28*
U.S. Cl. 339—47 6 Claims



This invention is essentially concerned with a wire connector wherein a generally flat member is provided with a pair of resilient pressure fingers extending laterally inwardly on one side of the flat member, and a tongue extends longitudinally obliquely outward from one end of the flat member, so that an element insertable between the receiver member and fingers is frictionally retained therein by engagement with the fingers, receiver member and tongue.

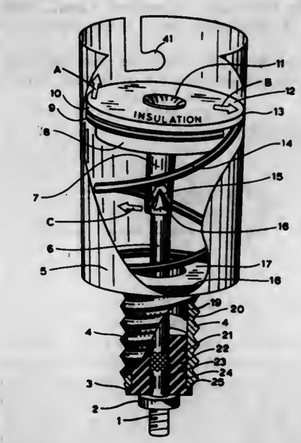
3,514,741
LOW LEAKAGE CONNECTOR FOR USE IN HIGH RADIATION FIELDS
Don W. Noren, Redwood City, Calif., assignor to Litton Precision Products, Inc., San Carlos, Calif., a corporation of Delaware
Filed May 3, 1968, Ser. No. 726,483
Int. Cl. H01r *13/52*
U.S. Cl. 339—60 4 Claims



The improved electrical connector means of the invention includes the structure of conventional male and female coaxial connectors. That conventional structure is modified so as to avoid the existence of any air path between the center conductor and the outer conductor of the coaxial connector portions after the two portions are fully coupled or joined together. One connector portion, for example, the male connector is modified to include in the space between the center and outer conductor at one end a concavely tapered nonionizable relatively rigid insulating material having an end recessed in the outer wall of the connector portion. The sides of the tapered insulating material are of the form of a truncated cone and form a first angle with respect to the axis of the center conductor. In this embodiment the female connector portion, on the other hand, includes a protruding member of an elastic deformable nonionizable insulating material anchored at the end of the male connector in the space between the center conductor and the outer conductor and which projects from the connector end beyond the outer conductor walls thereof. The protruding insulator has convexly tapered outer sides substantially in the geometry of a truncated cone. The sides of the tapered portion forms a second or cone angle with respect to the axis of said center conductor, and this angle is slightly smaller than the cone angle of the more rigid insulating member, previously cited. In coupling the male and female connector portions together, the protruding elastic insulator fits within the recessed rigid insulator.

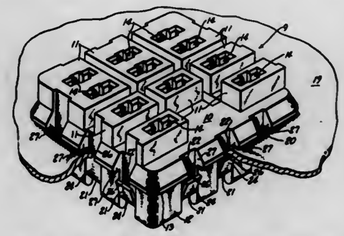
The diameter of the front end portion of the elastic insulator is large enough to abut a rearwardly located portion of the wall of the more rigid tapered insulator in the male connector when the two connector portions are first pressed together in the union. Coupling means, suitably a threaded collar, are provided on one of the connector portions, which engages a threaded connector portion on the other connector portion for compressively joining together the two connector portions. As the coupling collar rotates, the compression of the union increases and the deformable insulating material expands or bulges. This bulging commences at the point within the male connector where the deformable projecting insulator first engages or abuts the tapered walls of the more rigid insulator and thereafter, as greater and greater compression is applied, continues and closes sequentially the gap in between the rigid insulator walls and the walls of the projecting elastic insulator from one end toward the other end. In high radiation fields or high voltage fields any path formed by an ionizable gas present between the center and outer conductors breaks down and causes leakage between the cited conductors. This bulging action sweeps out any air initially present between the insulator portions of the male and female connectors and prevents the existence of a direct path of air or gas molecules between the center and outer conductors.

3,514,742
ELECTRIC LAMP SOCKETS
Julius Reinherz, P.O. Box 26, Maywood Village, Ill. 60153
Filed Nov. 15, 1967, Ser. No. 683,310
Int. Cl. H01r *13/24, 13/22*
U.S. Cl. 339—88 11 Claims



This specification discloses a lamp socket having two rigid conductors, at least one tubular, maintained in sliding-conductive-contact by lateral, spring-derived pressure; use of an oversize lower-loop for compression spring retention; use of one eyelet pressed over another eyelet as a conductor and retaining means; use of a stepped-diameter, movable-insulator, for conductor support and transmission of oblique spring forces; a socket with a sealed type base; specially adapted, socket-base mounting and sealing means; socket construction for high temperature use; and a tool for assembling socket components.

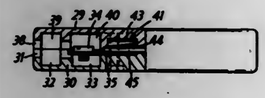
3,514,743
SOCKET FOR PLUG-IN ELECTRICAL COMPONENTS WITH SNAP-IN ATTACHMENT TO MOUNTING PANEL
Spencer C. Schantz, Oconomowoc, Wis., assignor to Deltrol Corp. (Deltrol Controls Division), Milwaukee, Wis., a corporation of Delaware
Filed Sept. 23, 1968, Ser. No. 761,628
Int. Cl. H02b *1/02*
U.S. Cl. 339—128 6 Claims



A socket for a multiple terminal plug-in type electrical component molded of insulating material has a plurality of retaining tongues depending from its underside, each of which consists of integrally joined upwardly divergent

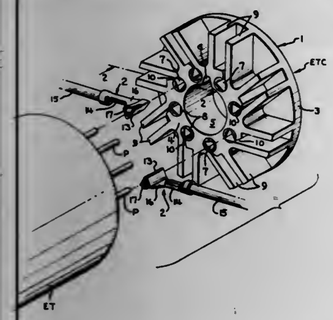
inner and outer legs, the latter coacting with a downwardly facing shoulder at the marginal edge of the socket to secure the socket in a hole in a panel; and the outer legs of some of the tongues being of different lengths so that the free ends thereof are spaced different distances from the downwardly facing shoulder to compensate for differences in thickness of the panel.

3,514,744
ELECTRICAL CONNECTOR
Betty Ruth Hollander, Stamford, Conn., assignor to Omega Engineering, Inc., a corporation of New Jersey
Filed Aug. 23, 1967, Ser. No. 662,625
Claims priority, application Great Britain, Aug. 26, 1966, 38,315/66
Int. Cl. H01r *13/12*
U.S. Cl. 339—191 1 Claim



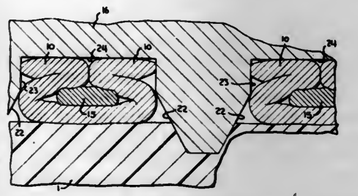
There is disclosed an electrical connector having, in combination, a socket assembly including a body housing, female socket elements and a plug assembly, including respective male pin elements for engagement in said socket elements, characterized in that said female socket elements comprise the combination of a first contact, and an opposed second resilient contact which is separate from said first contact and wherein the second resilient contact comprises an arm carried on a base and lying along the direction of introduction and withdrawal of the male pin element, said base serving to align and to secure the first and second contacts with respect to each other and to the body, said first and second contacts being supported by the body against movement away from each other, whereby a male pin element introduced between said first and second contacts is gripped as a result of resilient deformation of the second contact.

3,514,745
ELECTRON TUBE CONNECTOR
Armand René de Lyon, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Continuation of application Ser. No. 557,796, June 15, 1966. This application June 11, 1968, Ser. No. 740,782
Int. Cl. H01r *13/42, 33/76*
U.S. Cl. 339—193 7 Claims



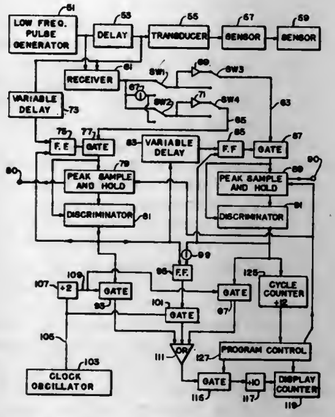
An electron tube connector comprises a one-piece dielectric housing having a series of cavities surrounding an aperture and provided with channels, the channels extend outwardly from each of the series of cavities at an angle with respect to a plane extending through an axis of each of the series of cavities and a longitudinal axis of the housing so that conductors connected to terminals disposed in the cavities can be directed toward one end of the housing to bunch the conductors thereat.

3,514,746
ELECTRICAL CONNECTORS FOR TERMINATING LEADS OF MICROMODULAR COMPONENTS OR THE LIKE
Richard John O'Neill, Camp Hill, and Robert John Kinkaid, New Cumberland, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Original application Aug. 23, 1965, Ser. No. 481,663, now Patent No. 3,409,857, dated Nov. 5, 1968. Divided and this application July 17, 1968, Ser. No. 745,620
Int. Cl. H01r *11/08*
U.S. Cl. 339—276 3 Claims



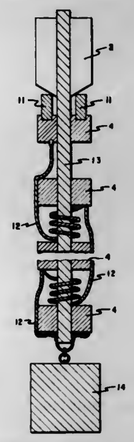
An electrical connection comprises a ferrule surrounding a conductive lead and having a base against which the lead is positioned as well as opposed inner sections engaging the lead, the opposed sections extending across the base toward one another and meeting at about a plane extending through a longitudinal axis of the ferrule, and outer sections extending away from the plane which engage the inner sections and press the sections against the base.

3,514,747
ULTRASONIC SENSING SYSTEM
Lawrence C. Lynnworth, Waltham, and Brian J. Spencer, Billerica, Mass., assignors to Panametrics, Inc., Waltham, Mass., a corporation of Delaware
Filed Oct. 25, 1968, Ser. No. 770,614
Int. Cl. G01s *9/66*
U.S. Cl. 340—1 9 Claims



Apparatus is disclosed for measuring the actual time interval between a preselected pair of ultrasonic echo pulses, which pulses occur at approximately known times following the generation of an interrogating acoustic pulse. The first of the preselected pulses operates means for starting a digital clock and the second or subsequent preselected pulse operates means for stopping the clock. The clock controlling means are disabled for respective preselected intervals following the generation of the interrogating pulse and following the reception of the first echo pulse so that the operation of the clock responds only to the preselected pair of pulses and not to other pulses.

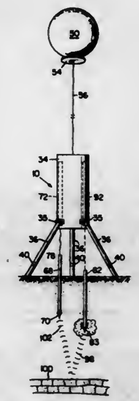
3,514,748
METHOD AND DEVICE FOR ECHO RANGING
Frank A. Loving, Wenonah, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 781,166, Dec. 17, 1958. This application Nov. 17, 1961, Ser. No. 153,783
Int. Cl. G01s *9/68*
U.S. Cl. 340—3 2 Claims



1. An echo ranging device for locating an underwater object which comprises:
   (a) a linear array of at least two detonating explosive charges, said charges being spaced apart sufficiently that detonation of one will not cause detonation of another by influence;
   (b) means for initiating a terminal charge of said array; and
   (c) explosive delay means sequentially connecting said charges such that, upon initiation of said terminal charge by said initiating means, said explosive charges detonate sequentially at a time interval which is the reciprocal of a preselected frequency and which provides an axial component of the detonation velocity of said linear array of less than 1500 meters per second, the detonation of said charges providing a sequence of at least two discrete spherical pressure pulses whose frequency in a plane normal to the linear axis formed by said array is equal to said preselected frequency.

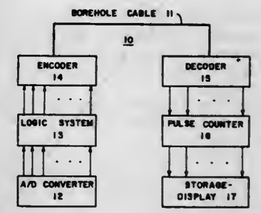
3,514,749
METHOD AND APPARATUS FOR CONDUCTING SEISMIC EXPLORATIONS FROM AIRCRAFT
Louis R. Padberg, Jr., 22 Rincon Vista Road, Santa Barbara, Calif. 93103
Filed Apr. 24, 1969, Ser. No. 819,057
Int. Cl. G01v *1/10, 1/22*
U.S. Cl. 340—15.5 10 Claims

A method and apparatus for obtaining information as to sub-surface conditions in regions difficult of access by conventional means. An instrumentation package is lowered or dropped from an aircraft, this package including a seismic pick-up sensor together with a selectively-energizable source of acoustic energy. After these members have been embedded into the surface of the landing area,



energization of the sound source will generate a high-intensity wave which is reflected back to the sensor from sub-surface discontinuities. A radio transmitter is included in the package for transmitting the derived data to the aircraft or other receiving station.

3,514,750
BOREHOLE TELEMETERING SYSTEM
William C. Pritchett, Dallas, and Ray L. Calkins, Richardson, Tex., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 631,316, Apr. 17, 1967. This application June 24, 1968, Ser. No. 743,267
Int. Cl. G01v *1/40, 1/22*
U.S. Cl. 340—18 5 Claims

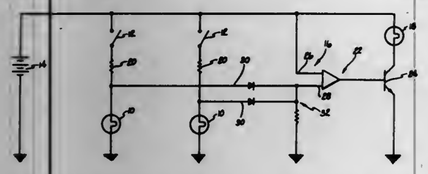


A telemetering process for transmitting information over a multiconductor borehole cable to the surface under conditions whereby cross-talk is minimized. Logging data is transposed into digital signals. Signals which have the same significance are combined to simplify telemetry. Pairs of less than all of the telemetric conductors are selected such that their individual members are symmetrical with respect to each of the remaining unpaired conductors. Signals to be sent uphole are encoded by applying an equal number of positive and negative pulses of equal duration to separate members of one or more of the pairs of conductors. The code pulses are synchronously transmitted to the surface where they are decoded to reproduce the digital signals.

3,514,751
LAMP OUTAGE INDICATING APPARATUS

Joseph E. Pascente, Norridge, Ill., assignor to Grigsby-Barton, Inc., Arlington Heights, Ill., a corporation of Illinois

Filed Dec. 9, 1966, Ser. No. 600,449
Int. Cl. B60q 9/00
U.S. Cl. 340—52 2 Claims

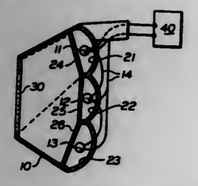


An electrical system indicates lamp outage by monitoring a number of lamps with an OR logic circuit having its output coupled to a differential amplifier. The amplifier compares the logic output with a reference and causes the actuation of an indicating device if any lamp fails.

3,514,752
COMPACT TRAFFIC SIGNAL

Alexander Lurkis, 193—12 Nero Ave.
Hollliswood, N.Y. 11423

Filed Mar. 23, 1967, Ser. No. 625,353
Int. Cl. G08g 1/095
U.S. Cl. 340—84 5 Claims

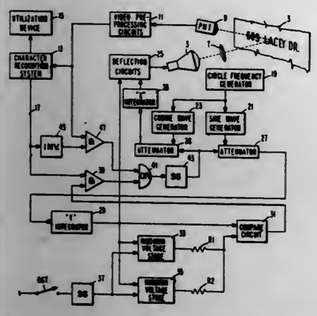


This invention pertains to a compact traffic signal wherein three or more light sources will focus on a single screen, or a single light source will produce a series of different consecutive colors.

3,514,753
CHARACTER RECOGNITION SYSTEM

James J. Kennedy, Rochester, Minn., and Norman R. Plummer, Owego, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 12, 1966, Ser. No. 520,250
Int. Cl. G06j 9/16, 11/02
U.S. Cl. 340—146.3 9 Claims

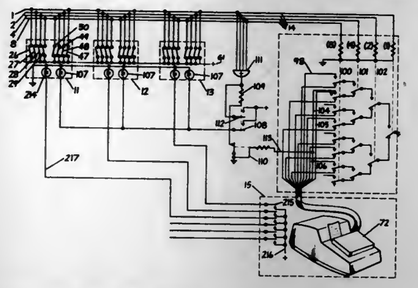


The present invention is used in a character recognition system of the type employing a curve-following scanner. During the scanning of a character, an analog voltage is developed which is relative to the height of the character being scanned, and which may be divided to provide an output signal indicative of a point to be located between the top and the bottom of the scanned character. This analog voltage is then employed instead of the video voltage signals resulting from the scanning of the character to create an artificial black zone or line which the curve-following scanner can then follow until it encounters the next character to be recognized.

3,514,754
CREDIT VERIFICATION SYSTEM

Fred N. Schwend, Arcadia, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California

Filed Sept. 8, 1967, Ser. No. 666,388
Int. Cl. H04q 9/00; G08b 5/00
U.S. Cl. 340—149 10 Claims

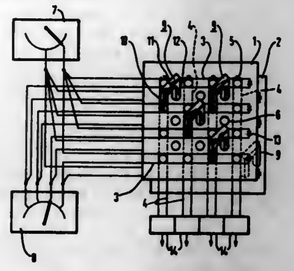


A credit verification system utilizing a credit card having a field of coded punched holes identifying all but a few digits of a customer's credit account number, in which the card is placed in a slot at any of several point-of-sale stations. Electrical sensing means senses the holes and transmits the account number to a registering machine at a central station wherein both the account number and the number of the point-of-sale station is recorded. The remaining digits of the account number are entered in a keyboard and transmitted separately to prevent use of credit cards by unauthorized persons.

3,514,755
ELECTROMAGNETIC COUPLER FOR A SWITCHING MATRIX

Hans Aicher, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany

Filed June 27, 1966, Ser. No. 560,769
Claims priority, application Germany, July 1, 1965, S 97,930
Int. Cl. H02b 1/04; H04q
U.S. Cl. 340—166 5 Claims

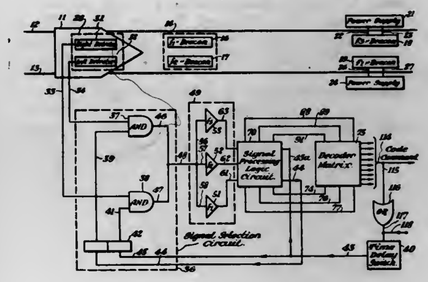


The coupling device includes a generally U-shaped pin which is made of ferromagnetic material. The legs of the pins form an elongated, narrow air gap to minimize the reluctance of the coupler. In the preferred embodiment of the invention the inner sides of the legs of the U-shaped coupling device form two areas which face each other. This enlarges the areas which border on the air gap between the two legs thus reducing the magnetic reluctance of the device. Plugs of this type can be inserted into openings in a sheet of insulating material which has incoming lines on one side and outgoing lines on the other side.

3,514,756
INTERMITTENT VEHICLE FUNCTION CONTROL SYSTEM

Louis Duteil, Livry-Gargan, France, assignor to Compagnie des Freins et Signaux Westinghouse, Paris, France

Filed Mar. 17, 1967, Ser. No. 623,980
Claims priority, application France, Mar. 22, 1966, 54,578
Int. Cl. H04q 1/45
U.S. Cl. 340—171 9 Claims



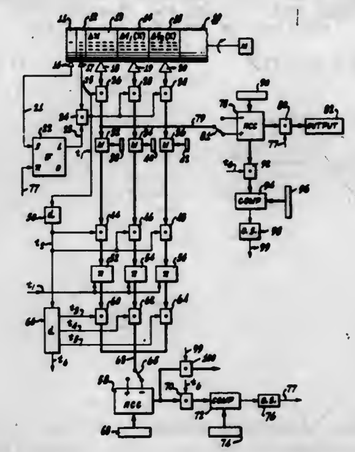
An intermittent vehicle function control system in which provision is made to alternately detect signals established by parallel signal generating units positioned along the vehicle's way. This is accomplished by the utilization of tuned amplifiers, the total number of which equals the number of frequencies utilized in the system which in turn will allow a number of code command outputs to control vehicle function, which number is a square of the total number of frequencies employed. A signal selecting circuit alternately detects signals from the signal generating units and passes these detected signal to a tuned amplifier array which in turn passes the detected signals to a signal processing logic circuit which then passes the processed signals to a decoding matrix. The output from the decoding matrix is used to control the vehicle's functions as well to reset the system to receive the next appearing signals from the signal generating units positioned in the way.

3,514,757
COMPUTER SYSTEM FOR SOLVING MATHEMATICAL EQUATIONS

Sol Weintraub, 75—19 171st St., Flushing, N.Y. 11366

Filed Feb. 25, 1966, Ser. No. 530,001
Int. Cl. G06f 9/02, 9/06
U.S. Cl. 340—172.5 7 Claims

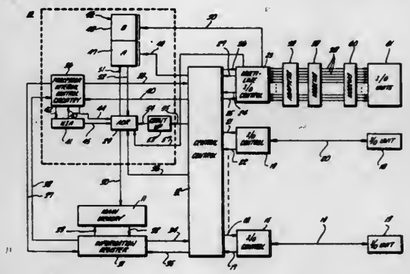
A computer system for mathematical calculations uses a store of incremental values of a variable and a store of corresponding incremental values of a function of that variable. The successive incremental values of each are supplied to separate accumulators until the accumulated value of the variable equals a pre-set input, whereupon the accumulated function value is the desired solution. Inverse calculations are similarly performed.



3,514,758
DIGITAL COMPUTER SYSTEM HAVING MULTI-LINE CONTROL UNIT

James Russell Bennett, Glendora, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 27, 1967, Ser. No. 626,013
Int. Cl. G06f 3/00; G08b 11/00
U.S. Cl. 340—172.5 3 Claims

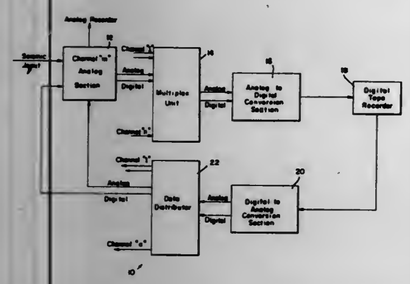


A digital computer system having a multi-line data communication control unit in which removable etched cards containing integrated circuitry thereon are utilized to provide circuitry for controlling the multi-line control unit. A first group of cards present circuitry which provides control signals to the multi-line control unit in response to identification signals presented to it by data communication line adapters. A second group of cards, each containing a particular group of control code characters, may be used to compare characters being transmitted with the group of characters on a particular one of the cards. Signals provided by the first group of cards in response to the identification signals are used to select the particular one of the second group of cards.

3,514,759
CONTROLLED GAIN PLAYBACK LOOP FOR DATA AQUISITION SYSTEM

Kenji Watanabe, Los Angeles, and Ralph D. Hasenbalg, Santa Susana, Calif., assignors, by mesne assignments, to Digital Data Systems, Inc., Houston, Tex.

Filed June 16, 1967, Ser. No. 657,454
Int. Cl. G06f 7/00
U.S. Cl. 340—172.5 11 Claims

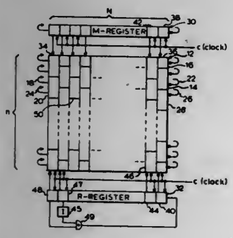


A Data Acquisition System is described which is adapted to measure and record signals whose amplitude ranges over several orders of magnitude and which are to be recorded ultimately in digital form with scale and magnitude digits. A playback system is disclosed which is responsive to the recorded scale digit signals to generate a smoothed output signal of substantially constant signal envelope, without discontinuities, resulting from discrete changes of gain.

3,514,760
SORTING ARRAY II

William H. Kautz, Woodside, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California

Filed Sept. 13, 1967, Ser. No. 667,521
Int. Cl. G06f 7/02, 7/22
U.S. Cl. 340—172.5 12 Claims



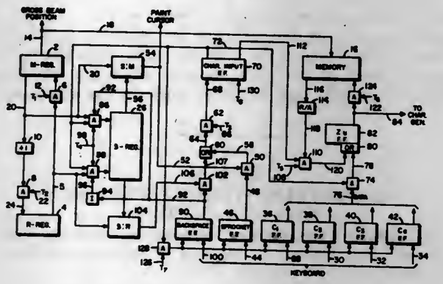
A logic network useful in digital computers for sorting data words or numbers to arrange them according to their values, which uses an array of many identical cells in a staggered two-dimensional arrangement adapted for realization by integrated semiconductor technology.

3,514,761
ACCESS CONTROL FOR MEMORY ADDRESSES

Carl W. Eierman, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 2, 1968, Ser. No. 695,100
Int. Cl. G06f 1/00
U.S. Cl. 340—172.5 4 Claims

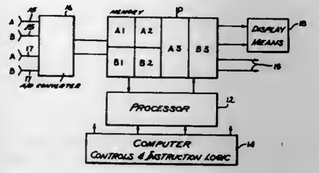
A circuit including a free-running counter for address precession forward or backward to control access to continuously cycled memory addresses such as in a CRT display where display regeneration requires continuous memory cycling.



3,514,762
COMPUTER MEMORY TRANSFER SYSTEM

Edwin Sloane, Los Altos, Edgar Allan Poe III, and Martin Fletcher, Palo Alto, Richard Wexler, Menlo Park, and Robert Sackman, Atherton, Calif., assignors to Time Data Corporation, Palo Alto, Calif., a corporation of California

Filed Oct. 28, 1968, Ser. No. 771,145
Int. Cl. G06f 3/00
U.S. Cl. 340—172.5 6 Claims



A computer memory transfer system for transferring signals stored in the input, output or in-process sections of a computer memory to other sections of the computer memory by manual selection means. In addition, the system permits a single word to be transferred from a keyboard to any section of the computer memory.

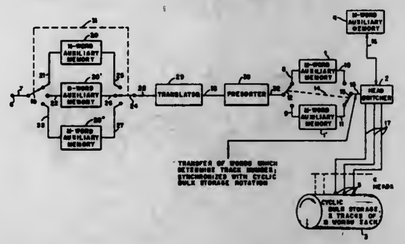
3,514,763
TOTALIZING MEMORY FOR MULTICHANNEL ANALYZERS WITH INCREASED CAPACITY

Nancy A. Betz, and Walter R. Burrus, Oak Ridge, Trousdale A. Lewis, Knoxville, and Jay W. Reynolds, Grimes G. Slaughter, and Joseph G. Sullivan, Oak Ridge, Tenn., assignors to the United States of America, as represented by the United States Atomic Energy Commission

Continuation-in-part of application Ser. No. 698,338, Jan. 16, 1968. This application Mar. 12, 1969, Ser. No. 806,648
Int. Cl. G06f 7/06, 7/08
U.S. Cl. 340—172.5 5 Claims

In an incrementing memory system for data rates of 10^4 words per second with a channel capacity of about 10^6, externally supplied digitized events are continuously stored in auxiliary memory units and thereafter periodically reduced to a track position and head number which uniquely defines an address of a cyclic bulk storage unit. A presorter uses the track position so as to

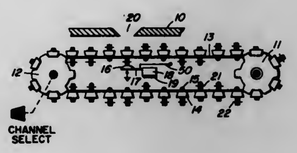
determine where in other auxiliary storage units the head number is to be stored. These second storage units batch the information and periodically activate all appropriate heads of a cyclic bulk storage unit so as to permit readout of stored information, incrementing of the same, and re-storage of the incremented information in a total elapsed time equivalent to two effective cycles of the bulk storage unit. Thus the number of random occurrences of a data word is totalized rather than storing the words themselves.



3,514,764
MEMORY SWITCHING DEVICE

Winston F. Williams, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation

Filed Jan. 12, 1968, Ser. No. 697,485
Int. Cl. G11c 11/50
U.S. Cl. 340—173 3 Claims



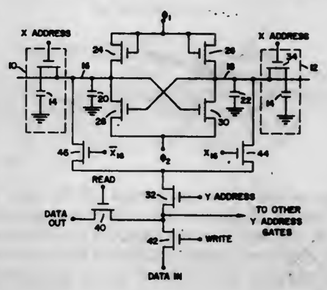
A logic switching system for presetting a row of switches in preselected permutations comprised of a number of plate members carried in space separated relationship on a flexible endless tape means. Each plate carries a row of switch activating pins which may be turned in or out to selectively activate switches when the plate is positioned in cooperative relationship with the switch row. The plates are cross sectioned and so spaced as to cooperate with sprocket drive and support members. The switches are mounted within the confines of the endless tape means and permit operator front panel access for pin adjustments of the row of pins which is in operative position with the switch row.

3,514,765
SENSE AMPLIFIER COMPRISING CROSS COUPLED MOSFET'S OPERATING IN A RACE MODE FOR SINGLE DEVICE PER BIT MOSFET MEMORIES

Alton O. Christensen, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed May 23, 1969, Ser. No. 827,193
Int. Cl. G11c 11/24, 11/40
U.S. Cl. 340—173 14 Claims

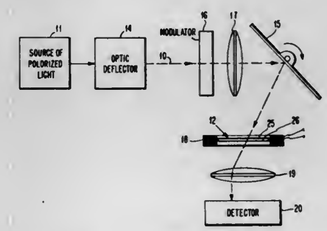
A highly efficient sense amplifier for metal oxide silicon chip memory arrays can be built by using a pair of cross-coupled sensing MOSFET's connected in a racing mode between a bit line capacitance and a precharge storage capacitance to produce a full-"1" or full-"0" bit line condition responsive to the capacitive information charge stored in an addressed bit, and transferred to the bit line which condition can serve both as a restoring signal and as a readout signal. Bit line capacitance can be reduced; and a separate precharge storage capacitance eliminated, by connecting each of the cross-coupled MOSFET's to half of the bit line, and using the line capacitance of the idle half of the bit line as the precharge storage capacitance.



3,514,766
BEAM ADDRESSABLE MEMORY SYSTEM

Charles Denis Mee, Los Gatos, and Ronald E. MacDonald, San Jose, Calif., and Otto Voegeli, West Lafayette, Ind., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 10, 1966, Ser. No. 593,387
Int. Cl. G11c 11/14, 11/42
U.S. Cl. 340—174 22 Claims



An information storage apparatus and a thin film of magnetic garnet material as the memory element are described. Information is recorded and readout of the memory element with the information storage apparatus using a high energy polarized light having a wavelength below 5,000 angstroms. The information storage apparatus and memory element have application as a high density, random access memory in data processing systems.

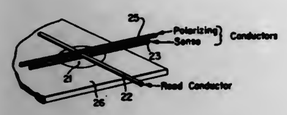
3,514,767
THIN FILM MAGNETIC DATA STORE

Eric E. Bittmann, Downingtown, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Apr. 14, 1958, Ser. No. 728,212
Int. Cl. G11c 5/02, 11/14
U.S. Cl. 340—174 4 Claims

A thin film magnetic memory device in which a first conductor is disposed perpendicular to the preferred magnetic axis of the thin film to provide a low-level magnetic drive in the axial direction, while a second conductor is disposed generally along the preferred axis, but slightly

skewed away from the axis, to provide a high-level magnetic drive perpendicular to the preferred axis with a small axial component. When only the second conductor is energized, the magnetic flux in the thin film is driven to a reference state, the direction of which is fixed by the

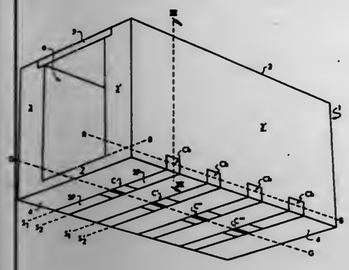


direction of the axial component of the field produced by the second conductor, but when both conductors are energized, the small axial component of the second conductor is overcome by the axial drive of the first conductor and the magnetic flux is driven to the opposite direction.

3,514,768
MULTITRANSDUCER PACKAGE

Hubert W. Hagadorn, Brighton, Donald T. Staffiere, Wilmington, and Richard I. Mizrahi, Ashland, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 503,890
Int. Cl. G11b *5/10, 5/42*
U.S. Cl. 340—174.1 6 Claims



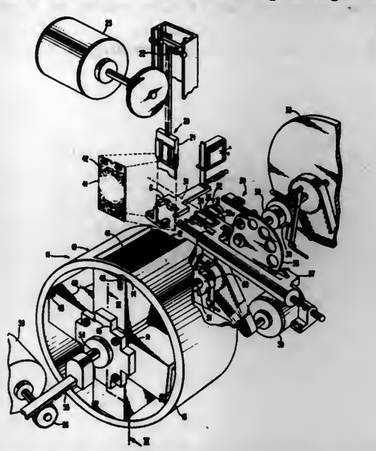
An improved magnetic head assembly of simplified and rugged construction. The head assembly includes an integral casing member having a recording face portion and sidewalls which define an internal cavity. A plurality of parallel channels are formed in the recording face portion corresponding, respectively, to recording tracks; each said channel being formed to communicate with the internal cavity and adapted to confine a transducer core member. The plurality of transducer core members are confined in an aligned array in the channels by spacers bonded to the outer ends of the channels and by a filler material inserted within the internal cavity.

3,514,769
RANDOM ACCESS DATA FILE

Joe W. Woods, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,233
Int. Cl. G11b *1/02, 23/02*
U.S. Cl. 340—174.1 5 Claims

This file employs magnetically recordable sheets assembled into cells that are removably supported on a common carriage. The sheets are individually accessible by combined rotation and axial translation of the carriage. Mechanical separation is maintained between the accessing movements and data flow related input/output move-

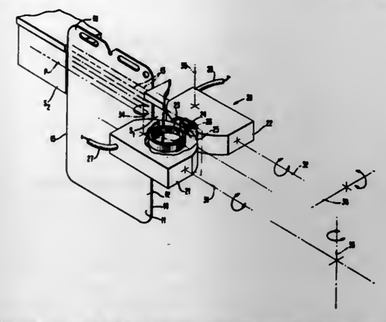


ments. Ancillary features of construction are provided that contribute to the overall utility of the file.

3,514,770
RECIPROCATING MAGNETIC READ/WRITE HEAD

Edward W. Parken, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,234
Int. Cl. G11b *5/56, 5/58, 21/04*
U.S. Cl. 340—174.1 8 Claims



Random access of short records is accomplished through a read/write head having a pair of opposed magnetic transducers that are reciprocated past opposite magnetic surfaces of a thin, stiffly flexible record strip. Good contact between the transducers and the record surfaces is assured by construction of the transducer support which accommodates variously caused misalignments and non-linearities, and thereby permits high density recording. Shock of the transducers entering and leaving the record surface is minimized by adjacent apron strips aligned with the record.

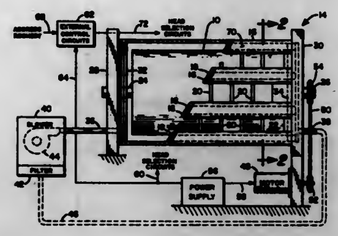
3,514,771
MAGNETIC DRUM ENCLOSURE WITH HEAT TRANSFER

Gregory J. Ehalt, Long Lake, and William H. Stark, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 26, 1967, Ser. No. 670,673
Int. Cl. F28f *3/12*; G11b *5/40*; H02k *9/19*
U.S. Cl. 340—174.1 6 Claims

An improved magnetic drum system enclosure is described, wherein the housing includes passageways there-

through for carrying a coolant-fluid, with the passageways so arranged that the coolant-fluid does not pass in contact with the surface of the rotatable magnetic drum. The

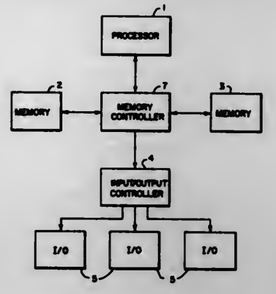


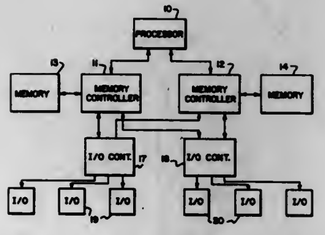
enclosure is also adapted to mount transducer selection circuitry. Removable manifold end-plates are also disclosed.

3,514,772
COMMUNICATION APPARATUS IN A COMPUTER SYSTEM

Frederick B. Banan, John W. Figueroa, Russell C. McGee, Ernest J. Porcelli, and Laszlo L. Rakoczi, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Continuation of application Ser. No. 552,981, May 25, 1966. This application May 17, 1968, Ser. No. 731,681
Int. Cl. H03k *13/02, 13/32*
U.S. Cl. 340—172.5 16 Claims



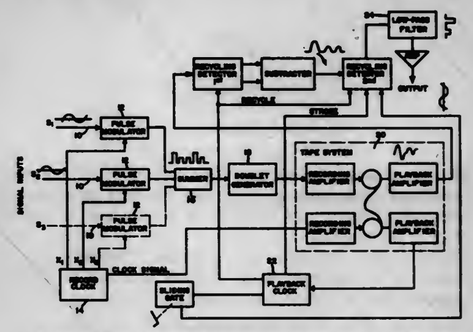


In order to provide, via a memory controller, indirect communication from an input/output controller to a data processor whereby input/output controller requests may be handled efficiently without burdening the supervisory program, the input/output controller provides information sets to be stored in predetermined memory storage locations reserved for each type of request. The memory storage location in which an information set is stored is designated by the input/output controller which utilizes and updates a stored counter assigned to each type of request. In response to information received from an input/output controller, the memory controller stores an indicium identifying the requesting input/output controller and the type of request and supplies an appropriate notification signal to the processor. Under control of the supervisory program, the processor responds to the notification signal to service the input/output controller requests in coordination with other system functions.

3,514,773
PULSE STORING SYSTEMS

Melvin H. Damon, Jr., Wayne, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 9, 1964, Ser. No. 358,982
Int. Cl. G11b *5/06*; G08c *15/06*
U.S. Cl. 340—183 3 Claims

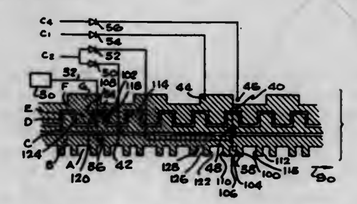


A system for storing analog information is disclosed wherein a plurality of modulators are fed by a plurality of signal inputs. A single clock controls the modulators and effects a time division multiplexing of the input signals. The modulator output signals are summed and fed into a doublet generator. The generator converts the information to doublets to be stored on a magnetic tape.

3,514,774
ANALOG-TO-DIGITAL ENCODER

Charles R. Dering, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Mar. 13, 1967, Ser. No. 622,510
Int. Cl. G08c *9/08*
U.S. Cl. 340—347 3 Claims



An analog-to-digital encoder having a track and contact configuration therein in which the leading and trailing edges of each pulse of a plurality of output signals is controlled by a single track and its related contact.

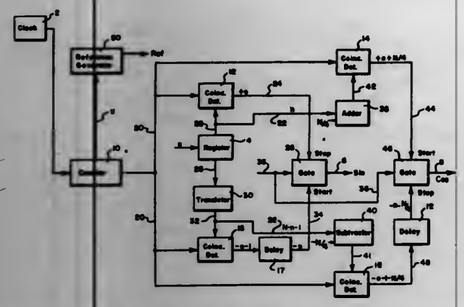
3,514,775
DIGITAL-TO-ANALOG CONVERTER

Robert W. Tripp, New Rochelle, N.Y., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada

Filed June 12, 1967, Ser. No. 645,161
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 24 Claims

Apparatus for converting a digital number n to analog signals representative of trigonometric functions of an

angle $\theta=360n/N$ degrees. In a cyclic time interval divided into N parts, two trains of pulses are generated, the pulses respectively leading and lagging a reference phase by the angle θ (or $\pi/2\pm\theta$). The two pulse trains are summed or are used to operate gating devices to provide rectangular wave signals having pulse widths indicative

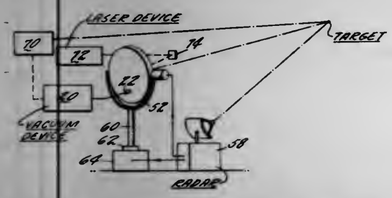


of sine θ and/or cosine θ. The first train of pulses is generated upon coincidence of the contents of a counter advancing repetitively through N counts and a register storing the number n. The second train of pulses is generated upon coincidence of the counter contents and the output of a translator which provides, typically, the N's complement of the register contents.

3,514,776
MIRROR DEVICE

Richard C. Mulready, Jupiter, Fla., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed May 27, 1968, Ser. No. 733,221
Int. Cl. G01s 9/00; G02b 5/10
U.S. Cl. 343—6 14 Claims



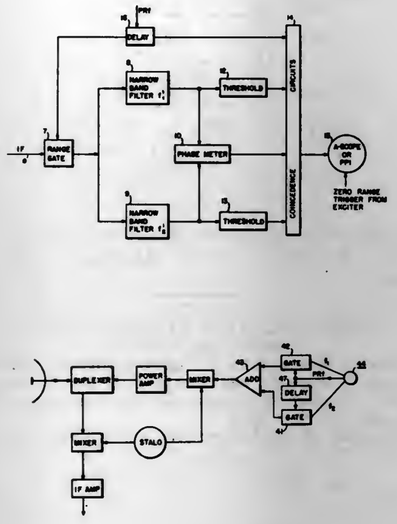
A system for aiming a laser beam and focusing it on a target includes a concave mirror having an adjustable reflecting concave face which is capable of being aimed at a target by elevation and azimuth signals from a radar unit with another sensor providing a signal to focus the adjustable reflecting surface on the target. A laser device directs a laser beam into said mirror for focusing, said mirror being formed by having a plate mounted in a housing which can have its position adjusted by forces acting between the surface and housing.

3,514,777
PULSE DOPPLER RADAR WITH REDUCED RANGE AND DOPPLER AMBIGUITIES

Hermann H. Woerrlein, Dunkirk, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 29, 1968, Ser. No. 780,138
Int. Cl. G01s 9/06, 9/44
U.S. Cl. 343—9 7 Claims

A pulse echo detection system capable of providing unambiguous range and Doppler data in a pulse Doppler system. The system utilizes pulses modulated on different carriers at the same pulse rate frequency. By processing the staggered spectra resulting from the different carriers

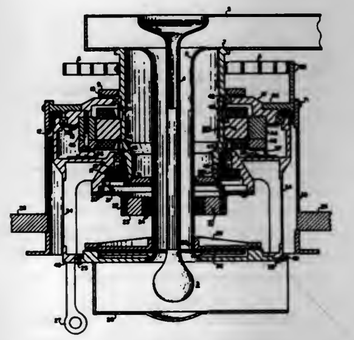


in separate channels and utilizing the phase difference between lines in each of the spectra, a display of unambiguous target range and Doppler is made possible.

3,514,778
DRIVE SYSTEM FOR SCANNING ANTENNA

James W. Titus, Riverview, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 29, 1965, Ser. No. 505,769
Int. Cl. H01q 1/28
U.S. Cl. 343—705 7 Claims



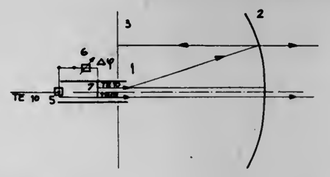
1. A reversible motor having negligible reactive torque comprising:
support housing means,
a rotor rotatably mounted on said support means,

a stator disposed in operative relation to said rotor,
means rotatably mounting said stator relative to said support means,
conductive means for supplying operating potential to said motor, and
means for biasing said rotor and stator relative to each other so as to minimize the energy required to reverse the direction of said motor.

3,514,779
ANTENNAE WITH FOCUSING DEVICES

Yves Commault, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Feb. 13, 1967, Ser. No. 615,744
Claims priority, application France, Feb. 25, 1966, 51,133
Int. Cl. H01q 19/00, 19/12, 19/14
U.S. Cl. 343—756 7 Claims

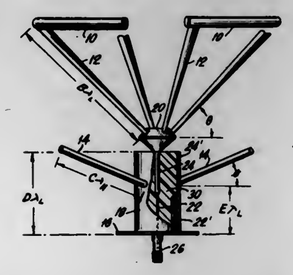


In a radiation system comprising a primary source, radiating a wave with a predetermined polarization, a semi-transparent reflector and a polarization changing reflector, an auxiliary radiation is provided in order to cancel the effect on the radiation of the system, of the shadow of the source; the auxiliary radiation has the same polarization as the wave by the systems.

3,514,780
CIRCULARLY POLARIZED LOOP V ANTENNA

George P. Petrick, St. Petersburg, James P. Jones, Seminole, and Robert G. Ferrell, Jr., St. Petersburg, Fla., assignors to Electronic Communications, Inc.

Filed Mar. 31, 1967, Ser. No. 627,433
Int. Cl. H01q 7/38
U.S. Cl. 343—830 7 Claims

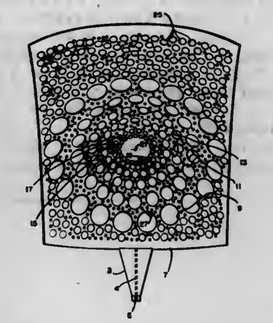


An antenna for launching and receiving circularly and eliptically polarized electromagnetic waves consisting of a plurality of elements lying on the surface of an imaginary cone, the apex being removed from the ground plane and being shielded therefrom by a coupling transformer and electrically grounded spaced radials resonant at the highest operating frequency of the antenna.

3,514,781
BROADBAND, HIGH GAIN ANTENNA WITH RELATIVELY CONSTANT BEAMWIDTH

Joseph E. Ferris, Saline, and Wiley E. Zimmerman, Ann Arbor, Mich., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Dec. 5, 1967, Ser. No. 688,271
Int. Cl. H01q 15/02, 15/16, 19/12
U.S. Cl. 343—840 5 Claims

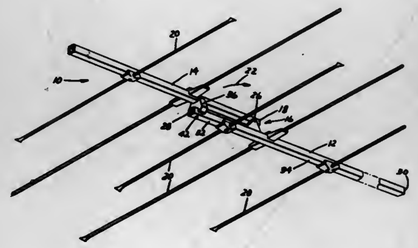


The reflector of this parabolic antenna is perforated with a plurality of concentric arrays of holes, the inner array comprising holes of the smallest diameter with the hole size increasing with the diameter of the array. The hole geometry relative to the applied wavelengths is such that the effective reflecting area of the parabola goes down as the wavelength decreases. This tends to maintain a constant beamwidth over a wide frequency range.

3,514,782
FOLD-OVER ANTENNA BOOM

Lynn L. Lockwood, Road 3, Burlington, Iowa 52601

Filed May 27, 1968, Ser. No. 732,357
Int. Cl. H01q 3/02
U.S. Cl. 343—882 9 Claims

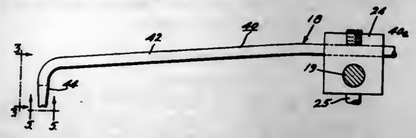


An improved antenna assembly wherein the improvement comprises a first boom, a second boom, at least one antenna field element mounted on each of the booms, and means for pivotally connecting one end of the second boom to the first boom, the connecting means being disposed intermediate the ends of the first boom to define first and second opposite end portions thereof. The second boom is pivotably movable between a first position in which it is parallel with and adjacent the first end portion of the first boom and a second position in which it is parallel with and adjacent the second end portion of the first boom, the distal end of the first end portion

terminating at a point intermediate the ends of the second boom when it is in its first position. Means is provided for fastening the second boom in its first position. Preferably, the second boom is disposed above the first boom and the assembly includes means disposed adjacent the distal end of the first portion and extending upwardly therefrom to engage and support the second boom in its first position.

3,514,783
RECORDER HAVING STYLUS WITH RADIUSED AND SLOTTED TIP
Charles A. Erdman, Marlton, N.J., assignor, by mesne assignments, to Graphic Controls Corporation, Buffalo, N.Y., a corporation of New York
Filed Nov. 26, 1968, Ser. No. 778,935
Int. Cl. G01d *15/16*
U.S. Cl. 346—140 1 Claim

In a recording device including a housing, a movable recording medium, a stylus assembly having a writing tip at one end and connected to a suitable source of marking fluid to deliver fluid to the writing tip and means for actuating the stylus assembly in response to changes in a variable condition to record a trace on the recording medium, said stylus assembly including an elongated stylus arm having an opening therein of circular cross section



and of capillary dimension, one end of the arm defining the writing tip portion disposed substantially perpendicularly to a plane through the main portion of the arm, the front profile of the tip being slightly radiused and the sides of the tip being cut back to define upwardly projecting arcuate slots.

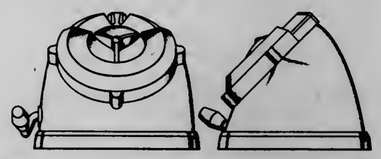
DESIGNS

MAY 26, 1970

217,654
PUPPET MITT POT HOLDER
Zernie Lee Ryland, 1753 W. 43rd Place, Los Angeles, Calif. 90062
Filed Oct. 30, 1968, Ser. No. 14,368
Term of patent 14 years
Int. Cl. D2—*07*
U.S. Cl. D2—365



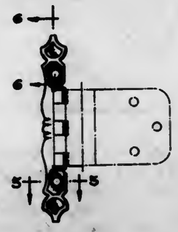
217,655
BLADE-SHARPENING TOOL
Raymond S. W. Lindsay, 4 Sulkara Court, Toronto, Ontario, Canada
Filed Feb. 17, 1969, Ser. No. 15,812
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—93



217,656
HINGE
La Verne E. Clayton, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Filed Nov. 18, 1968, Ser. No. 14,504
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—195



217,657
HINGE LEAF
Raymond U. H. Tegner, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Filed May 26, 1969, Ser. No. 17,350
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—195



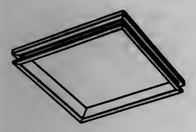
217,658
IMITATION HINGE
La Verne E. Clayton, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Connecticut
Filed May 26, 1969, Ser. No. 17,328
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—202



217,659
BOTTLE
Pierre F. Dinand, Paris, France, assignor to Paco Rabanne Parfums, a corporation of France
Filed Mar. 21, 1969, Ser. No. 16,381
Claims priority, application France Oct. 2, 1968
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—168



217,660
CEILING PANEL SUPPORT FRAME
Harold G. Blum, Palatine, Ill., assignor, by mesne assignments, to Koller Craft Plastic Products, Inc., Fenton, Mo., a corporation of Missouri
Filed May 27, 1969, Ser. No. 17,387
Term of patent 14 years
Int. Cl. D25—*01*
U.S. Cl. D13—1



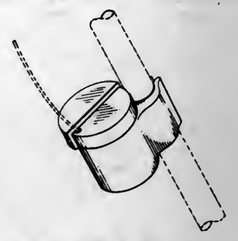
217,661
ARTICULATED VEHICLE
Jack D. McCawley, Pratt, Kans. (P.O. Box 65, Mullinville, Kans. 67109)
Filed Feb. 17, 1969, Ser. No. 15,791
Term of patent 14 years
Int. Cl. D12—*09*
U.S. Cl. D14—3



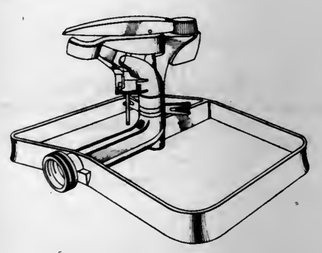
217,662
DECORATIVE TILE
Giuseppe Camellini, Viale Puccini, Sassuolo, Modena, Italy
Filed May 26, 1969, Ser. No. 17,342
Claims priority, application Italy Mar. 28, 1969
Term of patent 7 years
Int. Cl. D25—*01*
U.S. Cl. D18—2



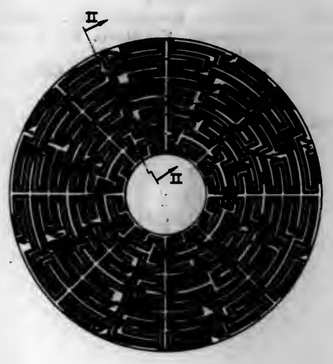
217,663
POLE MOUNTED FISHHOOK HOLDER OR SIMILAR ARTICLE
Fred B. Chamberlain, P.O. Box 146, Ontario, Oreg. 97914
Filed Dec. 16, 1968, Ser. No. 14,975
Term of patent 14 years
Int. Cl. D22—*08*
U.S. Cl. D22—23



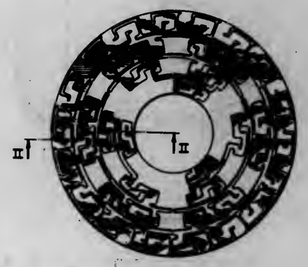
217,664
LAWN SPRINKLER
Melvin H. Best, Pasadena, Calif., assignor to Rain Bird Sprinkler Mfg. Corp., Glendora, Calif., a corporation of California
Filed Sept. 18, 1968, Ser. No. 13,580
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—7



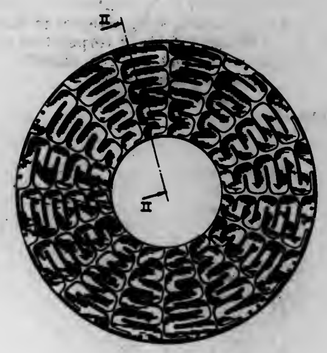
217,665
FLOW RESTRICTING DISK FOR A VALVE OR SIMILAR ARTICLE
Richard E. Self, 3221 Brimhall Drive, Los Alamitos, Calif. 90720
Filed Oct. 21, 1968, Ser. No. 14,090
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—27



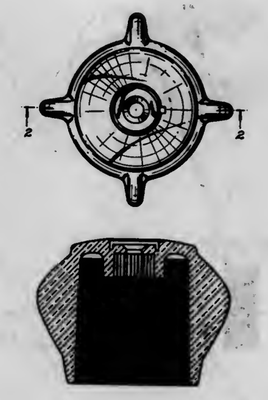
217,666
FLOW RESTRICTING DISK FOR A VALVE OR SIMILAR ARTICLE
Richard E. Self, 3221 Brimhall Drive, Los Alamitos, Calif. 90720
Filed Oct. 21, 1968, Ser. No. 14,091
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—27



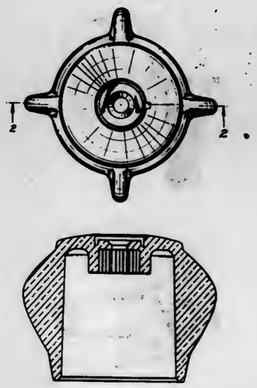
217,667
FLOW RESTRICTING DISK FOR A VALVE OR SIMILAR ARTICLE
Richard E. Self, 3221 Brimhall Drive, Los Alamitos, Calif. 90720
Filed Oct. 21, 1968, Ser. No. 14,094
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—27



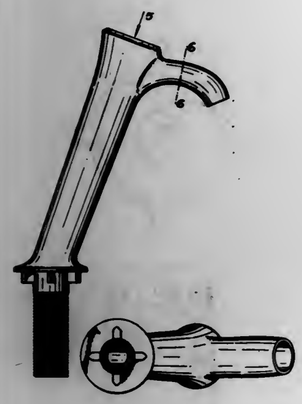
217,668
TAP ACTUATING KNOB
Martyn Omar Rowlands, Epping, Essex, England, assignor to IMI Developments Limited, Witton, Birmingham, England, a corporation of Great Britain
Filed Apr. 18, 1969, Ser. No. 16,805
Claims priority, application Great Britain Dec. 20, 1968
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—28



217,669
TAP ACTUATING KNOB
Martyn Omar Rowlands, Epping, Essex, England, assignor to IMI Developments Limited, Witton, Birmingham, England, a corporation of Great Britain
Filed Apr. 18, 1969, Ser. No. 16,811
Claims priority, application Great Britain Oct. 22, 1968
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—28



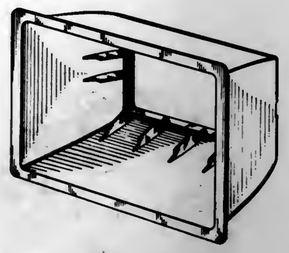
217,670
TAP BODY
Martyn Omar Rowlands, Epping, Essex, England, assignor to IMI Developments Limited, Witton, Birmingham, England, a corporation of Great Britain
Filed Apr. 14, 1969, Ser. No. 16,712
Claims priority, application Great Britain Oct. 22, 1968
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—32



217,671
TAP BODY
Martyn Omar Rowlands, Epping, Essex, England, assignor to IMI Developments Limited, Witton, Birmingham, England, a corporation of Great Britain
Filed Apr. 18, 1969, Ser. No. 16,804
Claims priority, application Great Britain Oct. 22, 1968
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D23—32



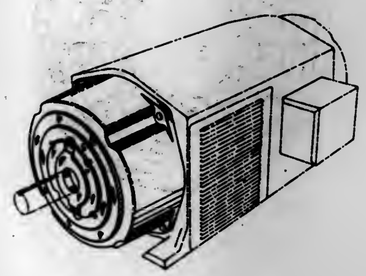
217,672
ELECTRICAL CONNECTION BOX
Stephen M. Vilegi, Chester, John J. Marshall and Louis H. Peters, Somerville, N.J., and Dennis Dannes and Walter J. Frank, Norwalk, Conn., assignors to Union Carbide Corporation, a corporation of New York
Filed Sept. 30, 1968, Ser. No. 13,782
Term of patent 14 years
Int. Cl. D13—*03*
U.S. Cl. D26—5



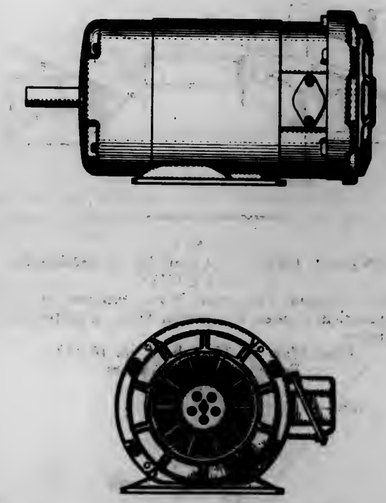
217,673
MANUALLY OPERATED GENERATOR
Takaichi Mabuchi, Tokyo, Japan, assignor to Tokyo Kagaku Kabushiki Kaisha, Tokyo, Japan
Filed Oct. 30, 1968, Ser. No. 14,229
Claims priority, application Japan May 30, 1968
Term of patent 7 years
Int. Cl. D13—*01*
U.S. Cl. D26—5



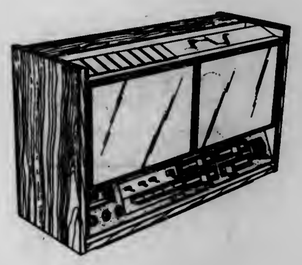
217,674
END BELL HOUSING
Ralph L. Jaeschke, Kenosha, Wis., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 30, 1969, Ser. No. 16,952
Term of patent 14 years
Int. Cl. D13—*01*
U.S. Cl. D26—5



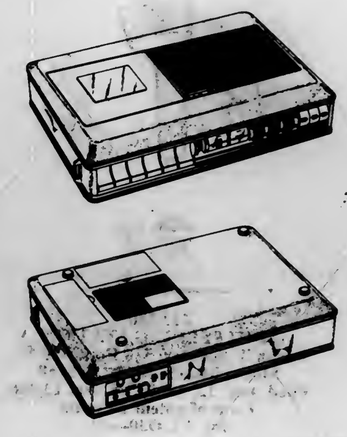
217,675
DYNAMOELECTRIC MACHINE
Stanley E. Tomkinson, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed May 14, 1969, Ser. No. 17,151
Term of patent 14 years
Int. Cl. D13—*01*
U.S. Cl. D26—5



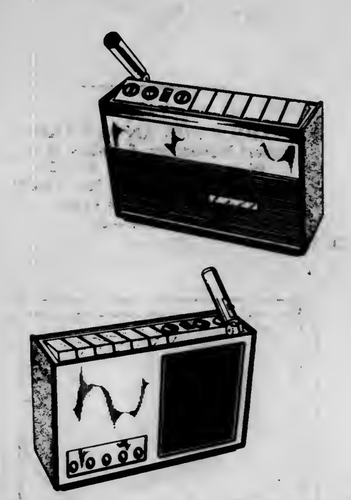
217,676
CASSETTE TRANSPORT
Hari Matsuda, Evanston, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed May 29, 1969, Ser. No. 17,411
Claims priority, application Japan Dec. 12, 1968
Term of patent 14 years
Int. Cl. D14—*01, 03*
U.S. Cl. D26—14



217,677
CASSETTE TRANSPORT
Orville W. Larson, Elmhurst, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed May 29, 1969, Ser. No. 17,417
Claims priority, application Japan Dec. 10, 1968
Term of patent 14 years
Int. Cl. D14—*01, 03*
U.S. Cl. D26—14



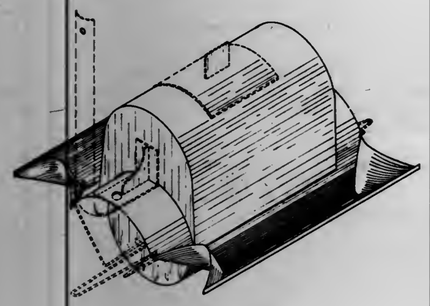
217,678
CASSETTE TRANSPORT
Francis A. Farey, Northfield, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed May 29, 1969, Ser. No. 17,421
Claims priority, application Japan Dec. 10, 1968
Term of patent 14 years
Int. Cl. D14—*01, 03*
U.S. Cl. D26—14



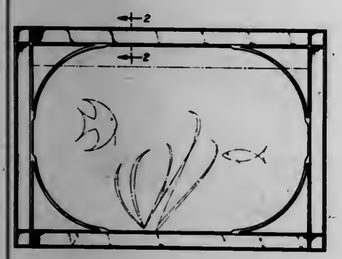
217,679
TWO-WAY MICROPHONE
Bernhard Weingartner, Vienna, Austria, assignor to AKG Akustische u. Kino-Gerate Gesellschaft m.b.H., Vienna, Austria
Filed June 18, 1969, Ser. No. 17,755
Claims priority, application Japan Dec. 19, 1968
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



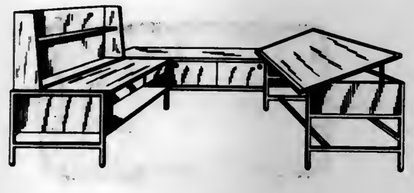
217,680
BIRD FEEDING STATION
Joseph T. Spencer, 516 Roosevelt St., Mount Morris, Mich. 48458
Filed Aug. 12, 1968, Ser. No. 13,086
Term of patent 14 years
Int. Cl. D30—*01*
U.S. Cl. D30—3



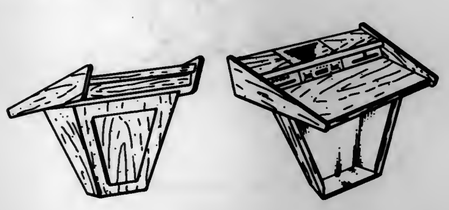
217,681
APPLIQUE FOR AN AQUARIUM
Robert Newsteder, 5 Valley Way, West Orange, N.J. 07052
Filed Sept. 9, 1968, Ser. No. 13,459
Term of patent 14 years
Int. Cl. D30—*01*
U.S. Cl. D30—12



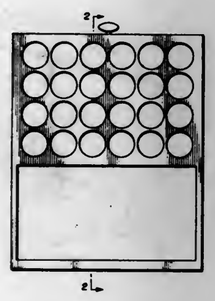
217,682
COMBINED DRAFTING TABLE, BOOKCASE TABLE AND CABINET UNIT
Robert W. Meyer, Menomonee Falls, Wis., assignor to Eldon Manufacturing Co., Inc., Mequon, Wis., a corporation of Wisconsin
Original design application Dec. 22, 1966, Ser. No. 5,151. Divided and this application Jan. 29, 1968, Ser. No. 11,192
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—7



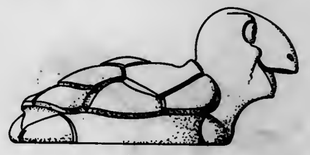
217,683
CONTROL DESK FOR USE IN CLASSROOM INSTRUCTION
Edward E. Nation, Cheyenne, Wyo., assignor to Cannon Aeronautical Center, Cheyenne, Wyo., a corporation of Wyoming
Filed Mar. 19, 1969, Ser. No. 16,332
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—7



217,684
SPICE RACK
James Edward Stewart, 31 Ravensbourne Crescent, Islington, Ontario, Canada
Filed Aug. 7, 1969, Ser. No. 18,579
Term of patent 14 years
Int. Cl. D6—*99*
U.S. Cl. D33—3



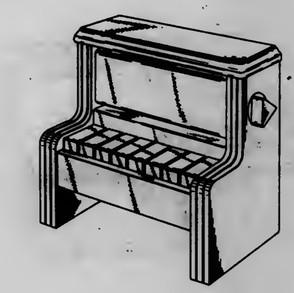
217,685
TOY ANIMAL FIGURE
John Steffens, Ardsley, N.Y., assignor to J. L. Prescott Company, Passaic, N.J., a corporation of New Jersey
Filed July 22, 1969, Ser. No. 18,316
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—2



217,686
TOY ANIMAL FIGURE
John Steffens, Ardsley, N.Y., assignor to J. L. Prescott Company, Passaic, N.J., a corporation of New Jersey
Filed July 22, 1969, Ser. No. 18,339
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—2



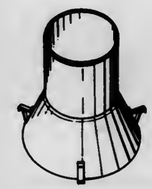
217,687
TOY PIANO
Walter P. Doe, East Aurora, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York
Filed Mar. 6, 1969, Ser. No. 16,092
Term of patent 14 years
Int. Cl. D21—*99*
U.S. Cl. D34—15



217,688
BALL TOY OR THE LIKE
Jay V. Zimmerman, St. Louis County, Mo., assignor to The Jay V. Zimmerman Co., St. Louis, Mo., a corporation of Missouri
Filed Mar. 17, 1969, Ser. No. 16,282
Term of patent 3½ years
Int. Cl. D21—*04*
U.S. Cl. D34—15



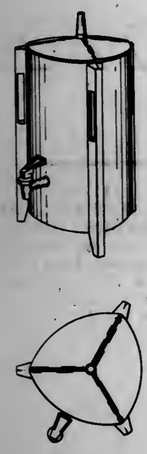
217,689
BAFFLE ELEMENT FOR A MATERIAL SPREADING DEVICE
Harlan J. Donelson, Jr., West Highway 330, Marshalltown, Iowa 50158
Filed Oct. 2, 1968, Ser. No. 13,815
Term of patent 14 years
Int. Cl. D15—*03*
U.S. Cl. D40—1



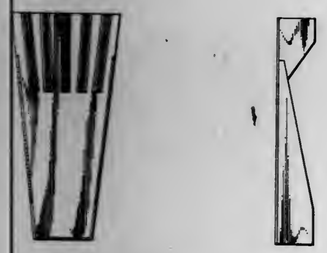
217,690
AIR DISCHARGE CONDUIT FOR COMBINES
Vernon H. Sietmann, Laurel, Iowa 50141, and Gerald F. Dendel, 236 E. 16th St., Costa Mesa, Calif. 92627
Filed Feb. 24, 1969, Ser. No. 15,862
Term of patent 14 years
Int. Cl. D15—*03*
U.S. Cl. D40—1



217,691
COFFEEMAKER
Charles Robert Earp, Sarasota, Fla., and Thomas W. Hearmans, West Bend, Wis., assignors to Regal Ware, Inc., Kewaskum, Wis., a corporation of Wisconsin
Filed Aug. 4, 1969, Ser. No. 18,514
Term of patent 3½ years
Int. Cl. D7—*02*
U.S. Cl. D44—26



217,692
KNIFE HOLDER
John D. King, 4103 15A St., South West, Calgary, Alberta, Canada
Filed June 23, 1969, Ser. No. 17,830
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—29



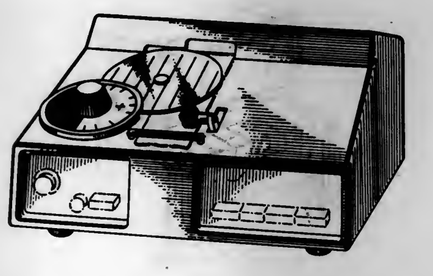
217,693
RECREATIONAL VEHICLE LIGHT
Humphrey A. Lee, Pasadena, Calif., assignor to Coronado Manufacturing Company, Long Beach, Calif., a corporation of Delaware
Filed Aug. 16, 1968, Ser. No. 13,164
Term of patent 14 years
Int. Cl. D12—*99*
U.S. Cl. D48—32



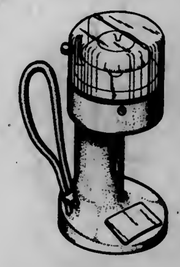
217,694
HOUSING FOR A VEHICLE LAMP
Charles J. Newman, Madison, Ind., assignor to The Grote Manufacturing Company, Madison, Ind., a corporation of Kentucky
Filed Dec. 6, 1968, Ser. No. 14,824
Term of patent 14 years
Int. Cl. D12—*99*
U.S. Cl. D48—32



217,695
CHRONOCOMPARATOR MACHINE
Jean-Pierre Botsay, La Chaux-de-Fonds, Switzerland, assignor to PORTESCAP, Le Porte-Echappement Universal S.A., La Chaux-de-Fonds, Switzerland
Filed Dec. 13, 1968, Ser. No. 14,957
Term of patent 14 years
Int. Cl. D10—*11*
U.S. Cl. D52—6



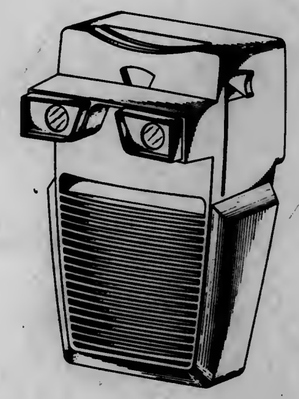
217,696
HAND HELD BEARING COMPASS
Richard Fitzpatrick and Richard D. Fitzpatrick, Wethersfield, and William Balch, Bolton, Conn., assignors to Quint Machine Corporation, Manchester, Conn., a corporation of Connecticut
Filed Apr. 2, 1969, Ser. No. 16,558
Term of patent 14 years
Int. Cl. D10—*07*
U.S. Cl. D52—6



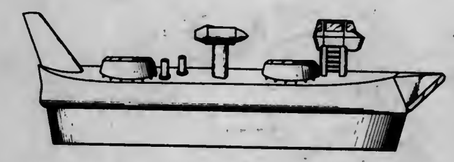
217,697
SUNGLASSES
Roger L. McCracken, Chili, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Apr. 1, 1969, Ser. No. 16,525
Term of patent 14 years
Int. Cl. D16—*08*
U.S. Cl. D57—1



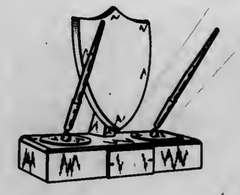
217,698
COMBINED STEREOSCOPIC VIEWER AND SOUND REPRODUCER UNIT
Jerome L. Pinsler, 1012 Judson Ave., Evanston, Ill. 60202, and Lute P. Waasmann, 211 5th St., Wilmette, Ill. 60091
Filed June 30, 1969, Ser. No. 18,013
Term of patent 14 years
Int. Cl. D16—*08*
U.S. Cl. D61—1



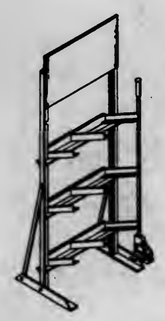
217,699
SURFACE EFFECT VEHICLE
Abel Yvon Amire Thomas, Versailles, and Charles Joseph Marchetti, Neuilly-sur-Seine, France, assignors to Société d'Etudes et de Developpement des Aeroglisseurs Marins S.E.D.A.M., a corporation of France
Filed Oct. 7, 1968, Ser. No. 13,876
Claims priority, application France Apr. 5, 1968
Term of patent 14 years
Int. Cl. D12—*06*
U.S. Cl. D71—1



217,700
DESK SET
Ernest J. La Bell, 436 Wisconsin Ave., Neenah, Wis. 54956
Filed Feb. 24, 1969, Ser. No. 15,886
Term of patent 14 years
Int. Cl. D19—*02*
U.S. Cl. D74—5



217,701
COMBINED DISPLAY STAND AND CUTTER FOR CHAINS AND THE LIKE
Don M. Schlueter, Nodaway County, Mo., assignor to Lloyd Chain Corporation, Maryville, Mo., a corporation of Missouri
Filed Nov. 26, 1968, Ser. No. 14,671
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D80—9



217,702
WINGED FINGER GRIP MEMBER FOR USE IN ASSEMBLING AN INFUSION SET
Albert J. Volk, Warren, John Assenza, Basking Ridge, and Anthony Nastas, North Brunswick, N.J., assignors to Johnson & Johnson, a corporation of New Jersey
Filed May 7, 1969, Ser. No. 17,060
Term of patent 14 years
Int. Cl. D24—*02*
U.S. Cl. D83—12



217,703
LUGGAGE CASE
Anthony N. D'Elia, New York, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Reliable Luggage, Inc., West Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1968, Ser. No. 10,542
Term of patent 14 years
Int. Cl. D3—*01*
U.S. Cl. D87—5



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Bianco, Joseph, and Humphreys, Victor T., to American Aniline Products, Inc. Method of dyeing shaped polycarbonate resins. 3,514,246, Cl. 8-4.
Bickel, Frederic W., and Squire, Thomas B., to McDonnell Douglas Corporation. Ethylene-propylene interpolymer rubber composition comprising a tackifier mixture containing polybutene as one compound and the preparation of tires from said rubber composition. 3,514,417, Cl. 260-27.
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Bickford, Franklin H. Micrometer pencil. 3,513,554, Cl. 33-170.
Biggs, William B., to Dowty Rotol Limited. Aircraft retractable undercarriages. 3,514,057, Cl. 244-102.
Billi, Giorgio. Dial synchronizer for circular knitting machines. 3,513,667, Cl. 66-95.
Billingsley, John George Selby, Colsen, Jack Edgar, Pierce, Edward Stanley, Ramsey, Harold Eugene, and Stephen, Paul Glenn, to Du Pont de Nemours E. I., and Company. Method and apparatus for packaging groups of articles in a tubular sleeve. 3,513,620, Cl. 53-26.
Binnis, Kenneth, to British Titan Products Company Limited. Corrosion-inhibiting titanium dioxide pigments. 3,514,304, Cl. 106-300.
Bird Tie Pads, Incorporated: *See—*
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Birtcher Corporation, The: *See—*
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Bishop, John W. H., to Bishop Spools, Inc. Method of attaching pliant web to thermoplastic base. 3,514,350, Cl. 156-73.
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Blauert, Hans. Pulse detection apparatus. 3,514,638, Cl. 307-268.
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Bloomfield, Harold, Purpura, August C., and Roberts, Melvin F., to Bloomfield Industries, Inc. Cold water pour-in beverage brewing device. 3,513,767, Cl. 99-282.
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Hooper, Robert P., and Arne, Vernon L., 3,513,641.
Norsworthy, Keith H., 3,514,585.
Boggs, Alben C., to Wiegand, Edwin L., Company. Terminal closure for metal sheathed, electric resistance heating elements. 3,513,540, Cl. 29-611.
Bok, Hendrik F. Wet wall spray-coating chamber. 3,513,765, Cl. 98-115.
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Boothe, Willis A., and Alger, John R. M., to General Electric Company. Washing machine with improved liquid and additive dispensing means. 3,513,866, Cl. 137-81.5

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Borth, Paul, and McKeone, Joseph, to Photo-Engravers Research Institute, Incorporated. Composition and method for etching photo-engraving copper printing plates. 3,514,409, Cl. 252-79.3

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Boyce, William B., and Brezinski, Jerome P., to Beloit Corporation. Headbox method and means for blending of multiple jets. 3,514,372, Cl. 162-216.

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Boysen, Gerd C., to Allen-Bradley Company. Pushbutton assembly. 3,514,554, Cl. 200-16.

Bradley, James E., Caldwell, Lonnie L., and Gabler, Ray J., to Butler Manufacturing Company. Method and apparatus for assembling a joint. 3,513,534, Cl. 29-468.

Braeuer, Klaus, and Moyes, Karen R., to United States of America, Army. High energy density battery. 3,514,337, Cl. 136-100.

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Brennan, George J., to ESB Incorporated. Method of making a battery. 3,514,342, Cl. 136-176.

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Bridges, Ronald P. Electrical circuit interrupter switch. 3,514,560, Cl. 200-146.

Brink, Robert H., Jr., to Betz Laboratories, Inc. Slime control agent and methods of application. 3,514,278, Cl. 71-67.

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British Iron and Steel Research Association, The: *See—*
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British Oxygen Company Limited, The: *See—*
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British Titan Products Company Limited: *See—*
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Brockway, Robert M., to Honeywell Inc. Burst firing control apparatus with soft start. 3,514,580, Cl. 219-482.

Bromberg, Menashe, to Thomas & Betts Co., The. Coupling. 3,514,139, Cl. 287-118.

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Brooker, Edward Richard, to United Flexible Metallic Tubing Company Limited, The. Swivel couplings. 3,514,127, Cl. 285-41.

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Brooks, Robert E., and Heflinger, Lee O., to TRW Inc. High resolution holographic beam reversal technique. 3,514,176, Cl. 350-3.5

Brossmer, Maximilien, and La Presle, Claude, to Honeywell Inc. Time proportioning control circuit with reset feedback and automatic reset lockout. 3,514,708, Cl. 328-209.

Brousmiche, Roger A.H., to Ateliers de Constructions Electriques de Charleroi (ACEC), Societe Anonyme. Color display CRT indexing system. 3,514,531, Cl. 178-5.4

Brower, James R.: *See—*
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Brown, Gaylord W., and Schnepp, Bradley A., to Brown Machine Company of Michigan, Inc. Compact differential pressure forming machine. 3,513,505, Cl. 18-19.

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Brown, Thomas A., and Huber, Joseph B., to Kennametal Inc. Roll for rod mill and mounting arrangement therefor. 3,514,137, Cl. 287-53.

Brown, William H., Jr., to Kaman Corporation. Restraining device for motor vehicle driver. 3,513,930, Cl. 180-82.

Brown, William L., to Rosemount Engineering Company. Method of making an electrical resistance element. 3,513,541, Cl. 29-614.

Bruce, Michael Ian, and Stone, Francis Gordon A., to Alfa Inorganic, Inc. Method for preparing carbonyls of ruthenium and osmium. 3,514,258, Cl. 23-203.

Bruderreck, Hartmut: *See—*
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Brumfield, Robert C., Naff, John T., and Robinson, Alonzo T. W., to Automatic Fire Control Inc. Ion plating anode source. 3,514,392, Cl. 204-298.

Brunswick Corporation: *See—*
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Bryzinski, Thaddeus F., to Stromberg-Carlson Corporation. Method of making a filamentary magnetic memory using rigid printed circuit cards. 3,513,538, Cl. 29-604.

Buchhold, Theodor A., to General Electric Company. Transposed low temperature strip electric cable. 3,514,524, Cl. 174-34.

Buchman, Gerald. Locking device for portable equipment. 3,514,172, Cl. 312-215.

Budecker, Ludwig, to Teves, Alfred, G.m.b.H. Radial piston pump with piston-coupling means. 3,514,224, Cl. 417-273.

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Buehner, William L., Greer, Donald L., McCornack, Richard W., and Simpson, Henry W., to International Business Machines Corporation. Acoustical covers for office machines. 3,513,938, Cl. 181-33.

Bullington, John W., Gustafson, John H., and Hirshfeld, Julian J., to Monsanto Company. Stretchable woven fabrics. 3,514,249, Cl. 8-130.1

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Burgess, Frank H. Quick-setup collapsible box. 3,514,031, Cl. 229-28.

Burgess, Thomas H., to Fan Tron Corporation. Optical speed transducer. 3,514,685, Cl. 318-313.

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Burroughs Corporation: *See—*
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Burroughs, Robert K., and Wakefield, Timothy A., to Le Blond, R. K., Machine Tool Co., The. Tool turret. 3,513,734, Cl. 82-36.

Burrus, Walter R.: *See—*
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Burton, Gilbert W., to Esso Research and Engineering Company. Post oxidation of carboxy-terminated polyisoolefins. 3,514,432, Cl. 260-85.3

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Cagniard, Louis Paul Emile, to Centre National de la Recherche Scientifique. Method of submarine magnetotelluric surveying and apparatus for carrying out same. 3,514,693, Cl. 324-1.

Cahn, Robert P., Johnston, Robert H., and Plumstead, James A., Jr., to Esso Research and Engineering Company. Transportation of natural gas as a hydrate. 3,514,274, Cl. 48-190.

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Calculations, Inc.: *See—*
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Caldwell, John R., and Jackson, Winston J., Jr., to Eastman Kodak Company. Polyesters containing chlorinated gem- dimethyl groups. 3,514,422, Cl. 260-30.4

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Cam Gears, Ltd.,: *See—*
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Cambridge Instrument Company Limited: *See—*
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Campanaro, Peter L., Sleven, Marvin O., and Webb, William E., to Whittaker Corporation. Means and techniques useful in blanking interference. 3,514,707, Cl. 328-165.

Campbell, Alistair John, to Cambridge Instrument Company Limited. Electron probe microanalyzer having a plurality of X-ray spectrometer positioned to minimize X-ray defocussing during specimen scanning. 3,514,599, Cl. 250-49.5

Campbell, Erwin A.: *See—*
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Campbell, Robert L., Jr., Wood, Charles H., and Brust, Albert E., to Anderson, Clayton & Co. Continuous process of preparing powdered fat. 3,514,297, Cl. 99-118.

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Canadian Patents and Development Limited: *See—*
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Canevari, Cesare, to Pirelli, S.p.A. Zinc laminate and method for bonding unsaturated amorphous olefine copolymers by adding cobalt salt of organic carboxylic acid to promote adhesion. 3,514,370, Cl. 161-217.

Canterbury Belts Ltd.: *See—*
Schiller, Barry, 3,513,575.

Cappucci, Joseph D., to Merrimac Research and Developments Inc. Networks using cascaded quadrature couplers, each coupler having a different center operating frequency. 3,514,722, Cl. 333-10.

Carabasse, Andre. Fishing rod. 3,513,582, Cl. 43-18.

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Carroll Container Corporation: *See—*
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Carroll, Hazen J., to Carroll Container Corporation. Shipping container. 3,514,030, Cl. 229-23.

Carson, Monte A. Sprinkler cage. 3,514,040, Cl. 239-288.5

Carter, Arthur L., and Forster, Donald M., to Eastman Kodak Company. Filter arrangement. 3,513,982, Cl. 210-435.

Carter, Clarence J., and Stewart, Richard F., to Texas Instruments, Incorporated. Diode array and process for making same. 3,514,345, Cl. 148-33.

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Casco Products Corporation: *See—*
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Caterpillar Tractor Company: *See—*
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Engel, William K., 3,513,654.
Miller, Willis D., and Welsh, James P., 3,513,979.
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Cavanaugh, James P., Gugel, Eugene P., and Shamban, William S., to Shamban, W. S., & Co. Magnetic stirrers and method for making same. 3,514,081, Cl. 259-144.

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Celanese Corporation: *See—*
Kong, Arthur, 3,514,309.

Celayan, Genaro C. Vertical take-off and landing and engine means therefore. 3,514,051, Cl. 244-7.

Centre National de la Recherche Scientifique: *See—*
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Ceresna, Ivan, to Ashland Oil & Refining Company. Carbon black reactor and process. 3,514,259, Cl. 23-209.4

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Chadwick, Donald H., and Apodaca, Ruben T., to International Electronics Research Corporation. Thermal dissipating metal core printed circuit board. 3,514,538, Cl. 174-68.5

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Chamberlin, Alexander R., to Microbiological Instruments, Inc. Method and apparatus for automatically opening, filling and closing receptacles with telescoping covers. 3,513,621, Cl. 53-37.

Chambers, Charles W., Jr. Party line privacy device. 3,514,544, Cl. 179-17.

Chambers, William Alexander, to Continental Can Company, Inc. Quick change holder for a blow needle. 3,513,502, Cl. 18-5.

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Chicago Aerial Industries, Inc.: *See—*
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Christensen, John R. Calendar with picture complement. 3,513,579, Cl. 40-102.

Christiansen, Erik Frede, to Danfoss A/S. Desiccant-control of refrigerant compressor head pressure. 3,513,661, Cl. 62-85.

Chun, Francis H. Protective diving suit. 3,513,825, Cl. 126-204.

Church, Robert Fitz Randolph, and Weiss, Martin Joseph, to American Cyanamid Company. Bis-diazirines. 3,514,447, Cl. 260-239.

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Clanin, William B. Pipe cutting apparatus. 3,514,086, Cl. 266-23.

Clark, Archer D., to Ford Motor Company. Method of assembling an electrically conductive member to an electrically non-conducting member. 3,514,573, Cl. 219-150.5

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Clark, George W.: *See—*
Annis, Martin, Clark, George W., and Williams, Edwin C., Jr. 3,514,190.

Clarke, John F., to Texas Instruments, Incorporated. Method of ceramic brazing. 3,513,535, Cl. 29-473.1

Clary Corporation: *See—*
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Clay Equipment Corporation: *See—*
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Cleatmack, George F., Co., Inc., The: *See—*
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Clinton, Henry H. Device for testing the integrity of electrial wire insulation by means of high voltage impulser. 3,514,696, Cl. 324-54.

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CMI Corporation: *See—*
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Coburn Manufacturing Company, Inc.: *See—*
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Cochran, John Maxcy, Jr.: *See—*
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Cochran, William W.: *See—*
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Cody, David L.: *See—*
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Coffman, Kenneth W., Stevens, John W., and Jones, Rupert D., to Hughes Tool Company. Safety improvements in cam-and-spring operated impact tool. 3,513,918, Cl. 173-119.

Cohen, Howard. Dental apparatus. 3,513,546, Cl. 32-59.

Cohen, Roy M., to International Dryer Corporation. Electrically actuated security system. 3,514,611, Cl. 250-208.

Coleman Company, Inc., The: *See—*
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Collins, Raymond L., Jr., to McGraw-Edison Company. Flame monitoring system. 3,514,242, Cl. 431-79.

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Cowley, Roger A., Dolling, Gerald, Cochran, William W., Pawley, Godfrey S., and Lefkowitz, Issai, to United States of America, Army, mesne. Semi-conducting ferroelectric transducers. 3,514,677, Cl. 317-237.

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Dills, Raymond L., and Eff, Christian A., to General Electric Company. Combined expansible broiler oven and kitchen ventilating hood. 3,514,577, Cl. 219-400.

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Dominick, Charles J. Inspection knife. 3,513,543, Cl. 30-124.
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Gordon, Donald W.Athlete's landing pit with foam-block cushion units. 3,513,491, Cl. 5-345.
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Henry-Biabaud, Edmond, to Societe Anonyme Automobiles Citroen. Disc brake having a double pressurized fluid/mechanical control. 3,513,948, Cl. 188-106.
Herbst, Robert S., to United States of America, Air Force. Incipient stall sensor. 3,514,212, Cl. 415-23.
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Hobe, Theodore J., and Kiecker, Harris R., to Minnesota Mining and Manufacturing Company. Fabric pressing pad assembly. 3,513,574, Cl. 38-66.
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Hoffer, Maurice, Ackermann, Ernest, De Belle, Jean-Jacques Roissard, and Uldry, Andre. Method of producing thin walled containers of thermoformable plastic. 3,514,509, Cl. 264-89.
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Holdren, Donald R., to Holdren Brothers, Incorporated. Sanitary connector with locking means thereon. 3,514,129, Cl. 285-162.
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Kline, Charles M., and Webster, Neil W., to Sperry Rand Corporation. Current regulator for providing a constantoutput. 3,513,648, Cl. 56-25.4
Klingl, Gary F.: *See—*
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Klug, Sigmund L., Finkel, Gilbert, and Sherain, Monroe, to DCA Food Industries, Inc. Method for producing fried coated comestibles. 3,514,294, Cl. 99-1.
Klyce, Battle H., to Bell Telephone Laboratories, Incorporated. Vibrating fiber optic device for sensing angular displacement of a shaft. 3,514,617, Cl. 250-227.
K.M.F. Development Corporation: *See—*
Hambric, James C., 3,514,239.
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Sennewald, Kurt, Bender, Ludwig, Gehrmann, Klaus, Schallus, Erich, Stephan, Hans-Werner, and Strie, Lothar, 3,514,264.
Knox, William J., Jr., to Eastman Kodak Company. Photographic surfactant compositions. 3,514,293, Cl. 96-114.5
Kobayashi, Hisamine: *See—*
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Kochs Adlermabmaschinen Werke AG.: *See—*
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Koeber, Henry J., Jr., to Bell & Howell Company. Stabilized optical system and method of stabilizing images. 3,514,179, Cl. 350-17.
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Koichi, Ohio: *See—*
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Kolb, Edwin R., to Harris-Intertype Corporation. Rapid access character memory. 3,514,616, Cl. 250-219.
Kolling, Melvyn C., Klitzke, Allen W., and Hein, Roderick H. Mobile trucking equipment. 3,514,000, Cl. 214-502.
Kolobielski, Marjan, to United States of America, Army. Corrosion inhibitor. 3,514,411, Cl. 252-148.
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Kondo, Hidenobu, to Nippon Kogoku K.K. Exposure meter arrangement for single lens reflex camera having detachable viewfinder. 3,513,759, Cl. 95-10.
Kondo, Kiyomi: *See—*
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Kong, Arthur, to Celanese Corporation. Coating process. 3,514,309, Cl. 117-21.
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Kemp, Woodrow E., and Flaherty, Lawrence F., 3,514,316.
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Kost, Gilbert. Hair insertion device and method of implanting hair in hairpieces. 3,513,860, Cl. 132-5.
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Lafrance, Henry. Ignition lock and switch combination. 3,514,556, Cl. 200-43.
Lagrosse, Pierre. Set square. 3,513,552, Cl. 33-104.
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Leash, Neil A., and Leash, Kenneth H. Attaching means with releasable securing tab for expendable sinker. 3,513,583, Cl. 43-43.12
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Lehmann, Hans-Gunter, Gibian, Heinz, Weichert, Rudolf, and Neumann, Friedmund, to Schering Aktiengesellschaft. 17α-Ethinyl-18-methyl-19-nortestosterone esters. 3,514,514, Cl. 424-238.
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Lemelson, Jerome H., to Triax Company, The. Automatic storage apparatus. 3,513,993, Cl. 214-16.4
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Le Strange, Raymond Joseph, to Du Pont de Nemours, E. I., and Company. Silver halide emulsion containing pyrrolidine proline or hydroxyproline sensitizers. 3,514,292, Cl. 96-107.

Levin, Morton S., and Maloy, James Q., to Datascan Incorporated. Power supply for plural logic cards. 3,514,691, Cl. 323-9.

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Lickey, Harold M., and Saenger, Harold S., to International Harvester Company. Monorail shift control for multi-speed transmission. 3,513,717, Cl. 74-477.

LiDonnici, Kenneth M., Post, Gerald, and Mau, Henry G., to Olivetti, C., Ing. & C., S.p.A., mesne. Coin operated electrostatic copier for selectively making copies of different lengths. 3,514,202, Cl. 355-7.

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Lindstad, Thorvald August, to Arenco Aktiebolag. Device in cigar making machines for removing tobacco waste when cutting wrappers or binders from a strip of tobacco. 3,513,737, Cl. 83-100.

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MacDonald, Donald K. Two-conductor remote switching and transmitting control system. 3,514,629, Cl. 307-140.

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MacDougall, Ralph E., and Lindell, Melvin E., to Litton Systems, Inc. Electro-chemical method of producing thin metal flexures. 3,514,378, Cl. 204-3.

MacDuff, Stanley I., to Bendix Corporation, The. Power brake system. 3,514,163, Cl. 303-49.

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Malhotra, Sudarshan K., to Dow Chemical Company, The. Oxidation of the enamine of α,β- unsaturated ketones. 3,514,475, Cl. 260-397.2

Malin, Eugene F. Method for cleaning teeth. 3,514,328, Cl. 134-1.

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Malone, Carl E., to AFA Corporation of Florida, The. Pressure regulating structure for piston pump. 3,514,017, Cl. 222-321.

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Marcello, Stefano: *See—*
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Marino, Nicholas A., to Sears, Roebuck and Co. Panty girdle. 3,513,853, Cl. 128-528.

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Martin, George S. Paint tray cover. 3,514,012, Cl. 220-63.

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Martin, James B., Jr., and Fairbanks, Edward M. Apparatus for heating and cooling liquids. 3,513,663, Cl. 62-159.

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Martini, William R., to McDonnell Douglas Corporation. Stirling cycle amplifying machine. 3,513,659, Cl. 62-6.

Marzocchi, Alfred, and Janetos, Nicholas S., to Owens-Corning Fiberglas Corporation. Structures formed of glass fiber-elastomer systems and method of producing same. 3,514,318, Cl. 117-76.

Masaschi, Joseph B., Miller, Charles A., Jr., and Miller, Robert W., Jr., to Filterite Corporation. Filter tube securing means. 3,513,980, Cl. 210-238.

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Matsui, Masanao, Yamada, Yasuhiro, Wakaki, Shigetoshi, and Uzu, Keizo, to Kyowa Hakko Kogyo Co., Ltd. Novel derivatives of mitomycin A, mitomycin B, and mitomycin C. 3,514,452, Cl. 260-240.

Matsuki, Keiji, to Nippon Kogaku K.K. Microscope objective of high resolving power. 3,514,185, Cl. 350-176.

Matsumoto, Akio, Toyama, Kinya, and Kondo, Kiyomi, to Toyo Tsushinki Kabushiki Kaisha. Filters having low delay and attenuation distortions. 3,514,727, Cl. 333-76.

Matsunaga, Masahisa, and Kobayashi, Hisamine, to Kabushiki Kaisha Shikishima Tipton. High speed surface finishing method. 3,513,604, Cl. 51-313.

Matsushita Electric Industrial Co., Ltd.: *See—*
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Mayo, George L., to Clary Corporation. Door drilling apparatus. 3,513,729, Cl. 77-62.

Mayo, George L., to Clary Corporation. Door finishing machine. 3,513,889, Cl. 144-3.

Mayo, Kenneth E.: *See—*
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McAleer, William J., and Wasmuth, Edward H., to Merck & Co., Inc. Method of purification of myxovirus vaccine. 3,514,374, Cl. 195-1.5

McAninch, Herbert A., to Borg-Warner Corporation. Coated compressor blades. 3,514,216, Cl. 416-241.

McArdle, John C. Form tie device. 3,514,070, Cl. 249-207.

McCallum, Donald A.: *See—*
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McDonald, William L., De George, Peter J., and Lockett, Wilson I., to International Business Machines Corporation. Electronic computing business machine. 3,514,546, Cl. 197-19.

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Boschan, Robert H., Nail, Donald H., and Holder, James P., 3,514,406.
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McFadden, Russell T., and Cramm, Russell H., to Dow Chemical Company, The. Aminohydroxyalkyl methacrylates. 3,514,473, Cl. 260-347.4

McGaha, George V., to Pelton & Crane Company, The. Dental instrument cabinet and storage mechanism. 3,514,171, Cl. 312-209.

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McGuinness, Gilbert R. Aircraft, especially of the VTOL type. 3,514,053, Cl. 244-12.

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Borth, Paul, and McKeone, Joseph 3,514,409.

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McLamore, William M., and Laubach, Gerald D., to Pfizer, Chas., & Co., Inc. 3-Haloalkyl benzothiadiazines. 3,514,454, Cl. 260-243.

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McQuinn, Alvin E., to Ag-Chem Equipment Co., Inc. Adjustable spray unit. 3,514,038, Cl. 239-165.

McVay, Donald R., Olenzak, Albert T., and Thompson, Sheldon L., to Sun Oil Company. Process for producing a high aromatic, low color, UV stable process oil. 3,514,395, Cl. 208-96.

McWilliams, Joseph E. Apparatus for loading bagged mail from a loading dock into a highway vehicle. 3,513,991, Cl. 214-6.

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Robinson, Franklin M., Anderson, Paul S., and Nicholson, James A., 3,514,463.
Merillet, Marcel A., to Hatier Editions S.A. Beading device for flexible sheets. 3,513,902, Cl. 160-392.
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Meyer, Gunther, Theilking, Heinrich, and Springorum, Meinhard. Process for drying and purifying post-chlorinated polyvinyl chloride. 3,513,561, Cl. 34-10.
Meyer, Harry, to Sil-O-Ette Sales Corporation. Panty girdle having means to adjustably lift and flatten a sagging abdomen. 3,513,854, Cl. 128-528.
Meyer, Klaus. Inside knurling tool. 3,513,678, Cl. 72-208.
Meyer-Simon, Eugen, Mann, Herbert, Gnutzmann, Geert, and Low, Horst, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Production of zirconium silicate pigments. 3,514,303, Cl. 106-299.
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Miller, Frank R., to Ormco Corporation. Pre-formed othodontic band. 3,513,545, Cl. 32-14.
Miller, John W., to Dixon, Joseph, Crucible Company, The. Tile setter. 3,513,984, Cl. 211-134.
Miller, Richard H., and Termaat, Keith B., to Ford Motor Company. Window cleaning system. 3,513,499, Cl. 15-250.01
Miller, Robert C., and Sherer, John H., Jr., to International Business Machines Corporation. Document handling apparatus. 3,514,099, Cl. 271-51.
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Miller, William R., Gasper, Steve M., and Martin, Robert, to Royal-T Company, mesne. Bassinette. 3,513,489, Cl. 5-98.
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Mills, John C., to Ford Motor Company. Door edge guard. 3,513,595, Cl. 49-462.
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Mische, Friedrich, to Voigtlander, A.G. Viewfinder for photographic camera and the like. 3,513,748, Cl. 88-1.5
Mishcon, Lester, to Singer Company, The. Circular knitting machine with pattern wheels. 3,513,666, Cl. 66-60.
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Mitchell, Robert K., Swain, James C., Thomas, David L., and Wilcox, John P., to Battelle Development Corporation, The. Variable displacement turbine-speed hydrostatic pump. 3,514,232, Cl. 418-27.
Mitchell, Robert W., and Dodds, Billy J., to Stewart & Stevenson Services, Inc. Combination electrical and pneumatic power supply and method. 3,514,219, Cl. 417-53.
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Modder, Otto, to Siegener Maschinenbau G.m.b.H. Rolled stock stripper on roll stands in particular, universal girder stands. 3,513,680, Cl. 72-250.
Modeme, Robert, to Compagnie d'Etudes de Recherches Electroniques ou Connexed CEREC. Fastener for tubes or like objects. 3,513,508, Cl. 24-16.
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Stone, Horace Alexander, and London, William Charles, 3,513,962.
Moliskey, Anthony, 1/3 to Meis, Donald V., and 1/3 to Waring, Earl A. Treatment of pumice for use in filtering out obnoxious contents of combustion gases. 3,513,640, Cl. 55-524.
Molnar, William, to British Oxygen Company Limited, The. Vacuum insulated vessels. 3,514,006, Cl. 220-14.
Monaghan, Richard P., and Barton, Maurice P. Method of forming fishing lures and the like. 3,514,358, Cl. 156-306.
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Mori, Yoichi, Nagayuki, Marumo, Noburu, Fukazawa, and Koichi, Ohio, to Nissan Jidosha Kabushiki Kaisha. Automatic speed change device for vehicles. 3,513,722, Cl. 74-695.
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Morita, Eiichi, to Monsanto Company. Making basic zinc double salts of 0,0-dialkyl phosphorodithioic acids. 3,514,476, Cl. 260-429.9
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Mukai, Kunihiko, to Nippon Glss Fiber Co., Ltd. Method of obtaining an optical image transferable fiber bundle. 3,514,351, Cl. 156-174.
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Muller, Robert D., to GAF Corporation. Copy paper feeding and refolding guide. 3,514,096, Cl. 270-61.
Muller, Wilfried, and Szangolies, Klaus, to Jena, Veb Carl Zeiss. Ancillary device for the determination of the instantaneous camera constant. 3,514,205, Cl. 355-52.
Mulready, Richard C., to United Aircraft Corporation. Mirror device. 3,514,776, Cl. 343-6.
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Pullos, Vlash A. Fluid sampler. 3,513,709, Cl. 73-425.4
Purdie, John W. Treating liquid retaining assembly for outlet opening of applicator tank for treating textiles. 3,513,670, Cl. 68-22.
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Rabey, Graham P. Apparatus for use in recording details of heads. 3,514,606, Cl. 250-65.
Rabl, Helmut, and Neubauer, Ferdinand, to Siemens Aktiengesellschaft. Ferromagnetic switching core of ferrite with rectangular hysteresis loop and process for the production thereof. 3,514,405, Cl. 252-62.62
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Rhodes, John Rathbone, to United Kingdom Atomic Energy Authority. Differential ion chambers. 3,514,602, Cl. 250-83.6
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Schaap, Theodore, Leedy, Charles D., and Timmer, Henry, to Carlson, Arthur W., Schaap, Theodore, and Timmer, Henry. Multi-purpose kitchen unit. 3,514,330, Cl. 134-115.

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Schott, Stuart, and Memering, Leroy J., to National Distillers and Chemical Corporation. Rotational molding process. 3,514,508, Cl. 264-85.

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Schumacher, Loren L. Power transmission device. 3,513,713, Cl. 74-55.

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Schwarz, Karl G., and Rusam, Winfried, to Siemens Aktiengesellschaft. Particle beam microscope in combination with an adjustable viewing apparatus and magnifier. 3,514,595, Cl. 250-49.5

Schwarzer, Carl G., to Shell Oil Company. Epoxy ethers, their preparation and cured products obtained therefrom. 3,514,418, Cl. 260-28.

Schwend, Fred N., to Clary Corporation. Credit verification system. 3,514,754, Cl. 340-149.

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Seguela, Pierre, to Solvay & Cie. Cyclic process for the fabrication of sodium carbonate and of chlorine. 3,514,381, Cl. 204-87.

Seibert, Chesterfield F., and Verrando, Marcel G., Jr., to Pall Corporation. Heat-reactivatable adsorbent gas fractionator and process. 3,513,631, Cl. 55-33.

Seidl, Sharon A. Nursing brassiere structure. 3,513,852, Cl. 128-460.

Self, Richard E. High pressure fluid control means. 3,513,864, Cl. 137-14.

Self, Richard E. High energy loss fluid control. 3,514,074, Cl. 251-127.

Sellars, George L., to Dravo Corporation. Apparatus for converting pea gravel into useul aggregate. 3,514,045, Cl. 241-208.

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Sennewald, Kurt, Bender, Ludwig, Gehrmann, Klaus, Schallus, Erich, Stephan, Hans-Werner, and Strie, Lothar, to Knapsack Aktiengesellschaft. Apparatus for electric arc-cracking of hydrocarbons. 3,514,264, Cl. 23-284.

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Severin, Walter C., to United States of America, Air Force. Method and means for indicating ultrahigh temperatures. 3,513,705, Cl. 73-358.

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Shimano, Keizo, and Segawa, Takashi, to Shimano Kogyo Kabushiki Kaisha. Automatic three-stage speed change bicycle hub. 3,513,726, Cl. 74-752.

Shimano, Keizo, Segawa, Takashi, and Nagano, Masashi, to Shimano Kogyo Kabushiki Kaisha. Free wheel assembly for bicycle equipped with automatic speed change mechanism. 3,513,725, Cl. 74-752.

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Zweifel, Charles H., and Cooper, George W., to Fruehauf Corporation, mesne. Extensible lifting spreader. 3,514,146, Cl. 294-67.
Zwolenik, James H., to Chevron Research Company. Gel permeation chromatography separation. 3,514,467, Cl. 260-314.

LIST OF DEFENSIVE PUBLICATIONS

APPLICANTS TO WHOM

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Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O. G. 687.

Ammons, Robert L. Process for producing stretch fabrics. 874,013, 5–26–70, Cl. 28—76.
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Ulbing, Cynthia G., and M. J. W. Brizee. Supersensitized silver halide photographic emulsions. 874,014, 5–26–70, Cl. 96—104.
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LIST OF REISSUE PATENTEES

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Weingartner, Bernhard, to AGK Akustische u. Kino-Gerate Gesellschaft m.b.H. Two-way microphone. 217,679, 5–26–70, Cl. D26—14.
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51 : 3,513,576
3,513,608

51	3,513,777	51 : 3,514,690	53 : 3,514,055	54 : 3,514,525	55 : 3,513,877	55 : 3,514,296
	3,513,857	53 : 3,513,565	3,514,567	3,514,526	3,513,908	3,514,340
	3,513,887	3,513,615	3,514,653	3,514,590	3,513,925	3,514,429
	3,513,998	3,513,623	3,514,713	55 : 3,513,579	3,513,964	3,514,554
	3,514,066	3,513,640	54 : 3,513,525	3,513,593	3,514,014	3,514,559
	3,514,156	3,513,659	3,513,632	3,513,712	3,514,079	3,514,603
	3,514,215	3,513,690	3,514,284	3,513,730	3,514,111	3,514,671
	3,514,515	3,513,917	3,514,476	3,513,802	3,514,123	3,514,743
	3,514,543	3,513,934	3,514,506	3,513,854	3,514,223	56 : 3,514,679
	3,514,552	3,513,936				

Design Patents

6	217,654	9 : 217,696	17 : 217,676	19 : 217,689	34 : 217,672	36 : 217,697
	217,664	12 : 217,691	217,677	217,690	217,681	217,703
	217,665	17 : 217,656	217,678	20 : 217,661	217,702	55 : 217,674
	217,666	217,657	217,698	26 : 217,680	36 : 217,685	217,682
	217,667	217,658	18 : 217,675	29 : 217,688	217,686	217,700
	217,693	217,660	217,694	217,701	217,687	56 : 217,683

Defensive Publications Applications

(Notice of Dec. 16, 1969, 869 O.G. 687)

36	T874,014	36 : T874,015	36 : T874,016	47 : T874,013	51 : T874,011	51 : T874,012

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

May 26, 1970 Volume 874 Number 4

TRADEMARKS

NOTICES

U.S. Department of Commerce Field Offices To Serve as Receiving Stations Only in Declared Emergencies

During the recent postal emergency, Field Offices of the U.S. Department of Commerce were designated as receiving stations for the U.S. Patent Office (according to the Notices of March 19, 1970, 872 O.G. 1383 and March 26, 1970, 873 O.G. TM 2). In view of the subsequent resumption of normal postal operations, that emergency arrangement was discontinued in accordance with the notice of March 27, 1970, 873 O.G. 319. After April 15, 1970, the normal practice with respect to the filing of all letters and other papers relating to patent and trademark matters in the U.S. Patent Office was resumed.

The Patent Office has received suggestions proposing that the Field Offices continue to serve as receiving stations for the U.S. Patent Office. These suggestions have received careful and sympathetic consideration. However, it has been concluded that any activities of the Field Offices in this connection must be restricted, in the future, to any emergency officially announced by the Patent Office as requiring such action.

RICHARD A. WAHL,
Acting Commissioner of Patents.

Apr. 27, 1970.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 95,990 (CHEVROLET), General Motors Corporation, Automobiles, motor-vehicles, and parts thereof; **Reg. No. 190,028** (CHEVROLET AND DESIGN), same; **Reg. No. 216,070** (CHEVROLET), same, Antomobiles; **Reg. No. 647,235**, same, Maintenance and repair service for automotive vehicles, parts, and accessories; **Reg. No. 647,236** (CHEVROLET AND DESIGN), same, filed Jan. 21, 1970, D.C., S.D. Fla. (Miami), Doc. 70-87-C-WM, *General Motors Corp.* v. *William H. Trzcinka and Family Chevrolets, Inc.*

Reg. No. 190,028. (See Reg. No. 95,990.)

Reg. No. 216,070. (See Reg. No. 95,990.)

Reg. No. 399,390 (HELI-COIL), Heli-Coil Corporation, Spark plug bushings; **Reg. No. 419,169**, same, Tools, apparatus and machines for use in connection with screw connections and their parts—namely, screw-thread-tapping tools, coiling machines for wire thread inserts, tools for inserting and extracting wire thread bushings, staking tools for securing thread and bushings in boss members; **Reg. No. 419,476**, same, Screw connections and parts of screw connections—namely, screws, bolts, studs, nuts, thread inserts and thread bushings, for use

CONDITION OF TRADEMARK APPLICATIONS AS OF APRIL 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	24,172
Date of oldest new application	June 2, 1969
Date of oldest amended application (filing date)	October 20, 1966

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	9-17-69	10-2-67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	7-9-69	10-20-66
(III) C. R. FOWLER, Classes 19, 21, 22, 26, 31, 34, 35, 36	9-4-69	11-2-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	6-2-69	10-27-67
Renewals (All Classes)	3-17-70	----------
Sec. 12(c) Publications (All Classes)	3-17-70	----------

Applications filed during the month of April 1970—3,154

Registrations Issued ---------- 432—No. 891,418 to No. 891,849
Renewals Issued ---------- 140

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

in drilled or threaded holes; Reg. No. 514,569, same, Gages for use in screw connections with or without wire thread—namely, screw thread gages and flush gages; Reg. No. 516,681, same, Tools, apparatus and machines for use in connection with screw connections and their parts—namely, screw-thread-tapping tools, coiling machines for wire thread inserts, tools for inserting and extracting wire thread bushings, staking tools for securing thread bushings in boss members; Reg. No. 707,397, same, Self-locking wire fasteners, screw locks and self-locking nuts; Reg. No. 759,866, same, Screw thread inserts loaded in plastic strips for magazine feeding, filed Oct. 10, 1968, D.C., E.D.N.Y. (Brooklyn), Doc. 68-C-1109, *Heli-Coil Corp.* v. *Whittaker Corporation, successor of Long-Lok Corporation*. Stipulation dismissing complaint, Jan. 28, 1970.

Reg. No. 419,169. (See Reg. No. 399,390.)

Reg. No. 419,476. (See Reg. No. 399,390.)

Reg. No. 514,569. (See Reg. No. 399,390.)

Reg. No. 516,681. (See Reg. No. 399,390.)

Reg. No. 647,235. (See Reg. No. 95,990.)

Reg. No. 647,236. (See Reg. No. 95,990.)

Reg. No. 707,397. (See Reg. No. 399,390.)

Reg. No. 759,866. (See Reg. No. 399,390.)

Reg. No. 808,881 (JULI), Slumbertogs, Inc., Misses', girls', and children's pajamas and nightgowns; Reg. No. 849,444 (JULI OF SLUMBERTOGS), same, Nightgowns, robes, and pajamas; Reg. No. 864,561 (JULI JR. OF SLUMBERTOGS), same, Children's robes, nightgowns and pajamas; Reg. No. 859,357 (SAUCYS BY JULI), same, Nightgowns; Reg. No. 849,447 (DHOTI-NITI BY JULI), same, Gowns and pajamas; Reg. No. 849,448 (KAPPOGI-NITI BY JULI), same, Sleepwear, filed June 6, 1969, D.C., S.D.N.Y., Doc. 69-2447, *Slumbertogs Inc.* v. *Seymour Stern et al.* Judgment of preliminary injunction, ordered that preliminary injunction be made permanent; enjoined forever, Oct. 14, 1969.

Reg. No. 849,444. (See Reg. No. 808,881.)

Reg. No. 849,447. (See Reg. No. 808,881.)

Reg. No. 849,448. (See Reg. No. 808,881.)

Reg. No. 859,357. (See Reg. No. 808,881.)

Reg. No. 864,561. (See Reg. No. 808,881.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 279,669. Mutual Acceptance Corporation, Phoenix, Ariz. Filed Sept. 5, 1967.

M·A·C

Class 101—Advertising and Business

For Building Management Services (Int. Cl. 35).

Class 102—Insurance and Financial

For Commercial Credit Services; Escrow Service; Insurance Premium Financing; Investment Banking; Financial Consulting; Mortgage and Loan Brokerage; Factoring; and Discounting Notes and Receivables (Int. Cl. 36).

First use Aug. 2, 1967.

SN 289,372. Rohn Manufacturing Co., Peoria, Ill. Filed Jan. 23, 1968.

SSV

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Mast Tubing (Int. Cl. 6).

Class 21—Electrical Apparatus, Machines, and Supplies

For Communication Towers (Int. Cl. 9).

First use Nov. 6, 1962.

SN 294,860. Science Management Corporation, Moorestown, N.J. Filed Apr. 3, 1968.

READY WORK-FACTOR

Owner of Reg. No. 606,170.

Class 100—Miscellaneous

For Industrial Engineering Services (Int. Cl. 42).

Class 101—Advertising and Business

For Organizing, Streamlining, Designing and Implementing Record Keeping Systems (Int. Cl. 35).

Class 107—Education and Entertainment

For Training Plant Personnel in the Theory and Practice of a Technique for Measuring the Time Required To Perform Manual Operations in Commerce and Industry, and in the Application of the Motion Time Standards Developed From Basic Manual Motion Analysis Studies to Industrial and Commercial Operations (Int. Cl. 41).

First use January 1956.

SN 294,861. Science Management Corporation, Moorestown, N.J. Filed Apr. 3, 1968.

ABBREVIATED WORK-FACTOR

Owner of Reg. No. 606,170.

Class 100—Miscellaneous

For Industrial Engineering Services (Int. Cl. 42).

Class 101—Advertising and Business

For Organizing, Streamlining, Designing and Implementing Record Keeping Systems (Int. Cl. 35).

Class 107—Education and Entertainment

For Training Plant Personnel in the Theory and Practice of a Technique for Measuring the Time Required To Perform Manual Operations in Commerce and Industry, and in the Application of the Motion Time Standards Developed From Basic Manual Motion Analysis Studies to Industrial and Commercial Operations (Int. Cl. 41).

First use January 1951.

SN 304,033. Iowa Beef Packers, Inc., Dakota City, Nebr. Filed Aug. 1, 1968.

CATTLE-PAK

Class 46—Foods and Ingredients of Foods

For Beef Cuts for Human Consumption (Int. Cl. 29).

Class 100—Miscellaneous

For Custom Cutting of Beef for Human Consumption (Int. Cl. 42).

First use on or about Apr. 29, 1968.

SN 308,139. Protex Products, Corp., Cincinnati, Ohio. Filed Sept. 24, 1968.

SEAL SAC

Class 2—Receptacles

For Garment Bags and Shoe Bags (Int. Cl. 21).

Class 50—Merchandise Not Otherwise Classified

For Appliance Covers and Bowl Covers (Int. Cl. 20).

First use 1934.

SN 314,961. Dyn Electronics, Inc., Hialeah, Fla., assignee of Dyn Associated Importers, Incorporated, Hialeah, Fla. Filed Dec. 20, 1968.

DYN

Class 21—Electrical Apparatus, Machines, and Supplies

For Radios and Radio Tuners (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Recorders (Int. Cl. 9).

First use June, 1968.

SN 315,174. Escambia Chemical Corporation, Allentown, Pa., by assignment and change of name from Escambia Chemical Corporation, Pensacola, Fla. Filed Dec. 26, 1968.

BIG BOY

Owner of Reg. No. 576,815.

Class 6—Chemicals and Chemical Compositions

For Insecticides, Fungicides, Nematocides, and Acaricides (Int. Cl. 5).

First use in or about April 1967.

Class 10—Fertilizers

For Fertilizers (Int. Cl. 1).

First use February 1964; on or about Aug. 1, 1952, as to "Big Boy."

SN 315,613. Veped Traffic Controls, Inc., Oklahoma City, Okla. Filed Jan. 2, 1969.

VEPED

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Operated Flashers (Int. Cl. 9).

First use Mar. 22, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Motored Vehicle Mounted on Wheels, Having a Hoisting Mechanism for Elevating Workmen and Which Can Be Driven Under Its Own Power on the Ground or on Overhead Cables (Int. Cl. 12).

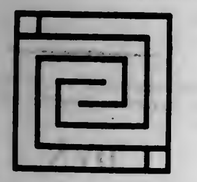
First use Nov. 30, 1967.

Class 50—Merchandise Not Otherwise Classified

For Traffic Warning Signs, Lane Markers, Signal Flags, and Traffic Light Shields (Int. Cl. 19).

First use July 5, 1961.

SN 317,793. The Frank Lloyd Wright Foundation, Scottsdale, Ariz. Filed Jan. 29, 1969.



Class 100—Miscellaneous

For Advice and Consultation Services in the Architectural Field, and Preparation of Architectural and Artistic Designs (Int. Cl. 42).

First use on or before Sept. 21, 1939.

Class 107—Education and Entertainment

For Educational Services—Namely, Instruction in Architecture, and Presenting Music and Dance Festivals (Int. Cl. 41).

First use on or before May 1, 1941.

SN 322,127. Dapco Leather Products, Inc., Los Angeles, Calif. Filed Mar. 19, 1969.

DAPCO

Class 2—Receptacles

For Desk Accessories—Namely, Wastebaskets and Planters (Int. Cl. 21).

First use at least as early as 1950.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Table Lighters, Ash Trays, Cigar and Cigarette Boxes (Int. Cl. 34).

First use at least as early as 1950.

Class 32—Furniture and Upholstery

For Bookends (Int. Cl. 20).

First use at least as early as 1950.

Class 37—Paper and Stationery

For Desk Pads; Desk Trays; Memo Sheet Holders; Library Sets Comprising Letter Opener, Sheath and Scissors; Pen Sets; Desk Organizers; List Finders; Pencil Cups; and Scrapbooks (Int. Cl. 16).

First use October 1948.

Class 38—Prints and Publications

For Calendars (Int. Cl. 16).

First use at least as early as 1950.

SN 322,776. Swank, Inc., Attleboro, Mass. Filed Mar. 26, 1969.

HYDE PARK

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Wallets, Billfolds, Pocket Secretaries, and Containers for Jewelry and Dress Accessories—Namely, Leather or Simulated Leather Sacks or Pouches and Leather or Simulated Leather Rolled-Up Sheets Containing a Number of Pockets To Hold Small Items (Int. Cl. 18).

First use Feb. 19, 1969.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Pyrophoric Cigarette and Cigar Lighters (Int. Cl. 34).

First use Mar. 14, 1969.

Class 28—Jewelry and Precious-Metal Ware

For Costume Jewelry and Dress Accessories, Not Including Watches, for Men and Young Men—Namely, Necktie Clasps, Necktie Tacks, Necktie Pins, Cuff Links, Collar Pins, Belt Buckles Made in Whole or in Part of Precious and/or Semi-Precious Metals, Key Chains Made in Whole or in Part of Precious and/or Semi-Precious Metals, and Identification Bracelets (Int. Cl. 14).

First use Feb. 19, 1969.

Class 51—Cosmetics and Toilet Preparations

For Men's Toiletries—Namely, Cologne, After Shave Lotion, Pre-Electric Shave Lotion, Talcum Powder, Personal and/or Body Deodorants, and Shave Cream (Int. Cls. 3 and 5).

First use Mar. 14, 1969.

SN 323,049. Apter Industries, Inc., McKeesport, Pa. Filed Mar. 28, 1969.

nap

Class 6—Chemicals and Chemical Compositions

For Concentrated Laundry Whitener Solution; and Chemical Spray for Use in Eliminating Static Shock From Carpets, Draperies, Auto Upholstery, and Other Items (Int. Cls. 1 and 3).

First use Aug. 16, 1967.

Class 52—Detergents and Soaps

For Concentrated Detergent Solutions for Use in Cleaning Floors, Walls, Counters, and Other Heavily Used Places in Restaurant and Institutional Kitchens, Food Processing Plants, and Similar Establishments; Concentrated Detergent Tablet for Use in Cleaning Toilet Bowls; Concentrated Solution for Cleaning Hands; and Cleanser in Highly Concentrated Tablet Form for Cleaning Windows (Int. Cl. 3).

First use Aug. 11, 1967.

SN 323,758. The H. M. Harper Company, Morton Grove, Ill. Filed Apr. 1, 1969.



Owner of Reg. Nos. 539,018 and 676,580.

Class 12—Construction Materials

For Metal Construction Materials—Namely, Angles, T's, Channels, I-Beams, and Flats (Int. Cl. 6).

First use at least as early as 1959.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Fastening Devices—Namely, Threaded Bolts, Nuts, Screws, Metal Washers, and Rivets (Int. Cl. 6).

First use Aug. 30, 1949.

Class 14—Metals and Metal Castings and Forgings

For Metals and Metal Castings and Forgings—Metal Extruded Shapes—Namely, Machinery Parts, Airframe and Engine Sections, Structural Sections for Machinery, Architectural Applications, and Other Metal Fabrication (Int. Cl. 6).

First use at least as early as 1957.

SN 323,902. Bell & Howell Company, Chicago, Ill. Filed Apr. 7, 1969.

AUTOLOAD

Owner of Reg. No. 762,302.

Class 6—Chemicals and Chemical Compositions

For Liquid Toner for Electrostatic Copiers (Int. Cl. 1)

First use Apr. 2, 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrostatic Copiers (Int. Cl. 9).

First use at least as early as Sept. 13, 1968.

Class 26—Measuring and Scientific Appliances

For Microfilm Readers—Namely, Projectors and Cartridges for Microfilm Readers (Int. Cl. 9).

First use Feb. 19, 1965.

SN 325,538. Sperry Rand Corporation, New York, N.Y. Filed Apr. 25, 1969.



Owner of Reg. Nos. 861,347, 878,585, and others.

Class 11—Inks and Inking Materials

For Carbon Paper; Inked Ribbons for Typewriters and Other Writing or Printing Machines; and Inking Materials for Electrostatic Copiers—Namely, Toners and Dispersants (Int. Cl. 16).

First use Oct. 23, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrostatic Copiers, and Parts Thereof (Int. Cl. 16).

First use Feb. 1, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Typewriters, Mechanized Apparatus for Storing and Retrieving Containers and Other Articles, Copy Holders for Typewriters, and Parts Thereof (Int. Cl. 16).

First use Oct. 20, 1967.

Class 25—Locks and Safes

For Fireproof and Burglar-Proof Safes, Files, Boxes, Chests, Drawers, and Parts Thereof (Int. Cl. 6).

First use Dec. 1, 1968.

Class 26—Measuring and Scientific Appliances

For Adding Machines, Cash Registers, Calculating Machines, and Parts Thereof; Microfilming Equipment—Namely, Cameras, Film Developing Machines and Readers, and Parts Thereof (Int. Cl. 9).

First use May 1, 1968.

Class 32—Furniture and Upholstery

For File Cabinets and Racks; Record Index and Filing Systems Comprising: Cabinets, Cases, Trays, Boxes, Desks, Tables, Drawers, Shelves, Stands, Holders, and Parts Thereof for Maintaining Records in Some Prescribed Order and Arrangement; Stools, Constituting Office, Library, and Factory Furniture; and Check and Paper Sorters—Namely, a Plurality of Bins (Int. Cl. 20).

First use Dec. 1, 1968.

Class 37—Paper and Stationery

For Blank and Partially Printed Cards, Sheets, Forms, Inserts, Strips, and Labels; Index Tabs, Index Tap Signals for Files and Charts and Holders Therefor, Folders, Card Sheaths and Guides; Cards for Mounting and Indexing Film Strips; Paper Fasteners; File Folders; Copier Paper; and Pressure Sensitive Blank Labels (Int. Cl. 37).
First use Oct. 23, 1967.

Class 38—Prints and Publications

For Magazines; House Organs; Service Manuals; and Product Brochures (Int. Cl. 16).
First use June 30, 1967.

SN 328,041. Automated Information Systems, Inc., Edgewater, N.J. Filed May 22, 1969.

AIS

Class 100—Miscellaneous

For Consulting With Respect to and Designing of Computer Installations (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming Services (Int. Cl. 35).

First use Nov. 13, 1968.

SN 331,978. Gould Inc., St. Paul, Minn., by change of name from Gould-National Batteries, Inc., St. Paul, Minn. Filed July 8, 1969.

PRECISIONEERED

Owner of Reg. No. 500,968.

Class 14—Metals and Metal Castings and Forgings

For Metal Castings (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Connecting Rods, Cylinder Sleeves and Liners, Compressor Vanes for Compressible Fluids and Pistons (Int. Cl. 7).

First use July 3, 1968.

SN 333,994. Yardley of London, Inc., New York, N.Y. Filed July 31, 1969.

SHADES OF LONDON

No claim is made to the word "London" apart from the mark as shown.

Class 51—Cosmetics and Toilet Preparations

For Cologne, Foam Bath, Lipstick, and Nail Polish (Int. Cl. 3).
First use June 12, 1969.

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).
First use July 7, 1969.

SN 336,047. Norman K. Neddermeyer, Redlands, Calif. Filed Aug. 25, 1969.



The lining on the drawing is a feature of the mark and is not intended to indicate color.

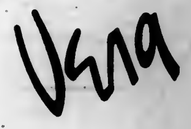
Class 39—Clothing

For Golf Wearing Apparel, e.g., Skirts (Int. Cl. 25).
First use Nov. 7, 1968.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Golf Towels (Int. Cl. 24).
First use Dec. 12, 1967.

SN 336,781. Scarves by Vera, Inc., New York, N.Y. Filed Sept. 2, 1969.



Owner of Reg. No. 683,332.

Class 39—Clothing

For Articles of Wearing Apparel for Women, Young Women and Girls—Namely, Scarves, Neckties, Blouses, Shawls, and Kerchiefs Adapted To Be Worn as Head Coverings and as Neckerchiefs; Barbecue Sets Including Aprons and Gloves; Coveralls in the Nature of Smocks; Outer Dress and Sport Shirts, Outer Shorts and Trousers of Assorted Lengths, Dress Pajamas, Waistcoats, Shifts, Dresses, Playsuits, Skirts, Tunics, Tops, Jumpsuits, Sashes, Mufflers, Ponchos, Hats, Caps, and Hoods (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Table Linens, i.e., Tablecloths, Napkins, Hand Towels, Kitchen Aprons, Dish Towels, Guest Towels, Potholders, Place Mats, and Bath Towels (Int. Cl. 24).

First use September 1947.

SN 339,675. Infoton, Incorporated, Burlington, Mass. Filed Oct. 3, 1969.



Class 100—Miscellaneous

For Designing Computer-Peripheral and Remote-Terminal Equipment; Systems Analysis of Computer Hardware, Programs and Operating Procedures; and Development and Consulting Services in the Information, Mathematical and Communication Sciences (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming and Research (Int. Cl. 35).

First use Aug. 10, 1969.

SN 339,677. Infoton, Incorporated, Burlington, Mass. Filed Oct. 3, 1969.

INFOTON

Class 100—Miscellaneous

For Designing Computer-Peripheral and Remote-Terminal Equipment; Systems Analysis of Computer Hardware, Programs and Operating Procedures; and Development and Consulting Services in the Information, Mathematical and Communication Sciences (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming and Research (Int. Cl. 35).

First use Aug. 10, 1969.

SN 344,495. Avon Products, Inc., New York, N.Y. Filed Nov. 25, 1969.

STAR-SIGNS

Class 51—Cosmetics and Toilet Preparations

For Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Oct. 28, 1969.

SN 350,412. The Gillette Company, Boston, Mass. Filed Feb. 4, 1970.



Class 51—Cosmetics and Toilet Preparations

For Cologne, Shaving Cream, After Shave Lotion, After Shave Emulsion, and Body Talc (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Sept. 18, 1969.

SN 350,642. Precept, Incorporated, Euless, Tex. Filed Feb. 6, 1970.



Class 39—Clothing

For Surgeons' Caps, Nurses' Caps, Aprons, Infants' Shirts, Pediatric Gowns, and Staff Coats (Int. Cl. 25).
First use at least as early as April 1969.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Stretcher Sheets, Receiving Blankets, Bed and Bassinet Sheets, Infant Scale Liners, Washcloths, Soft Cloths, Huck Towels, and Pillow Cases (Int. Cl. 24).
First use at least as early as May 1969.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 302,956. Pennsylvania Industrial Chemical Corporation, Clairton, Pa. Filed July 17, 1968.

PICCO

Owner of Reg. Nos. 387,945 and 846,856.
For Natural and Synthetic Resins for Use in the Manufacture of Coatings, Adhesives, Paints, Varnishes, Enamels, and Inks (Int. Cl. 1).
First use about Feb. 1, 1925.

SN 314,455. Phillips Petroleum Company, Bartlesville, Okla. Filed Dec. 13, 1968.

RYTON

For Sulfur Containing Thermoplastic and Thermosetting Resins for Industrial Use as a Molding Compound and as a Coating Material (Int. Cl. 1).
First use Nov. 4, 1968.

SN 318,104. J. Schlessman & Sons, Inc., Milan, Ohio. Filed Jan. 31, 1969.



No claim of exclusive right is made to the words "Superior Seeds" apart from the mark as shown.
For Farm Seeds—Namely, Cereal and Vegetable Seeds (Int. Cl. 31).
First use May 27, 1967; at least as early as 1959 as to "Schlessman Superior Seeds."

SN 323,677. Canadian Hoechst Limited, Montreal, Quebec, Canada. Filed Apr. 4, 1969.

HOSTAPHAN

Owner of Reg. No. 834,912.
For Polyester Foils (Int. Cl. 17).
First use January 1967; in commerce January 1967.

SN 338,452. Winfield Industries, Inc., Buffalo, N.Y. Filed Sept. 19, 1969.



For Polyurethane (Int. Cl. 1).
First use July 1966.

SN 338,537. Celanese Corporation, New York, N.Y. Filed Sept. 22, 1969.

CELGARD

Owner of Reg. No. 752,287.
For Plastic Film and Sheet (Int. Cl. 17).
First use Aug. 18, 1969.

SN 339,010. Gigas Mink, Inc., Duluth, Minn. Filed Sept. 26, 1969.

GIGAS

For Live Mink (Int. Cl. 31).
First use December 1968.

SN 339,426. The Flintkote Company, White Plains, N.Y. Filed Oct. 1, 1969.

CAMEL-KOTE

Owner of Reg. Nos. 537,358, 781,583, and others.
For Fine Ground Calcium Carbonate Produced From Calcite, a High Calcium Limestone, for Use as a Filler for Paints, Rubber, Linoleum, Paper, Plastics, Ceramics, and Allied Products (Int. Cl. 1).
First use at least as early as June 23, 1969.

SN 339,585. Mobil Oil Corporation, New York, N.Y. Filed Oct. 2, 1969.

CASTCOR

For Plastic Film (Int. Cl. 17).
First use July 8, 1969.

Class 2—Receptacles

SN 324,360. Parke, Davis & Company, Detroit, Mich. Filed Apr. 14, 1969.

READI-BAND

For Package and Container for Bandages, Swabs, and the Like (Int. Cl. 20).
First use on or before Mar. 17, 1969.

SN 336,510. Beacon Products Corp., Newton Highlands, Mass. Filed Aug. 28, 1969.



The mark consists of a fanciful lowercase letter "b" and a fanciful lowercase letter "p."
For Plastic Houseware Items—Namely, Trays, Towel Holders, Mixing Bowl Sets, Coffee Mugs, Pails, Basins, Dishpans, Laundry Baskets, Butter Dishes, Tumblers, Ice Buckets, Pitchers, Beverage Sets, Cereal Bowls, and Barrels (Int. Cl. 21).
First use at least as early as May 1969.

SN 345,295. Bemis Company, Inc., Minneapolis, Minn. Filed Dec. 4, 1969.

Supertainer

For Paper Balers—Namely, Bags Used for Master Shipping Containers (Int. Cl. 16).
First use Nov. 5, 1969.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 332,273. Welsh Sporting Goods Corp., Iowa Falls, Iowa. Filed July 10, 1969.

NO NONSENSE

For Luggage (Int. Cl. 18).
First use June 5, 1969.

Class 4—Abrasives and Polishing Materials

SN 341,799. Dustikins Products, Inc., Bronx, N.Y. Filed Oct. 27, 1969.

INSTAMATIC

For Treated Polishing Cloth for Shoes (Int. Cl. 21).
First use Feb. 26, 1969.

Class 5—Adhesives

SN 326,186. Scotty's Home Builders Supply, Inc., Winter Haven, Fla. Filed May 2, 1969.



For White Glue (Int. Cl. 1).
First use Oct. 1, 1968.

Class 6—Chemicals and Chemical Compositions

SN 293,725. Koninklijke Zwavelzuurfabrieken Voorheen Ketjen N.V., Amsterdam, Netherlands. Filed Mar. 20, 1968.

DIANOL

Owner of Dutch Reg. No. 155,237, dated Aug. 27, 1964.
For Dihydric Alcohols for Use as the Alcoholic Component in Polyester and Alkyd Resins (Int. Cl. 1).

SN 309,112. The Sherwin-Williams Company, Cleveland, Ohio. Filed Oct. 7, 1968.

POLARIS

For Organic Red Pigment (Int. Cl. 2).
First use August 1956.

SN 313,743. The Thermocor Company Incorporated, Erlanger, Ky. Filed Dec. 5, 1968.

LIQUID MONITOR

The term "Liquid" is disclaimed apart from the mark as shown.
For Contact Jelly of Lotion-Type Consistency To Be Applied to the Patient and to the Electrodes of Patient-Monitoring Equipment To Assure Accurate Transmission of Electrical Impulses From the Patient to the Equipment (Int. Cl. 1).
First use Aug. 8, 1968.

SN 319,333. The Mearl Corporation, Ossining, N.Y. Filed Feb. 17, 1969.

UNICROME

For Pigments Used in the Manufacture of Non-Settling Nail Enamels (Int. Cl. 2).
First use Dec. 23, 1968.

SN 322,794. Morton International, Inc., Chicago, Ill. Filed Mar. 26, 1969.

BANISH

For Composition for Melting Ice and Snow (Int. Cl. 1).
First use on or about Dec. 16, 1968.

SN 326,648. W. R. Grace & Co., New York, N.Y. Filed May 7, 1969.



For Catalyst in Powder, Ingot or Lump Form, Comprising Either Hydrogenating Catalysts Being Special Forms of Nickel, Copper, Cobalt, Iron or Other Metal, or an Alloy of Aluminum With Nickel, Copper, Cobalt, Iron or Other Metals (Int. Cl. 1).
First use Mar. 17, 1969.

SN 334,319. Geigy Chemical Corporation, Ardsley, N.Y. Filed Aug. 4, 1969.

ERAMOX

For Chemical Ingredient Used in the Manufacture of Herbicides (Int. Cl. 1).
First use July 3, 1969.

SN 334,382. Shell Oil Company, New York, N.Y. Filed Aug. 4, 1969.

LANDRIN

For Insecticide (Int. Cl. 5).
First use at least as early as Apr. 22, 1969.

SN 334,384. Shell Oil Company, New York, N.Y. Filed Aug. 4, 1969.

RABON

For Insecticide (Int. Cl. 5).
First use at least as early as June 17, 1968.

SN 335,226. Hercules Incorporated, Wilmington, Del. Filed Aug. 13, 1969.

PAMOLYN

For Fatty Acids (Int. Cl. 1).
First use June 16, 1969.

SN 336,560. Exomet, Inc., Conneaut, Ohio. Filed Aug. 28, 1969.

VACUTHERM

For Exothermic Compounds Used To Add Heat to Molten Metals Held in a Vacuum (Int. Cl. 1).
First use on or about Nov. 17, 1966.

SN 336,709. Organon Inc., West Orange, N.J. Filed Aug. 29, 1969.

LUTEONOSTICON

Owner of Reg. Nos. 721,497, 834,940, and others.
For Laboratory Test Kit for Determination of Human Luteinizing Hormone and Chorionic Gonadotropin in Urine (Int. Cl. 1).
First use July 14, 1969.

SN 337,413. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Sept. 9, 1969.

ALBALITE

For Bulking Additive Pigment for Use in Paper Manufacturing (Int. Cl. 2).
First use June 12, 1969.

SN 337,686. Pettibone Laboratories, Inc., New York, N.Y. Filed Sept. 11, 1969.

OSTOBON

For Chemical Deodorant for Commercial, Industrial, and Household Use (Int. Cl. 5).
First use Sept. 2, 1969.

SN 338,108. American Cyanamid Company, Wayne, N.J. Filed Sept. 17, 1969.

CYASTAB

For Vinyl Stabilizer (Int. Cl. 1).
First use Aug. 22, 1969.

SN 339,163. Eagle-Picher Industries, Inc., Cincinnati, Ohio. Filed Sept. 29, 1969.

EPISTATIC

For Lead Compounds Used as Plastic Stabilizers (Int. Cl. 1).
First use Aug. 8, 1969.

SN 339,425. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Oct. 1, 1969.

VULKACIT

For Vulcanization Accelerators (Int. Cl. 1).
First use in or about July 1914; in commerce in or about July 1914.

SN 339,531. The Ansul Company, Marinette, Wis. Filed Oct. 2, 1969.

TRIMZIT

For Grass and Weed Killer (Int. Cl. 5).
First use Sept. 17, 1969.

SN 339,699. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

AUTUMN MORNING

For Room Freshener (Int. Cl. 5).
First use June 17, 1969.

SN 339,889. Hercules Incorporated, Wilmington, Del. Filed Oct. 6, 1969.

HERCAMINE

For Herbicide (Int. Cl. 5).
First use on or about June 1, 1967.

SN 340,284. Shell Oil Company, New York, N.Y. Filed Oct. 9, 1969.

LANDALL

For Insecticide (Int. Cl. 5).
First use at least as early as Sept. 12, 1969.

SN 349,276. International Minerals & Chemicals Corporation, Skokie, Ill. Filed Jan. 22, 1970.

SAFE·ON

For Composition for Melting Ice and Snow (Int. Cl. 1).
First use Dec. 5, 1969.

SN 349,547. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Jan. 26, 1970.

VYDATE

For Insecticide (Int. Cl. 5).
First use Dec. 17, 1969.

SN 349,548. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 26, 1970.

EVIK

Owner of Reg. No. 819,730.
For Herbicide (Int. Cl. 5).
First use Jan. 8, 1970.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 319,829. Flaminaire Marcel Quercia, Paris (Seine), France. Filed Mar. 14, 1969.



For Cigar and Cigarette Lighters, Their Parts and Accessories, and Refilling Devices for Such Lighters (Int. Cl. 34).
First use 1960; in commerce 1965.

SN 322,871. Den Kongelige Porcelainsfabrik A/S, d.b.a. Royal Copenhagen Porcelain Manufactory, Copenhagen, Denmark. Filed Mar. 26, 1969.



The words "Copenhagen" and "Denmark" are disclaimed apart from the mark as shown, with no derogation of the acquired common law rights. Owner of U.S. Reg. Nos. 30,487, 125,799, and 870,475.
For Ashtrays and Pipes, the Foregoing Goods Made Out of Porcelain, Faience, Stoneware, or Other Ceramic Materials (Int. Cl. 34).
First use Jan. 1, 1923; in commerce Jan. 23, 1923.

SN 345,132. Buescher's Industries, Inc., Washington, Mo. Filed Dec. 3, 1969.

SUNDAY COB

For Corn Cob Pipes (Int. Cl. 34).
First use January 1953.

SN 346,247. Head Gear, Inc., New York, N.Y. Filed Dec. 15, 1969.



For Smoking Pipes; Filters for Smoking Pipes; and Cleaners for Smoking Pipes Made of Bristles Assembled by Twisted Wires (Int. Cl. 34).
First use Sept. 2, 1968.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 337,366. The Spesco Corporation, Atlanta, Ga. Filed Sept. 8, 1969.



For Hand Guns—Namely, Pistols and Revolvers, Shotguns, and Shoulder Guns (Int. Cl. 13).
First use on or about Nov. 11, 1966.

Class 10—Fertilizers

SN 339,376. Wegro, Incorporated, Grand Rapids, Ohio. Filed Sept. 30, 1969.



For Fertilizers and Plant Foods (Int. Cl. 1).
First use Aug. 25, 1969.

Class 12—Construction Materials

SN 303,916. Marimekko Oy., Helsinki, Finland. Filed July 30, 1968.

marimekko

Priority claimed under Sec. 44(d) on Finnish application filed May 31, 1968; Reg. No. 55,180, dated Aug. 20, 1969.
For Prefabricated Sauna Bath Houses and Similar Houses, and Non-Metallic Construction Plates Made of Wood, Hardboard, and the Like (Int. Cl. 19).

SN 324,169. Richard E. Bell, Portland, Oreg. Filed Apr. 10, 1969.

Everyman

For Buildings and Prefabricated Wooden Structural Components Thereof Covered With Sheet Metal Siding (Int. Cl. 19).
First use Sept. 1, 1968.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 321,762. Beta-Valve, Inc., Cleveland, Ohio. Filed Mar. 14, 1969.

BETA VALVE

Applicant disclaims the word "Valve" apart from the mark as shown.
For Valves for Gas and Liquids, and for Fuel Density Compensators, Especially for Aircraft Environments (Int. Cl. 6).
First use at least as early as Feb. 3, 1969 on valves; at least as early as Nov. 30, 1961, as to the symbol and "Valve."

SN 323,007. Oy Wartsila AB, Helsinki, Finland. Filed Mar. 27, 1969.

STOPNOIS

Owner of Finnish Reg. No. 54,001, dated Feb. 5, 1969.
For Sanitary Installations, Especially Water Closets (Int. Cl. 11).

SN 323,691. Eisen- und Drahtwerk Erlau AG., Aalen, Wurttemberg, Germany. Filed Apr. 4, 1969.

ERLAU ROCK-SCRAPER

For Tire Chains for Automotive Vehicles (Int. Cl. 12).
First use August 1963; in commerce September 1965.

SN 323,693. Eisen- und Drahtwerk Erlau AG., Aalen, Wurttemberg, Germany. Filed Apr. 4, 1969.

ERLAU ROCK-STANDARD

For Tire Chains for Automotive Vehicles (Int. Cl. 12).
First use August 1963; in commerce September 1965.

SN 338,429. William Perez, Mineola, N.Y. Filed Sept. 19, 1969.

THERMO-RACK

For Hollow Pins for Insertion Into a Body Mass Such as Potatoes, Apples, Meats, Fowl, and the Like, To Accelerate Heating or Refrigerating the Body Mass (Int. Cl. 21).
First use July 1, 1969.

SN 339,283. La Mere Industries, Inc., Walworth, Wis. Filed Oct. 1, 1969.

DESTROILET

For Dry Sanitary Toilet (Int. Cl. 11).
First use at least as early as 1960.

SN 339,457. Selfix, Inc., Chicago, Ill. Filed Oct. 1, 1969.

LOCK-LIP

For Device for Holding Shampoo and Shower Spray Attachments to Faucets (Int. Cl. 21).
First use at least as early as Feb. 28, 1968.

SN 340,086. Joseph J. D'Jay, Brentwood, N.Y. Filed Oct. 8, 1969.

MASS MERCHANDISING

For Display Fixtures for Retail Stores, Specifically Hardware for Displaying Merchandise (Int. Cl. 6).
First use Jan. 28, 1962.

SN 344,671. Byron Chain Mfg. Co., Schiller Park, Ill. Filed Nov. 26, 1969.



For Link Chains (Int. Cl. 6).
First use on or about Sept. 28, 1964.

SN 345,733. Visador Company, Jasper, Tex. Filed Dec. 9, 1969.

Beauti Brads

The word "Brads" is disclaimed except in connection with the mark as shown. Owner of Reg. No. 757,143.
For Finishing Nails, Brads and Tacks (Int. Cl. 6).
First use June 15, 1963.

SN 352,676. Spotnails, Inc., Rolling Meadows, Ill. Filed Feb. 27, 1970.

SPOTSTRIPS

Owner of Reg. Nos. 413,423, 853,511, and others.
For Fasteners (Int. Cl. 6).
First use on or about Jan. 2, 1970.

Class 14—Metals and Metal Castings and Forgings

SN 330,595. Fina Metal Ltd., Montreal, Quebec, Canada. Filed June 20, 1969.

HYTRON

Owner of Canadian Reg. No. 162,887, dated May 16, 1969.
For Iron Powders and Metallurgical Powders Having an Iron Powder Content (Int. Cl. 6).

SN 345,711. Blaw-Knox Company, Pittsburgh, Pa. Filed Dec. 9, 1969.

SUPER 22H

Owner of Reg. No. 658,670.
For High Temperature Alloy Castings (Int. Cl. 6).
First use on or about Dec. 22, 1967.

SN 345,712. Blaw-Knox Company, Pittsburgh, Pa. Filed Dec. 9, 1969.

MO-RE

For High Temperature Alloy Castings (Int. Cl. 6).
First use on or about Apr. 11, 1963.

Class 15—Oils and Greases

SN 321,979. Mist Products, Inc., Huntington Station, N.Y. Filed Mar. 17, 1969.

GYROLUBE

For Electrical Contact Lubricant (Int. Cl. 4).
First use Jan. 28, 1967.

SN 325,408. Southwest Grease & Oil Co., Inc., Wichita, Kans. Filed Apr. 23, 1969.

AOC

For Bearing Lubricant (Int. Cl. 4).
First use on or prior to Feb. 22, 1969.

SN 325,409. The Standard Oil Company, Cleveland, Ohio. Filed Apr. 23, 1969.
Owner of Reg. Nos. 190,708 and 856,872.

FACTOGARD

For Grease (Int. Cl. 4).
First use Apr. 1, 1969.

SN 332,109. Kano Laboratories, Inc., Nashville, Tenn. Filed July 9, 1969.

KROIL

For Penetrating Oil (Int. Cl. 4).
First use March 1944.

SN 332,110. Kano Laboratories, Inc., Nashville, Tenn. Filed July 9, 1969.

KREEN

For Additive for Gasoline and Motor Oil (Int. Cl. 1).
First use September 1945.

SN 336,024. The Standard Oil Company, Cleveland, Ohio. Filed Aug. 22, 1969.

ICE-TANES

Owner of Reg. Nos. 623,892 and 719,880.
For Anti-Icing Additives Incorporated in Gasoline (Int. Cl. 4).
First use on or about Sept. 24, 1968.

SN 336,025. The Standard Oil Company, Cleveland, Ohio. Filed Aug. 22, 1969.

Ice-Tanes

Owner of Reg. Nos. 623,893 and 719,880.
For Anti-Icing Additives Incorporated in Gasoline (Int. Cl. 4).
First use on or about Nov. 15, 1968.

Class 16—Protective and Decorative Coatings

SN 319,642. The Sherwin-Williams Company, Cleveland, Ohio. Filed Feb. 19, 1969.

FROSTIQUE

For Undercoater and Glaze in the Nature of a Paint for Use in Creating Wiped and Textured Effects (Int. Cl. 2).
First use August 1968.

SN 319,944. Polyastics Corporation, Croydon, Pa. Filed Feb. 24, 1969.

POLY-CLEEN cc

For Paint Thinners for Vinyl and Epoxy Finishes, Sold in Bulk Quantities (Int. Cl. 2).
First use Aug. 1, 1966.

SN 319,945. Polyastics Corporation, Croydon, Pa. Filed Feb. 24, 1969.

POXY-FINISH

For Epoxy Polyamide Coatings in the Nature of Paint (Int. Cl. 2).
First use Aug. 1, 1966.

Class 17—Tobacco Products

SN 316,242. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed Jan. 9, 1969.



Applicant makes no claim to the words "King Size" apart from the mark as shown. Owner of U.S. Reg. Nos. 578,697, 867,400 and others.
For Cigarettes (Int. Cl. 34).
First use July 1, 1968; in commerce July 1, 1968.

SN 318,984. St. Regis Tobacco Corporation Limited, Zurich, Switzerland. Filed Feb. 12, 1969.

ASSEMBLY

Owner of Swiss Reg. No. 233,656, dated June 21, 1968.
For Cigarettes (Int. Cl. 34).

SN 339,854. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed Sept. 30, 1969.

BANDMASTER

For Cigarettes (Int. Cl. 34).
First use Aug. 18, 1969; in commerce Aug. 13, 1969.

SN 340,024. Lane Limited, New York, N.Y. Filed Oct. 7, 1969.

PROMINENCE

For Smoking Tobacco (Int. Cl. 34).
First use August 1969.

SN 351,696. A. Garfinkel, Incorporated, Washington, D.C. Filed Feb. 18, 1970.

"GARAFINOS"

For Pipe Tobacco, Cigarette Tobacco, and Cigars (Int. Cl. 34).
First use July 1, 1969.

SN 352,523. St. Regis Tobacco Corporation Limited, Zurich, Switzerland. Filed Feb. 26, 1970.

CRADOCK

For Cigarettes (Int. Cl. 34).
First use Dec. 4, 1969; in commerce Dec. 4, 1969.

Class 18—Medicines and Pharmaceutical Preparations

SN 325,954. Boots Pure Drug Company Limited, Nottingham, England. Filed Apr. 30, 1969.

FURAMIDE

Owner of British Reg. No. 800,923, dated Jan. 28, 1960.
For Pharmaceutical Preparations Containing Amides, Sold on Prescription Only, for Oral Use in the Treatment of Amoebic Infections (Int. Cl. 5).

SN 328,423. First Texas Pharmaceuticals, Inc., Dallas, Tex. Filed May 27, 1969.

AMYLOFENE

For Pharmaceutical Preparation in the Form of Tablets To Be Given Orally for Relief of Nervousness and Inducing Sleep, and To Be Used Only by or Dispensed Upon the Prescription of a Physician (Int. Cl. 5).
First use March 1934.

SN 337,137. Parke, Davis & Company, Detroit, Mich. Filed Sept. 5, 1969.

BENASED

For Sedative Hypnotic Preparation (Int. Cl. 5).
First use on or before Aug. 25, 1969.

SN 339,685. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Oct. 3, 1969.

SKF

Owner of Reg. Nos. 617,120 and 789,921.
For Line of Pharmaceutical Products in Tablet Form (Int. Cl. 5).
First use on or before May 22, 1954.

SN 339,960. Reid-Provident Laboratories Inc., Atlanta, Ga. Filed Oct. 7, 1969.

PAVACAP

For Timed Release Capsule Containing Papaverine Hydrochloride for the Treatment of Certain Cardiac Conditions (Int. Cl. 5).
First use Mar. 3, 1958.

SN 340,743. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Oct. 15, 1969.

ESKAPHEN B

For Pharmaceuticals—Namely, Sedative (Int. Cl. 5).
First use Apr. 3, 1946.

SN 341,340. Thompson Medical Company, Inc., New York, N.Y. Filed Oct. 22, 1969.

SLIM'N LOVELY

For Pharmaceutical Preparation To Aid in Reducing (Int. Cl. 5).
First use June 20, 1969.

SN 341,603. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Oct. 24, 1969.

ESKAY'S

Owner of Reg. No. 39,522.
For Vitamin Tonic (Int. Cl. 5).
First use Apr. 15, 1902.

SN 348,617. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 15, 1970.

IBUSIN

For Anti-Inflammatory Agent (Int. Cl. 5).
First use Nov. 17, 1969.

SN 348,721. Carter-Wallace, Inc., New York, N.Y. Filed Jan. 16, 1970.

PEACE AND QUIET

For Pharmaceutical Preparation—Namely, a Non-Narcotic Tranquilizer (Int. Cl. 5).
First use Dec. 9, 1969.

SN 348,864. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 19, 1970.

COLESTID

For Hypocholesteremic Agent (Int. Cl. 5).
First use Jan. 8, 1970.

SN 348,865. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 19, 1970.

COLEST

For Hypocholesteremic Agent (Int. Cl. 5).
First use Jan. 8, 1970.

SN 349,093. American Home Products Corporation, New York, N.Y. Filed Jan. 21, 1970.

BISODOL PLUS

Owner of Reg. Nos. 157,310 and 276,458.
For Antacid Digestant (Int. Cl. 5).
First use June 28, 1967.

SN 350,359. Hobart Laboratories, Inc., Chicago, Ill. Filed Feb. 3, 1970.

NUMOTIZINE

Owner of Reg. No. 265,213.
For Cataplasm (Poultice) and Liniment for Human and Veterinary Use, and Cough Syrup (Int. Cl. 5).
First use Dec. 17, 1929.

Class 19—Vehicles

SN 302,247. Bob Schmidt, Inc., Houston, Tex. Filed July 8, 1968.

CANNED SAND

The term "Sand" is disclaimed apart from the mark as shown.
For Mobile Trailer Units for Transporting Sand and Other Abrasives, and Wheeled Portable Pots for Transporting and Dispensing Sand (Int. Cl. 12).
First use Dec. 12, 1967.

SN 319,967. Skamper Corporation, Bristol, Ind. Filed Feb. 24, 1969.

SUNKAMPER

Without relinquishing any of its common law rights, applicant disclaims the word "Kamper" apart from the mark as shown.
For Travel Trailers (Int. Cl. 12).
First use December 1968.

SN 321,593. FMC Corporation, San Jose, Calif. Filed Apr. 16, 1969.

SPRINT

For Snowmobiles (Int. Cl. 12).
First use Mar. 25, 1968.

SN 321,594. FMC Corporation, San Jose, Calif. Filed Apr. 16, 1969.

BOLENS SPRINT

For Snowmobiles (Int. Cl. 12).
First use Mar. 25, 1968.

SN 331,744. Great Dane Trailers, Inc., Savannah, Ga. Filed July 3, 1969.



Owner of Reg. No. 338,218.
For Highway-Railway (Piggyback Trailers) (Int. Cl. 12).
First use June 6, 1969.

SN 332,842. Edwin P. Monroe, Cleveland, Ohio. Filed July 17, 1969.

SWINGER

For Seats for Motor Trucks (Int. Cl. 12).
First use on or about Feb. 10, 1969.

SN 333,119. Fuji Jyukogyo Kabushiki Kaisha, d.b.a. Fuji Heavy Industries, Ltd., Shinjuku-ku, Tokyo-to, Japan. Filed July 22, 1969.

SUBARU ff-1

"Subaru" is a Japanese word meaning "pleiades" in English. Owner of U.S. Reg. No. 689,801.
For Automobiles and Parts Therefor (Int. Cl. 12).
First use Feb. 28, 1969; in commerce Feb. 28, 1969.

SN 334,359. Monsanto Company, St. Louis, Mo. Filed Aug. 4, 1969.

VYKAN

For Rigid Plastic Parts and Components—Namely, Fan Blades and Sheaves, Body Panels, Dashboards and Grillwork Therefor, Heater and Air Conditioner Grillwork, and Vibration Insulator Sleeves for Bolts, All Sold for Use in Automobiles, Trucks, and Tractors (Int. Cl. 12).
First use June 3, 1968.

SN 334,573. Fireball Trailer Mfg., Inc., San Fernando, Calif. Filed Aug. 6, 1969.

CASTAWAY

For House Trailers (Int. Cl. 12).
First use Apr. 9, 1969.

SN 334,822. Eliminator Tire & Rubber Co., Inc., Thompsonville, Conn. Filed Aug. 8, 1969.

PROWLER

Owner of Reg. No. 833,340.
For Automobile Rims and Wheels (Int. Cl. 12).
First use Nov. 1, 1968.

SN 342,387. Aluminum Goods Limited, Toronto, Ontario, Canada. Filed Nov. 3, 1969.



Owner of Canadian Reg. No. 162,367, dated Apr. 25, 1969.
For Boats (Int. Cl. 12).

SN 342,718. Avco Corporation, Tulsa, Okla. Filed Nov. 5, 1969.

UNISHELL

For Motor Homes, Mobile Homes, and Travel Trailers (Int. Cl. 12).
First use Aug. 18, 1969.

SN 350,849. American Photocopy Equipment Company, Evanston, Ill. Filed Feb. 9, 1970.

Cherokee

For Boats (Int. Cl. 12).
First use July 12, 1968.

SN 350,850. American Photocopy Equipment Company, Evanston, Ill. Filed Feb. 9, 1970.

Comanche

For Boats (Int. Cl. 12).
First use June 24, 1966.

SN 350,851. American Photocopy Equipment Company, Evanston, Ill. Filed Feb. 9, 1970.

Inca

For Boats (Int. Cl. 12).
First use June 28, 1967.

SN 350,852. American Photocopy Equipment Company, Evanston, Ill. Filed Feb. 9, 1970.

Navajo

For Boats (Int. Cl. 12).
First use Oct. 30, 1963.

SN 350,857. Aquasonics Incorporated, Rochester, N.Y. Filed Feb. 9, 1970.

AQUA-JET

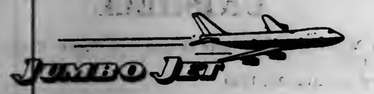
For Boats (Int. Cl. 12).
First use Jan. 11, 1970.

SN 351,758. International Harvester Company, Chicago, Ill. Filed Feb. 19, 1970.

UNISTAR

For Motor Trucks (Int. Cl. 12).
First use Dec. 19, 1969.

SN 351,870. D. P. Harris Hardware & Manufacturing Co., New York, N.Y. Filed Feb. 20, 1970.



For Bicycles (Int. Cl. 12).
First use Jan. 29, 1970.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 295,076. Security Electric Corporation, Pontiac, Mich. Filed Apr. 17, 1968.

TERM-I-LITE

For Monitors Which Provide an Indication of the Electrical Condition of Switches, Relays, Conductors, and the Like (Int. Cl. 9).
First use July 18, 1966.

SN 303,360. Superior Continental Corporation, Hickory, N.C. Filed July 22, 1968.

ONE-OVER-ONE

For Telephone Carrier Apparatus Comprising Carrier Apparatus—Namely, Central Office and Subscriber Carrier Units for Telephone System Adapted for Connection to Existing Cable Pair, Both at the Central Office and Subscriber's Location, Creating an Additional Talking Circuit Over the Existing Cable Pair to Which an Additional Telephone Set May Be Supplied at a Subscriber's Terminal, for Telephone Trunk Service (EAS and Toll) (Int. Cl. 9).
First use July 12, 1968.

SN 309,163. Leon Davidson, d.b.a. Metroprocessing Associates, White Plains, N.Y. Filed Oct. 8, 1968.

FONE-TONE

For Portable Self-Contained Devices Consisting of a Twelve-Button Pushbutton Telephone Dial Unit Containing a Small Electric Transistor Battery, Connected by a Cable and Plug to a Sound-Generating Unit Similar to a Telephone Receiver Earpiece, Where the Dial Unit Generates the Same Multi-Frequency Tones Used in Telephone Tone-Dialing Systems, and the Sound Unit Feeds These Sounds Into the Mouthpiece of an Ordinary Telephone Handset, Such Acoustic Coupling Transmitting the Tone-Pairs Telephonically to a Distant Telephone To Actuate a Data-Processing Device There, Thus Transmitting Intelligence From the Location at Which the Portable Device Is Used (Int. Cl. 9).
First use Oct. 4, 1968.

SN 319,214. Unitrode Corporation, Watertown, Mass. Filed Feb. 14, 1969.

MAGNUM

For Single Phase and Three-Phase Electrical Rectifier Bridges, Voltage Doublers, and Electrical Rectifier Assemblies (Int. Cl. 9).
First use Jan. 30, 1969.

SN 319,851. FRL, Incorporated, Palo Alto, Calif. Filed Feb. 24, 1969.

METALERT

For Electronic Metal Detector for Use in Locating Metal Beneath Such Things as Soil, Rock, Cement, Fresh or Salt Water, Snow or Ice (Int. Cl. 9).
First use Oct. 3, 1968.

SN 325,796. Valtec Corporation, Tustin, Calif. Filed Apr. 28, 1969.



For Recorders, Position Controllers, and Audio/Visual Controlled Displays (Int. Cl. 9).
First use on or about Dec. 5, 1968.

SN 330,376. Engelhard Minerals & Chemicals Corporation, Newark, N.J. Filed June 18, 1969.

FOUL-PAC

For Electrode System for the Prevention of Marine Fouling (Int. Cl. 9).
First use May 22, 1969.

SN 330,788. Tek-Wave, Inc., Princeton, N.J. Filed June 23, 1969.



For Microwave Components—Namely, Chip Launchers, Circuit Frames and Components, Microstrip Transitions, Ceramic Substrate Circuits, and Microwave Printed Circuits (Int. Cl. 9).
First use August 1967.

SN 331,669. Connectron Incorporated, South Amboy, N.J. Filed July 2, 1969.



For Modular Terminal Block Assemblies and Component Parts Thereof (Int. Cl. 9).
First use October 1964.

SN 334,728. Leclanché, S.A., Yverdon, Switzerland. Filed Aug. 7, 1969.



Owner of Swiss Reg. No. 219,448.
For Storage Batteries, Dry-Cell Batteries and Capacitors (Int. Cl. 9).
First use in or about January 1909; in commerce in or about January 1958.

SN 336,960. Union Oil Company of California, Los Angeles, Calif. Filed Sept. 3, 1969.



For Storage Batteries (Int. Cl. 9).
First use June 16, 1969.

SN 338,149. Great Lakes Carbon Corporation, New York, N.Y. Filed Sept. 17, 1969.

MONOTRODE

For Preassembled Carbon Electrode and Connector (Int. Cl. 9).
First use Sept. 2, 1969.

SN 338,162. Mulberry Metal Products, Inc., Union, N.J. Filed Sept. 17, 1969.

REGAL LINE

For Wall Switch and Outlet Plates (Int. Cl. 9).
First use July 1955.

SN 340,510. Chamberlain Manufacturing Corporation, d.b.a. Perma-Power Company, Chicago, Ill. Filed Oct. 13, 1969.



For Public Address Systems and Parts Thereof, Background Music and Paging Systems and Parts Thereof, Electronic Lecterns and Parts Thereof, Portable Directional Horn Speaker Systems and Parts Thereof, Portable Message Announcers and Amplifiers (Int. Cl. 9).
First use October 1968.

SN 342,415. Clevite Corporation, Cleveland, Ohio. Filed Nov. 3, 1969.

TUFFY

For Flashlights (Int. Cl. 11).
First use January 1963.

SN 343,760. H. H. Scott, Inc., Maynard, Mass. Filed Nov. 17, 1969.

QUADRANT

For Audio and Stereo Amplifiers and Loudspeakers Therefor (Int. Cl. 9).
First use on or about May 21, 1969.

SN 345,286. American District Telegraph Company, New York, N.Y. Filed Dec. 4, 1969.

Vibralarm

For Vibration Contacts for Use in Burglar Alarm Systems (Int. Cl. 9).
First use on or about Nov. 3, 1969.

SN 346,985. Uniroyal, Inc., New York, N.Y. Filed Dec. 22, 1969.

POWER-LIFE

For Batteries (Int. Cl. 9).
First use at least as early as 1967.

SN 347,085. James F. Divietro, d.b.a. Colimer Brothers, Elkhart, Ind. Filed Dec. 24, 1969.

CALL-MOR

For Telephone Voice Amplifier (Int. Cl. 9).
First use December 1969.

SN 347,125. Superior Continental Corporation, Hickory, N.C. Filed Dec. 24, 1969.

COPPERDROP

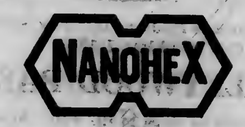
Owner of Reg. Nos. 856,933 and 857,674.
For Shielded Communications Cable (Int. Cl. 9).
First use Nov. 1, 1969.

SN 349,593. Continental Telephone Corporation, St. Louis, Mo. Filed Jan. 26, 1970.



Owner of Reg. Nos. 881,884 and 882,758.
For Communication Station Apparatus—Namely, Load Coils, Connector Terminals, Connector Plugs and Jacks, Power Supplies, Build-Out Networks, Impedance Compensators, Buzzers, Terminal Boxes, Inductors, Load Coil Cases, Paystation Back Boards, Telephone Key Sets, Wire and Cable Cabinets, and Terminals (Int. Cl. 9).
First use Jan. 15, 1970.

SN 351,593. Sealectro Corporation, Mamaroneck, N.Y. Filed Feb. 17, 1970.



For Straight and Right Angle Connectors, Coaxial Cable Connectors, Stand-Off and Feed-Through Terminals, Plugs, Test Point Jacks, and Printed Circuit Jacks (Int. Cl. 9).
First use Oct. 29, 1969.

SN 351,875. Preformed Line Products Company, Cleveland, Ohio. Filed Feb. 20, 1970.

ARMOR-GRIP

Owner of Reg. No. 744,321.
For Spacing and/or Damping Assemblies for Electrical Cables and Strands (Int. Cl. 9).
First use at least as early as Oct. 20, 1969.

SN 352,022. GAF Corporation, New York, N.Y. Filed Feb. 24, 1970.

GAF

Owner of Reg. Nos. 744,454 and 880,438.
For Electrostatic Copying Machines, and Parts and Accessories for Use in Connection Therewith (Int. Cl. 16).
First use in or about April 1967.

Class 22—Games, Toys, and Sporting Goods

SN 312,989. Lou J. Eppinger Mfg. Co., Dearborn, Mich. Filed Nov. 25, 1968.

Huskie Devle

Owner of Reg. No. 805,921.
For Artificial Fish Lures (Int. Cl. 28).
First use on or about May 1, 1928.

SN 313,564. Falls Resources Corporation, Jamaica, N.Y. Filed Dec. 4, 1968.

FIREBALL

For Golf Balls and Tennis Rackets (Int. Cl. 28).
First use Mar. 2, 1966.

SN 314,638. Ralph E. Ward, d.b.a. R. E. Ward & Sons Mfg. Co., Wichita, Kans. Filed Dec. 16, 1968.

SWING BANG

For Equipment (or Apparatus), Sold as a Unit for Playing a Table Tennis Type Game (Int. Cl. 28).
First use on or about Oct. 24, 1968.

SN 316,588. Complex (Japan), Ltd., Fukiai-ku, Kobe, Japan, assignee of Arrow International, Ltd., d.b.a. Complex, Japan, Fukiai-ku, Kobe, Japan. Filed Jan. 15, 1969.

MERIT

For Fishing Reels (Int. Cl. 28).
First use Oct. 29, 1967; in commerce Oct. 29, 1967.

SN 321,075. Pittman Products, Inc., d.b.a. Sportsways, Huntington Park, Calif. Filed Mar. 7, 1969.

HOLLYWOOD BASES

Applicant makes no claim to the word "Bases" apart from the mark.
For Baseball Bases, Home Plates and Pitchers' Slabs; and Parts Thereof (Int. Cl. 28).
First use 1938.

SN 321,076. Pittman Products, Inc., d.b.a. Sportsways, Huntington Park, Calif. Filed Mar. 7, 1969.

SPORTSWAYS

Owner of Reg. No. 798,776.
For Baseball Bases, Home Plates, Pitchers' Slabs and Parts Thereof; Back Packs for Underwater Diving Tanks, Sea Spears and Spearheads (Int. Cl. 28).
First use 1958.

SN 322,004. J. Swedlin, Inc., d.b.a. Gund Manufacturing Co., Brooklyn, N.Y. Filed Mar. 17, 1969.

POPPIN' PUPPETS

No claim of exclusive right is made to use of the word "Puppets" by applicant.
For Stuffed Toys (Int. Cl. 28).
First use Sept. 13, 1968.

SN 325,221. Raybestos-Manhattan, Inc., Passaic, N.J. Filed Apr. 22, 1969.

WINE 'N' ROSES

For Bowling Balls (Int. Cl. 28).
First use Aug. 16, 1968.

SN 326,135. Sensitivity Games, Inc., Boston, Mass. Filed May 1, 1969.

FEELING

For Game Equipment Comprising Affect Cards To Be Used To Express a Human Emotion (Int. Cl. 28).
First use Apr. 23, 1969.

SN 326,489. Abercrombie & Fitch Co., New York, N.Y. Filed May 6, 1969.

PASSPORT ROD

No claim is made to the word "Rod" apart from the mark as a whole.
For Fishing Rods (Int. Cl. 28).
First use September 1968.

SN 326,663. MacLevy Enterprises, Inc., New York, N.Y. Filed May 7, 1969.

FIGURAMA

For Manually Operated Exercising Apparatus Incorporating a Non-Electric Massage Feature (Int. Cl. 28).
First use on or about Mar. 15, 1962.

SN 327,389. Kusan, Inc., Nashville, Tenn. Filed May 15, 1969.

MAX TRAX

Applicant disclaims the terminal word element "Trax" apart from the mark as a whole.
For Toy Race Track Construction Sets (Int. Cl. 28).
First use Mar. 13, 1969.

SN 327,626. Ben Hogan Company, Fort Worth, Tex. Filed May 19, 1969.

APEX

For Golf Clubs and Golf Club Shafts (Int. Cl. 28).
First use Aug. 26, 1968.

SN 330,060. Mattel, Inc., Hawthorne, Calif. Filed June 16, 1969.

SCOOTABOUT

For Scooter for a Doll (Int. Cl. 28).
First use Mar. 10, 1969.

SN 330,191. Polistil di Agrati Eugenio & Sala Ennio S.n.c., Milan, Italy. Filed June 16, 1969.

POLISTIL

Priority claimed under Sec. 44(d) on Italian application filed Dec. 30, 1968; Reg. No. 237,286, dated May 8, 1969.
For Toys of Any Kind—Namely, Miniature Micro-Models; Toys From Sheet Metal; Plastic Toys of Any Kind; Battery-Operated Electric and Electronic Toys (Int. Cl. 28).

SN 330,343. American Molded Products, Ltd., Sausalito, Calif. Filed June 18, 1969.

FLAPS

For Equipment (or Apparatus), Sold as a Unit for Playing a Pitching Game (Int. Cl. 28).
First use May 5, 1969.

SN 331,124. Mattel, Inc., Hawthorne, Calif. Filed June 27, 1969.

TWIDDLER

Owner of Reg. No. 832,461.
For Puppets and Accessories Therefor (Int. Cl. 28).
First use Dec. 3, 1968.

SN 331,271. Bar Zim Toy Mfg. Co., Inc., Jersey City, N.J. Filed June 30, 1969.

COPY-SCOPE

For Toy Tracing Set—Namely, Drawing Paper, Coloring Pencils, Pictures, and Special Mirror With Stand (Int. Cl. 28).
First use Mar. 11, 1969.

SN 336,470. Play Products International, Inc., Olive, Calif. Filed Aug. 27, 1969.

SPACE-COPTER

For Toy Helicopter (Int. Cl. 28).
First use May 1, 1969.

SN 336,471. Robard Company, Wellesley Hills, Mass. Filed Aug. 27, 1969.

TICKER TRADING

For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).
First use June 9, 1969.

SN 336,482. True Temper Corporation, Cleveland, Ohio. Filed Aug. 27, 1969.

TG TEMPERGLAS

For Fishing Rods, Golf Club Shafts and Golf Clubs (Int. Cl. 28).
First use June 11, 1969.

SN 337,178. James F. Lamont, Avon Conn. Filed Sept. 5, 1969.

1 PUTT

For Golf Ball Markers (Int. Cl. 28).
First use on or about Aug. 11, 1969.

SN 337,229. Mattel, Inc., Hawthorne, Calif. Filed Sept. 8, 1969.

INVADER

For Toy Miniature Automobiles (Int. Cl. 28).
First use Aug. 8, 1969.

SN 337,447. Ideal Fishing Float Company, Inc., Richmond, Va. Filed Sept. 9, 1969.

HI-LITE

For Fishing Floats (Int. Cl. 28).
First use Aug. 2, 1969.

SN 337,937. House of Paradise, Inc., New York, N.Y. Filed Sept. 15, 1969.

WORRY WART

For Dolls (Int. Cl. 28).
First use May 21, 1969.

SN 338,320. Mattel, Inc., Hawthorne, Calif. Filed Sept. 19, 1969.

SWINGY

Owner of Reg. No. 839,502.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Mar. 5, 1969.

SN 345,560. Mattel, Inc., Hawthorne, Calif. Filed Dec. 8, 1969.

THOMAS

For Toy Plush Animal (Int. Cl. 28).
First use Oct. 30, 1969.

SN 346,569. Mattel, Inc., Hawthorne, Calif. Filed Dec. 18, 1969.

JAMIE

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 24, 1969.

SN 347,546. Bancroft Racket Company, Pawtucket, R.I. Filed Jan. 2, 1970.

COMPETITION

For Tennis and Squash Rackets (Int. Cl. 28).
First use Aug. 5, 1968.

SN 347,547. Bancroft Racket Company, Pawtucket, R.I. Filed Jan. 2, 1970.

FRS

For Tennis and Squash Rackets (Int. Cl. 28).
First use Feb. 1, 1968.

SN 348,776. Hillstrom Enterprises, Inc., Chicago, Ill. Filed Jan. 16, 1970.

RED GARTER

For Trick Hat Novelties (Int. Cl. 28).
First use May 1, 1968.

SN 352,566. Reuben B. Klamer, d.b.a. Reuben Klamer & Associates, Beverly Hills, Calif. Filed Feb. 27, 1970.

PiP SqueeKs

For Dolls (Int. Cl. 28).
First use Oct. 27, 1969.

SN 352,584. Victor Sports, Inc., Chicago, Ill. Filed Feb. 27, 1970.

CLASIDEN

For Tennis Rackets (Int. Cl. 28).
First use Feb. 18, 1970.

SN 352,912. Parker Brothers, Inc., Salem, Mass. Filed Mar. 3, 1970.

WITCH PITCH

For Equipment for Playing a Chip Game (Int. Cl. 28).
First use Feb. 23, 1970.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 305,472. Mobility Systems, Inc., Santa Clara, Calif. Filed Aug. 19, 1968.

MOBILITY

For Computer Controlled Materials Handling System for Processing and Physically Moving Goods in a Warehouse, Including Computer Controlled Vehicles Therefor and Parts Thereof (Int. Cl. 9).
First use at least as early as July 1968.

SN 307,254. Vasco Metals Corp., Latrobe, Pa. Filed Sept. 12, 1968.

FIGHTS FRICTION TO THE FINISH

For Metal Articles—Namely, Liners for Cylinders of Internal Combustion Engines (Int. Cl. 7).
First use March 1954.

SN 315,486. Jose Monserrat Pou, Mataro, Barcelona, Spain. Filed Dec. 31, 1968.

Filarmónica Novodur
PARA PROFESIONALES

The words "Para Profesionales" are disclaimed apart from the mark as shown. Owner of Spanish Reg. No. 437,757, dated Nov. 6, 1964.
For Razors; Non-Electrical Razor Blades and Shavers; Barbers' Clippers; Shears and Clippers for Fleecing Animals; Folding Knives; Poniards; Sabres; Rapiers and Scissors; and Stainless Steel Forks, Knives and Spoons (Int. Cl. 8).

SN 322,236. Rodney Hunt Company, Orange, Mass. Filed Mar. 20, 1969.

SLACK LOOP

No registration rights are claimed herein for the word "Loop" apart from the mark as shown; but applicant waives none of its common law rights in said mark or any feature thereof.
For Textile Machinery—Namely, Machinery for Washing Knit Goods (Int. Cl. 7).
First use Nov. 28, 1925.

SN 322,437. Hawkins Mfg., Inc., Pierce, Colo., assignee of Roy I. Hawkins, Pierce, Colo. Filed Mar. 21, 1969.

HAWK

For Replaceable Chisel Blade for Earthworking Machines (Int. Cl. 7).
First use Jan. 30, 1969.

SN 323,872. The Weldon Tool Company, Cleveland, Ohio. Filed Apr. 7, 1969.

ULTRA-KUT

For Machine Tool Type Cutting Tools, Including End Mills (Int. Cl. 7).
First use on or about Mar. 14, 1969.

SN 323,961. Otis Engineering Corporation, Dallas, Tex. Filed Apr. 8, 1969.

PERMA-LACH

For Oil and Gas Well Production Tools—Namely, Packers and Parts Therefor (Int. Cl. 7).
First use Apr. 26, 1968.

SN 324,286. Flexpipe Company, Dallas, Tex. Filed Apr. 11, 1969.

FLEXPIPE

For Drill Stem for Use in Drilling Wells (Int. Cl. 7).
First use Mar. 4, 1969.

SN 324,493. Reese Products, Inc., Elkhart, Ind. Filed Apr. 14, 1969.

HYDRA JAC

The term "Jac" is disclaimed apart from the mark as shown.
For Vehicle Elevating and Stabilizing Device, Including a Plurality of Hydraulic Lifting Jacks Pivotally Mounted on a Vehicle, Remore Control Mechanism for Controlling the Position of the Jacks Between Operative and Retracted Positions, and Remote Control Means for Extending and Retracting the Jacks When in Operative Position (Int. Cl. 7).
First use Jan. 6, 1968.

SN 324,789. Vincent Anderson, d.b.a. Beacon Engineering Company of Minnesota, Moorhead, Minn. Filed Apr. 17, 1969.

BEACON STAR

For Lapidary Equipment—Namely, Grinders, Cutters, and Polishers (Int. Cl. 7).
First use July 1964.

SN 324,851. Toyoda Koki Kabushiki Kaisha, d.b.a. Toyoda Machine Works, Ltd., Kariya, Aichi Prefecture, Japan. Filed Apr. 17, 1969.

STAT

For Bearings Sold as Component Parts of Grinding Machines and Lathes (Int. Cl. 7).
First use in October 1966; in commerce in October 1966.

SN 325,360. Horton Manufacturing Co., Inc., Minneapolis, Minn. Filed Apr. 23, 1969.

HORTON HYDRO-CHAMP

For Disc and Tooth Clutches Used in Industrial Machinery (Int. Cl. 7).
First use Apr. 1, 1969.

SN 327,247. Excellon Industries, Torrance, Calif. Filed May 14, 1969.

QUAD-DRILL

For Circuit Board Drilling Machines (Int. Cl. 7).
First use in or about April 1961.

SN 334,513. Blount Marine Corporation, Warren, R.I. Filed Aug. 6, 1969.

POWR POD

Applicant disclaims exclusive rights to the word "Pod" apart from the mark as shown.
For Marine Propulsion Unit (Int. Cl. 7).
First use at least as early as Apr. 1, 1969.

SN 334,924. E. D. Green Corp., Forest Park, Ga. Filed Aug. 11, 1969.

edg ed green corp

For Air Compressors, Vacuum Pumps, and Components Thereof (Int. Cl. 7).
First use at least as early as September 1968.

SN 338,323. The Producto Machine Company, Bridgeport, Conn. Filed Sept. 19, 1969.

PRODUCTO

For Die Sets, Milling Machines, Machine Tool Room Equipment and Accessories—Namely, Precision Toolroom Vises, Heavy Duty Machine Vises, Self-Centering Shaft Vises and Hand Tapping Machine; Self-Contained Punch and Notching Units, Hydraulic Hole Punching Machines, Perforating Punches, and Die Buttons (Int. Cl. 7).
First use 1938.

SN 342,962. Drafto Corporation, Cochranton, Pa. Filed Nov. 7, 1969.

ARM-LOK

For Safety Latches for Crane Hooks and the Like (Int. Cl. 7).
First use Apr. 23, 1969.

SN 343,604. TOA Chain Block Manufacturing Company, Limited, Jotoku, Osaka, Japan. Filed Nov. 14, 1969.

Vital

For Chain Hoists (Int. Cl. 7).
First use May 18, 1966; in commerce Oct. 20, 1967.

SN 344,366. Garlock Inc., Palmyra, N.Y. Filed Nov. 24, 1969.

TRI-STATE

For Valve Discs, Valve Seats, Valve Plates and Strips and Valve Springs, All for Use in Compressors (Int. Cl. 7).
First use on or about Apr. 1, 1954.

SN 344,367. Garlock Inc., Palmyra, N.Y. Filed Nov. 24, 1969.

VOSS

For Compressor Valves and Compressor Valve Springs (Int. Cl. 7).
First use February 1939.

SN 344,461. Tennant Company, Minneapolis, Minn. Filed Nov. 24, 1969.

TENNANT

Owner of Reg. Nos. 507,709, 865,572, and others.
For Electric Motor and Internal Combustion Engine Operated Sweeping, Sanding, Scrubbing, Scouring, Burnishing, Abrading, Polishing and Cleaning Machines and Parts Thereof and Attachments Therefor; and Hand Tools—Namely, Scrapers for Removing Rust, Paint, and Other Coverings or Matter From Surfaces Requiring Such Treatment, Lambswool Applicators for Sealing Compounds, and Floor Scrapers (Int. Cls. 7 and 8).
First use March 1965.

SN 344,484. White Machine Co., Kenilworth, N.J. Filed Nov. 24, 1969.

DISPAT-U-VEYOR

Owner of Reg. Nos. 646,771, 812,110, and others.
For Garment Conveyors of the Automatic Dispatcher and Drop-Off Type (Int. Cl. 7).
First use Apr. 21, 1969.

SN 344,703. Dresser Industries, Inc., Dallas, Tex. Filed Nov. 26, 1969.

MAXAIR

For Air Compressors and Blowers of the Rotary Positive Type, and Parts for the Foregoing (Int. Cl. 7).
First use Dec. 18, 1968.

SN 344,902. T.G. & Y. Stores Company, Oklahoma City, Okla. Filed Nov. 28, 1969.

GOLDEN T

For Razor Blades (Int. Cl. 8).
First use Feb. 17, 1969.

SN 344,981. Hermes Machine Tool Co. Inc., Woodside, N.Y. Filed Dec. 1, 1969.

TIMEMASTER

For Lathes (Int. Cl. 7).
First use Apr. 30, 1969.

SN 345,689. Superior Spray Corporation, West Chester, Pa. Filed Dec. 8, 1969.

EQUALIZOR

For Paint Sprayers (Int. Cl. 7).
First use Apr. 24, 1969.

SN 345,829. The Joyce-Cridland Company, Dayton, Ohio. Filed Dec. 10, 1969.

SWINGER

For Vehicle Lifts (Int. Cl. 7).
First use Sept. 25, 1969.

SN 345,969. The Motch & Merryweather Machinery Company, Cleveland, Ohio. Filed Dec. 11, 1969.

TURNEX

For Lathe (Int. Cl. 7.)
First use on or about Nov. 25, 1969.

SN 345,975. Paramount Textile Machinery Company, Chicago, Ill. Filed Dec. 11, 1969.

FLOATING FUN

For Machines for Vending and Inflating Balloons (Int. Cl. 9).
First use Aug. 20, 1968.

SN 350,820. International Telephone and Telegraph Corporation, New York, N.Y. Filed Feb. 9, 1970.

PNEUMOTIVE

For Air Compressors and Vacuum Pumps (Int. Cl. 7).
First use Dec. 10, 1969.

SN 352,045. The Union Fork and Hoe Company, Columbus, Ohio. Filed Feb. 24, 1970.

STABLE BOY

For Hand-Operated Manure Forks (Int. Cl. 8).
First use Jan. 12, 1970.

SN 352,573. W. S. Rockwell Company, Fairfield, Conn. Filed Feb. 27, 1970.

PLASTIMATIC

For Machines for Coating Articles With Plastic (Int. Cl. 7).
First use Feb. 7, 1969.

Class 24 — Laundry Appliances and Machines

SN 325,850. The Edro Corporation, East Berlin, Conn. Filed Apr. 29, 1969.

DYNEX 50

For Commercial Washing Machines (Int. Cl. 7).
First use in or about July 1968.

SN 334,686. B.K.G., Inc., Los Angeles, Calif. Filed Aug. 7, 1969.

MR. PRESS

The word "Press" is disclaimed apart from the mark as shown.
For Clothes Pressers (Int. Cl. 7).
First use Apr. 15, 1969.

Class 26 — Measuring and Scientific Appliances

SN 312,239. Technical Training International, Inc., Walnut Creek, Calif. Filed Nov. 14, 1968.

LEARNING LABORATORY

For Integrated Electronic Workbench Used for Instructional Purposes and Comprised of Oscilloscopes, Vacuum Tube Voltmeters, Oscillators, Power Panel, Vector Board, Pliers, Soldering Iron, Wire Strippers, Together With Assorted Resistors, Capacitors, Tubes, Transistors, and Accompanying Manuals for Explaining the Operation and Use of the Foregoing (Int. Cl. 9).
First use on or about Oct. 25, 1968.

SN 317,678. Owens-Illinois, Inc., Toledo, Ohio. Filed Jan. 28, 1969.

ED-4

For Glass Laser Rods (Int. Cl. 9).
First use Dec. 10, 1968.

SN 339,594. The Photo-Marker Corporation, New York, N.Y. Filed Oct. 2, 1969.

NAMOC

For Coated Light Sensitized Paper (Int. Cl. 1).
First use Jan. 6, 1968.

SN 343,975. Holobeam, Inc., Paramus, N.J. Filed Nov. 19, 1969.

HOLOBEAM

Owner of Reg. No. 878,622.
For Lasers (Int. Cl. 9).
First use on or before Dec. 1, 1968.

SN 345,602. Control Products, Inc., East Hanover, N.J. Filed Dec. 8, 1969.

PLUG-STAT

For Thermal Electrical Switches (Int. Cl. 9).
First use June 11, 1947.

SN 345,857. R.A. Precision, Inc., Hackensack, N.J. Filed Dec. 10, 1969.

IMPERIUM



For Measuring Instruments—Namely, Gage Blocks (Int. Cl. 9).
First use Nov. 14, 1969.

Class 27 — Horological Instruments

SN 285,828. Feurer Bros., Inc., North White Plains, N.Y. Filed Nov. 29, 1967.

"OVAL"

For Gaskets for Watch Crowns (Int. Cl. 14).
First use on or about Dec. 13, 1966.

SN 321,407. David G. Steven, Inc., New York, N.Y. Filed Mar. 11, 1969.

DAVID G STEVEN

"David G. Steven" is fanciful.
For Watches and Watch Parts (Int. Cl. 14).
First use July 10, 1968.

SN 324,734. Montres Sicura S.A., Grenchen, Switzerland. Filed Apr. 16, 1969.

SMOKE WATCHER

Priority claimed under Sec. 44(d) on Swiss Reg. No. 235,571, dated Nov. 26, 1968.
For Watches, Clocks, and Parts Thereof (Int. Cl. 14).

SN 343,555. Gruen Industries, Inc., New York, N.Y. Filed Nov. 14, 1969.

STATESMAN

For Watches, Watch Cases, and Watch Movements (Int. Cl. 14).
First use February 1946.

Class 28 — Jewelry and Precious-Metal Ware

SN 323,145. The Stieff Company, Baltimore, Md. Filed Mar. 28, 1969.

BETSY PATTERSON

"Betsy Patterson" is the name of a deceased individual.
For Hollow Ware and Flatware, All Made of Sterling Silver or Solid Gold (Int. Cls. 8 and 14).
First use Mar. 26, 1932.

SN 342,082. Textron Inc., Providence, R.I. Filed Oct. 29, 1969.

MACH 1

For Bracelets, Including Watch Bracelets (Int. Cl. 14).
First use Oct. 4, 1969.

Class 31 — Filters and Refrigerators

SN 292,335. R. P. Adams Company, Inc., Buffalo, N.Y. Filed Mar. 4, 1968.

MICRO-PORE

For Liquid Filtering Units for Industrial Use (Int. Cl. 11).
First use Jan. 4, 1968.

SN 314,741. Union Tank Car Company, Chicago, Ill. Filed Dec. 17, 1968.

T3

For Liquid Filtration Type Pollution Control Equipment (Int. Cl. 11).
First use November 1968.

SN 330,019. T. G. & Y. Stores Company, Oklahoma City, Okla. Filed June 13, 1969.

GOLDEN T

Owner of Reg. Nos. 849,417, 876,305, and others.
For Oil Filters (Int. Cl. 11).
First use Dec. 13, 1968.

SN 330,857. Streater Industries, Inc., Albert Lea, Minn. Filed June 24, 1969.

PROFITGARD

For Polyurethane Foam Used as a Component of Refrigerated Display Cases (Int. Cl. 11).
First use June 8, 1969.

SN 334,925. E. D. Green Corp., Forest Park, Ga. Filed Aug. 11, 1969.

edg ed green corp

For Compressor In-Take Filters and Components Thereof (Int. Cl. 11).
First use at least as early as September 1968.

SN 342,630. Frick Company, Waynesboro, Pa. Filed Nov. 4, 1969.

KONTAK

For Commercial Freezers and Parts Thereof (Int. Cl. 11).
First use May 8, 1969.

SN 344,228. Display Fixtures, Inc., St. Paul, Minn. Filed Nov. 21, 1969.

Thermo-Glide

For Refrigerator Display Doors (Int. Cl. 11).
First use Sept. 17, 1962.

Class 32 — Furniture and Upholstery

SN 293,411. Sperry Rand Corporation, New York, N.Y. Filed Mar. 15, 1968.

BESTLINE

For Filing Cabinets and Parts Thereof (Int. Cl. 20).
First use Mar. 30, 1946.

SN 320,716. Gladwin Industries, Inc., Atlanta, Ga. Filed Mar. 4, 1969.

RIGID-X

For Carrels for Study and Other Uses, and Components Thereof (Int. Cl. 20).
First use on or about Oct. 17, 1968.

SN 322,870. Frank Kirkpatrick, Scottsdale, Ariz. Filed Mar. 26, 1969.

FraMex

For Picture Frames (Int. Cl. 20).
First use Apr. 6, 1965.

SN 336,900. The C. R. Gibson Company, Norwalk, Conn. Filed Sept. 3, 1969.

MAGNAFRAME

For Display Frames for Pictures, Momentos, or the Like (Int. Cl. 20).
First use on or about June 16, 1969.

Class 33 — Glassware

SN 328,041. Dema Glass Limited, Surrey, England. Filed May 22, 1969.

DEMA

For Tumblers, Stemmed Drinking Glasses, Mugs, Plates, Vases, Pitchers, and Bowls (Int. Cl. 21).
First use May 1946; in commerce June 1, 1962.

SN 335,042. Lancaster Colony Corporation, Columbus, Ohio. Filed Aug. 11, 1969.

The Everything Glass

Applicant claims exclusive right to use of the word "Glass" as part of its mark, but not otherwise.
For Drinking Glasses (Int. Cl. 21).
First use July 25, 1969.

SN 342,055. Libbey-Owens-Ford Company, Toledo, Ohio. Filed Oct. 29, 1969.

PARALLEL-O-FLOAT

Owner of Reg. Nos. 615,771, 758,440, and others.
For Float Glass (Int. Cl. 21).
First use Sept. 4, 1969.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 311,621. Selby, Battersby & Co., Philadelphia, Pa. Filed Nov. 7, 1968.

MICROVENT

For Venting Outlet for Installation on a Building Roof and Roof Deck Surfaces To Vent Vapors From the Building (Int. Cl. 11).
First use Oct. 21, 1968.

SN 315,068. FMC Corporation, San Jose, Calif. Filed Dec. 23, 1968.

ORBITORT

For High Speed Cookers for Products in Sealed Containers (Int. Cl. 11).
First use June 14, 1968.

SN 317,647. Texas Refrigeration and Engineering Company, Dallas, Tex. Filed Jan. 27, 1969.

TRECO

For Air Conditioning Equipment—Namely, Condensers, Compressors, and Controls, and Latent Storage Systems (Int. Cl. 11).
First use July 1, 1945.

SN 324,194. Phil Herbert, d.b.a. Flint Stick, Lakewood, Calif. Filed Apr. 10, 1969.

SCRAPE-A-FIRE

For Flint and Steel Fire Starter Kit (Int. Cl. 11).
First use Feb. 13, 1969.

SN 327,672. Plastics, Inc., St. Paul, Minn. Filed May 19, 1969.

DIAMOND GLITTER

Exclusive use of the word "Glitter" is disclaimed apart from the mark.
For Outdoor Light Globes (Int. Cl. 11).
First use Mar. 20, 1969.

SN 328,598. J. A. Sexauer Mfg. Co., Inc., White Plains, N.Y. Filed May 28, 1969.

SEXAUER PRODUCTS

Owner of Reg. Nos. 375,977, 861,261, and others.
For Fire Pot Repair Parts, Such as Cups, Coils, Shields, Candle Wicking, Plates, Burners, Uprights, Valves, Soldering Compound, and the Like (Int. Cls. 1 and 11).
First use During 1966; 1921 as to the mark "Sexauer."

SN 330,382. Gourmet Grills, Inc., Baltimore, Md. Filed June 18, 1969.

THE COOK·IN

For Grills (Int. Cl. 11).
First use May 8, 1969.

SN 330,620. Olson Industries Corp., Pittsburgh, Pa. Filed June 20, 1969.

OLSON INDUSTRIES CORP. OIC PITTSBURGH, PA.

The words "Pittsburgh, Pa." are disclaimed apart from the mark as shown.
For Industrial Heating Furnaces (Int. Cl. 11).
First use Apr. 1, 1969.

SN 331,400. Loren Cook Company, Berea, Ohio. Filed June 30, 1969.

CVB

For Ventilating Equipment, Particularly Centrifugal Blowers (Int. Cl. 11).
First use at least as early as January 1968.

SN 342,562. Weld Mold Company, Brighton, Mich. Filed Nov. 3, 1969.

POLYHARD

For Consumable Metallic Arc Welding Electrodes (Int. Cl. 9).
First use Oct. 13, 1969.

SN 343,483. American Coolair Corporation, Jacksonville, Fla. Filed Nov. 14, 1969.

VANAX

For Propeller Fans for Commercial and Industrial Applications (Int. Cl. 11).
First use at least as early as February 1968.

SN 343,484. American Coolair Corporation, Jacksonville, Fla. Filed Nov. 14, 1969.

COOLAIR

Owner of Reg. No. 575,065.
For Fans, Blowers, Air Circulators, Power Roof Ventilators, Exhausters, Make-Up Air Units, for Use in Residential, Commercial, and Industrial Applications (Int. Cl. 11).
First use Mar. 1, 1928.

SN 343,945. Cities Service Oil Company, Tulsa, Okla. Filed Nov. 19, 1969.

MIGHTY-MINI

For Oil Burners (Int. Cl. 11).
First use May 21, 1969.

SN 345,797. Cities Service Oil Company, Tulsa, Okla. Filed Dec. 10, 1969.



For Oil Burners (Int. Cl. 11).
First use May 21, 1969.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 338,058. O.K. Tire and Rubber Co., Inc., Littleton, Colo. Filed Sept. 16, 1969.



For Vehicle Tires and Tubes (Int. Cl. 12).
First use at least as early as June 18, 1969.

SN 345,329. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Dec. 4, 1969.

GLO-BELT

For Resilient Vehicle Tires (Int. Cl. 12).
First use Nov. 5, 1969.

SN 351,383. Oliver Tire & Rubber Company, Oakland, Calif. Filed Feb. 16, 1970.

ORCOHESION

Owner of Reg. No. 333,806.
For Tire Repair Gum (Int. Cl. 1).
First use Jan. 15, 1970.

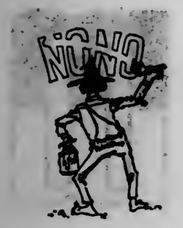
Class 36 — Musical Instruments and Supplies

SN 326,295. Emmons Guitar Company, Inc., Burlington, N.C. Filed May 5, 1969.

EMMONS

For Guitars, Guitar Foot Volume Controls, Musical Instrument Strings for Guitars, Banjos, Mandolins, Ukuleles and Violins (Int. Cl. 15).
First use Apr. 24, 1964.

SN 341,033. Andrew Lee Jackson, d.b.a. Andrew Jackson Records, Dallas, Tex. Filed Oct. 17, 1969.



The name "Pee Paw" is not the name of a living individual.
For Phonograph Records (Int. Cl. 9).
First use Sept. 1, 1969.

SN 350,131. The Shelby Singleton Corporation, Nashville, Tenn. Filed Jan. 30, 1970.

BLACK PRINCE

For Phonograph Records (Int. Cl. 9).
First use Sept. 24, 1969.

SN 350,223. Cartwheel Records, Inc., Gainsville, Ga. Filed Feb. 2, 1970.

PICK OF PEACHTREE

For Phonograph Records (Int. Cl. 9).
First use Oct. 19, 1969.

SN 351,588. Capitol Records, Inc., Los Angeles, Calif. Filed Feb. 17, 1970.



The words "Discos Torre" are Spanish, meaning "tower records," and no claim is made to the word "Discos" apart from the mark as shown. Owner of Reg. No. 678,451.
For Phonograph Records (Int. Cl. 9).
First use Jan. 5, 1970.

Class 37—Paper and Stationery

SN 299,675. National Church Supply Company, Chester, W. Va. Filed June 3, 1968.

RAPID RECORD

For Forms for Church Contribution Bookkeeping Systems (Int. Cl. 16).
First use Sept. 14, 1966.

SN 309,582. Hammermill Paper Company, Erie, Pa. Filed Oct. 14, 1968.

CARILLON

For Writing Paper, Book Paper, and Paper To Be Used for Covers of Pamphlets and Catalogues (Int. Cl. 16).
First use in or about December 1906.

SN 319,040. Fort Howard Paper Company, Greenbay, Wis. Filed Feb. 13, 1969.

FUSSY

For Disposable Paper Products—Namely, Towels, Napkins, Toilet Paper, Facial Tissue, Wipers, Table Covers, and Tray Covers (Int. Cl. 16).
First use Dec. 6, 1968.

SN 319,345. Nekoosa-Edwards Paper Company, Port Edwards, Wis. Filed Feb. 17, 1969.

CUM LAUDE

For Papers of All Types and Categories—Namely, Bond, Duplicator, Ledger, Offset, Manifold, Copying, Mimeograph, Printing, Index, Tag, Opaque, Translucent, Text, and Cover (Int. Cl. 16).
First use Dec. 27, 1968.

SN 324,606. The Progress Lithographing Co., Cincinnati, Ohio. Filed Apr. 15, 1969.

PRE-LITH

Owner of Reg. No. 611,582.
For Corrugated Paperboard Having Printed Sheets Adhesively Secured to an Outer Surface Thereof (Int. Cl. 16).
First use Aug. 11, 1958.

SN 326,131. Regency Crafts, Inc., Great Neck, N.Y. Filed May 1, 1969.

POCKET-PLANNER

For Combination Memo-Expense-Appointment System Consisting of File Box, Work Books, Summary Cards, Phone Index, and Pocket Case (Int. Cl. 16).
First use Dec. 4, 1956.

SN 327,787. Textron Inc., Pittsfield, Mass. Filed May 20, 1969.

MAGNE-BOUND

For Photograph Albums (Int. Cl. 16).
First use May 12, 1969.

SN 329,802. Folienfabrik Forchheim G.m.b.H., Forchheim, Upper Franconia, Germany. Filed June 12, 1969.

PLASTOTHEN

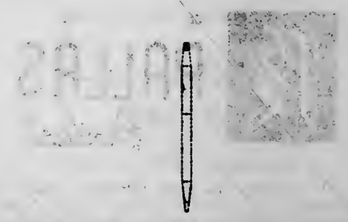
Owner of German Reg. No. 734,161, dated Feb. 24, 1960.
For Plastic Sheeting for Wrapping and Packaging Pharmaceuticals and Foodstuffs (Int. Cl. 16).

SN 335,589. Levi Strauss & Co., San Francisco, Calif. Filed Aug. 18, 1969.

LEVI'S

For Loose Leaf Binders (Int. Cl. 16).
First use July 8, 1964.

SN 344,222. A. T. Cross Company, Lincoln, R.I. Filed Nov. 21, 1969.



The drawing is lined for the color silver. The mark consists of a silver frusto-conical member at the end of a writing instrument body opposite the writing point, which member is adjacent to a portion of contrasting color. Owner of Reg. Nos. 543,934 and 827,167.
For Pens and Pencils (Int. Cl. 16).
First use Nov. 2, 1966.

Class 38—Prints and Publications

SN 312,487. N.H.A., Inc., Arlington, Tex. Filed Nov. 18, 1968.

MOTIV-AID

For Educational Aids—Namely, Transparencies Used for Overhead Projection and Known as "Projectuals," and Accompanying Narrative Material, Namely, Printed Matter in the Form of a Teacher's Manual, Guide or Text, as Well as Sound Recordings in the Form of Disks and Tapes (Int. Cl. 16).
First use July 17, 1968.

SN 313,479. Argus Press, Inc., Chicago, Ill. Filed Dec. 3, 1968.

CHOOSE LIFE!

For Series of Religious Educational Booklets (Int. Cl. 16).
First use on or about Sept. 3, 1968.

SN 316,006. Downe Publishing Inc., New York, N.Y. Filed Jan. 7, 1969.

California Home

Owner of Reg. No. 247,068.
For Monthly Magazine (Int. Cl. 16).
First use June 27, 1963.

SN 323,701. Gordon Publications, Inc., Morristown, N.J. Filed Apr. 4, 1969.

METALWORKING DIGEST

Applicant disclaims any exclusive rights in the word "Metalworking" apart from the mark as shown.
For Magazine (Int. Cl. 16).
First use at least as early as Mar. 17, 1969.

SN 338,992. Binary Systems, Inc., Orinda, Calif. Filed Sept. 26, 1969.

BINAR

For Merchandise Sales Tickets Having Data in a Special Font Printed Thereon (Int. Cl. 16).
First use Sept. 5, 1969.

SN 343,112. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Nov. 10, 1969.

MEMENTOES

For Greeting Cards (Int. Cl. 16).
First use Mar. 17, 1969.

SN 343,113. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Nov. 10, 1969.

FESTIVAL

For Greeting Cards (Int. Cl. 16).
First use Mar. 17, 1969.

SN 343,114. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Nov. 10, 1969.

SKIPPY

For Greeting Cards (Int. Cl. 16).
First use May 2, 1969.

SN 343,115. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Nov. 10, 1969.

REVERIE

For Greeting Cards (Int. Cl. 16).
First use Mar. 17, 1969.

SN 345,136. Cognitive Systems Incorporated, Beverly Hills, Calif. Filed Dec. 3, 1969.

mentorex

For Books and Booklets, More Particularly, Student Study Manual, Instructor's Manual, Test Booklets, and Test Performance Analyses (Int. Cl. 16).
First use on or about Sept. 4, 1969.

SN 346,112. The Reader's Digest Association, Inc., New Castle, N.Y. Filed Dec. 12, 1969.



For Periodical Magazines Published Monthly, Condensed Books, and Story Books for Children (Int. Cl. 16).
First use April 1950; 1922 on periodical publications.

SN 347,954. National Research Bureau, Inc., Burlington, Iowa. Filed Jan. 7, 1970.

THE AMERICAN SALESMAN

Owner of Reg. No. 669,120.
For Magazine (Int. Cl. 16).
First use at least as early as Sept. 9, 1964.

SN 348,747. American Greetings Corporation, Cleveland, Ohio. Filed Jan. 16, 1970.

SOFT TOUCH

For Greeting Cards (Int. Cl. 16).
First use at least as early as Dec. 23, 1969.

SN 350,440. The Walter Reade Organization, Inc., Oakhurst, N. J. Filed Feb. 4, 1970.



For Paperback Books (Int. Cl. 16).
First use Not later than 1963.

SN 351,368. Council for Management of Change, Inc., New York, N.Y. Filed Feb. 16, 1970.

INNOVATION AND THE MANAGEMENT OF CHANGE

For Newsletter (Int. Cl. 16).
First use March 1965.

Class 39—Clothing

SN 301,818. N.W. Buyers and Jobbers, Incosporated, Minneapolis, Minn. Filed July 2, 1968. COLLECTIVE MARK.



The drawing is lined for the colors red, blue, and gold, but no claim is made to color. The word "Clothiers" is disclaimed apart from the mark as shown.
For Shirts, Sweaters, Jackets, Coats and Trousers, and Hosiery (Int. Cl. 25).
First use Dec. 29, 1929.

SN 303,434. Pallas Manufacturing Co. Ltd., Dublin, Ireland. Filed July 23, 1968.



Applicant disclaims the word "Product" apart from the mark as shown.
For Knitted and Woven Sweaters, Shirts, Trousers, Vests, Dresses, Coats, Suits, Jumpsuits, Hats, Caps, Stockings, and Belts for Men, Women and Children (Int. Cl. 25).
First use Jan. 1, 1946; in commerce Aug. 19, 1963.

SN 325,263. Arthur R. Lewis, Inc., New York, N.Y. Filed Mar. 10, 1969.

ARLI ISLANDERS

For Swimwear Consisting of One and Two-Piece Swimsuits and Sportswear Consisting of Bikini Pants, Bra Tops, Tunic Beach Cover-Ups, Skirts, Slacks, Ponchos, and Dresses (Int. Cl. 25).
First use Oct. 25, 1968.

SN 329,099. Lilli Ann Corporation, San Francisco, Calif. Filed June 4, 1969.

LILLI ANN

"Lilli Ann" is not the name of a living individual.
For Ladies' Coats, Suits, Dresses, and Fur Trimmed Coats (Int. Cl. 25).
First use July 15, 1935.

SN 338,501. White Stag Manufacturing Co., Portland, Oreg. Filed Sept. 22, 1969.



The drawing is lined for the color gold or yellow. Owner of Reg. Nos. 369,881, 868,238, and others.
For Ski Pants (Int. Cl. 25).
First use June 3, 1963.

SN 338,503. White Stag Manufacturing Co., Portland, Oreg. Filed Sept. 22, 1969.



No claim is made to the words "Active Stretchwear" apart from the mark shown. Owner of Reg. Nos. 369,881, 868,238, and others.
For Stretch Slacks (Int. Cl. 25).
First use July 12, 1963.

SN 338,510. White Stag Manufacturing Co., Portland, Oreg. Filed Sept. 22, 1969.



No claim is made to the words "Famous Brand" apart from the mark shown. Owner of Reg. Nos. 369,881, 868,238, and others.
For Blouses (Int. Cl. 25).
First use Aug. 14, 1963.

SN 340,036. Orbit Manufacturing, Inc., Helen, Ga. Filed Oct. 7, 1969.



Owner of Reg. No. 874,308.
For Ladies', Misses', and Girls' Outer Garments—Namely, Pants, Shorts, and Blouses (Int. Cl. 25).
First use Dec. 31, 1968.

SN 340,851. Uniroyal, Inc., New York, N.Y. Filed Oct. 15, 1969.

WEBDRI

For Rainwear (Int. Cl. 25).
First use Aug. 27, 1968.

SN 341,184. Nabholz Ltd., Schonenwerd, Soleure, Switzerland. Filed Oct. 20, 1969.

NABHOLZ

Owner of U.S. Reg. No. 512,040.
For Suits, Pajamas, Nightgowns, Pullovers, Bathing Suits, Beach Robes, Shorts, Sweaters, Training Suits, Shirts, Vests, Drawers, and Combined Underpants and Shirts for Women, Men and Children; and Slips and Jumpers for Women (Int. Cl. 25).
First use September 1959, in commerce April 1964.

SN 346,909. Kimberly-Clark Corporation, Neenah, Wis. Filed Dec. 22, 1969.

KOTIQUE

Owner of Reg. No. 880,965.
For Sanitary Panties (Int. Cl. 25).
First use Dec. 8, 1969.

SN 347,021. Frontier Importers, Inc., El Paso, Tex. Filed Dec. 23, 1969.

OSTERGATORS

For Boots and Shoes (Int. Cl. 25).
First use Oct. 29, 1969.

SN 347,327. Seoul Trading Company Ltd., Chung-ku Seoul, Korea. Filed Dec. 29, 1969.



For Sweaters (Int. Cl. 25).
First use 1964; in commerce 1964.

SN 347,477. Colfax Industries, Clifton, N.J. Filed Dec. 31, 1969.

PRO-AM

Owner of Reg. No. 727,529.
For Men's and Ladies' Shoes (Int. Cl. 25).
First use Dec. 12, 1969.

SN 350,025. Blue Bell, Inc., Greensboro, N.C. Filed Jan. 30, 1970.

WRANGLER WRANCH

Owner of Reg. Nos. 441,727, 878,288, and others.
For Jeans, Slacks, and Boots (Int. Cl. 25).
First use Jan. 13, 1970.

Class 40—Fancy Goods, Furnishings, and Notions

SN 260,162. Kabushikikaisha Shosando, Toshima-ku, Tokyo, Japan. Filed Dec. 6, 1966.

PEPACON

Priority claimed under Sec. 44(d) on Japanese application filed Sept. 2, 1966, Reg. No. 835,195, dated Oct. 20, 1969.
For Combs (Int. Cl. 21).

SN 311,592. George Goodman Limited, Birmingham, England. Filed Nov. 7, 1968.

KIRBY BEARD

For Hair Pins and Hair Grips (Int. Cl. 26).
First use at least Dec. 31, 1916; in commerce at least Dec. 19, 1945.

SN 330,558. Delbanco Meyer Wigs Limited, London, England. Filed June 20, 1969.

DELTRESS

For Wigs and Hair Pieces (Int. Cl. 26).
First use Aug. 20, 1968; in commerce Apr. 1, 1969.

SN 337,614. Miracle Wig Creations, Inc., Wethersfield, Conn. Filed Sept. 11, 1969.

MIRACLE WIG

The term "Wig" is disclaimed apart from the mark as shown.
For Wigs and Hairpieces (Int. Cl. 26).
First use July 18, 1969.

SN 345,773. Tinta Industries, Inc., New York, N.Y. Filed Dec. 10, 1969.

TINTA

Owner of Reg. No. 877,468.
For Package Containing Buttons and Dehydrated Means for Dyeing the Same (Int. Cl. 26).
First use Nov. 17, 1969.

SN 348,890. Curiel Products Corporation, Scottsdale, Ariz. Filed Jan. 19, 1970.

HAIR FIRE

For Coiffure Accessory Consisting of Battery Operated Lighted Optical Fibers (Int. Cl. 26).
First use Jan. 5, 1970.

SN 350,811. Cournoyer Industries, Inc., Hialeah, Fla. Filed Feb. 9, 1970.

INSTA GRIP

For Eyelash Applicators (Int. Cl. 26).
First use Oct. 15, 1969.

SN 350,813. Cournoyer Industries, Inc., Hialeah, Fla. Filed Feb. 9, 1970.

INSTA HOLD

For Eyelash Applicators (Int. Cl. 26).
First use Oct. 15, 1969.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 340,139. Quaker Fabric Corporation, New York, N.Y. Filed Oct. 8, 1969.

CALAIS

For Carpets (Int. Cl. 27).
First use July 1, 1969.

SN 342,259. Klopman Mills, Inc., Rockleigh, N.J. Filed Oct. 31, 1969.

EYE-SPY

For Fabrics in the Piece, Composed of Man-Made Fibers, and Fabrics in the Piece, Composed of Blends of Cotton Fibers and Man-Made Fibers (Int. Cl. 24).
First use at least as early as Apr. 9, 1969.

SN 348,077. Deering Milliken, Inc., New York, N.Y. Filed Jan. 9, 1970.

GENO

For Textile Fabrics Made of Wool, Cotton and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).
First use Jan. 3, 1970.

Class 44—Dental, Medical, and Surgical Appliances

SN 302,393. Continental Chemical Company, Incorporated, Columbia, S.C. Filed July 10, 1968.

"ORTHOCAST"

For Plaster of Paris Bandages (Int. Cl. 10).
First use May 6, 1966.

SN 330,759. N & H Instruments, Inc., Carrollton, Tex. Filed June 23, 1969.

EASY UP

For Invalid Aid in the Form of a Supporting Device Enabling an Invalid To Rise From a Chair or Bed or To Walk Under Safe Conditions Without Falling (Int. Cl. 10).
First use on or about Mar. 14, 1968.

SN 335,804. United States Catheter & Instrument Corporation, Glens Falls, N.Y. Filed Aug. 20, 1969.

NBIH

For Cardiovascular Indwelling Electrodes (Pacemakers) (Int. Cl. 10).
First use about May 1961.

SN 346,910. Kimberly-Clark Corporation, Neenah, Wis. Filed Dec. 22, 1969.

KOTIQUE

Owner of Reg. No. 880,965.
For Sanitary Napkins, Sanitary Tampons, and Sanitary Belts (Int. Cl. 5).
First use Nov. 20, 1968.

Class 45—Soft Drinks and Carbonated Waters

SN 331,169. Delaware Punch Company, San Antonio, Tex. Filed June 27, 1969.



No claim is made to the words "Punch" and "Non Carbonated" apart from the mark as shown. The drawing is lined for the colors purple and red. Owner of Reg. Nos. 568,722, 882,964, and 882,967.
For Soft Drinks (Int. Cl. 32).
First use Apr. 18, 1969; Jan. 1, 1939 as to "Delaware Punch."

Class 46—Foods and Ingredients of Foods

SN 317,932. Charles River Breeding Laboratories, Inc., North Wilmington, Mass. Filed Jan. 30, 1969.

BI-NAMIC

For Food for Laboratory Animals—Namely, Food for Laboratory Rats and Mice (Int. Cl. 31).
First use Jan. 9, 1969.

SN 319,906. Meister Brau, Inc., Chicago, Ill., assignee of Jero Products Company, Chicago, Ill. Filed Feb. 24, 1969.

JERO

Owner of Reg. No. 884,219.
For Flavored Syrups for Food Topping (Int. Cl. 30).
First use 1934.

SN 323,867. Viscount Foods Limited, Toronto, Ontario, Canada. Filed Apr. 7, 1969.

VILLAGE

Owner of Canadian Reg. No. 161,081, dated Feb. 7, 1969.
For Margarine, Vegetable and Animal Shortenings, Meatless Sandwich Spreads, Fruit Juices, and Salad Oil (Int. Cls. 29 and 32).

SN 326,643. Eskimo Pie Corporation, Richmond, Va. Filed May 7, 1969.



For Frozen Confections (Int. Cl. 30).
First use at least as early as Mar. 31, 1969.

SN 329,605. Carver Tropical Products, Inc., Muscatine, Iowa. Filed June 10, 1969.

TROPCO

For Fresh Fruits and Vegetables (Int. Cl. 31).
First use May 22, 1969.

SN 330,439. Wm. Wrigley Jr. Company, Chicago, Ill. Filed June 18, 1969.

SPEARDENT

Owner of Reg. Nos. 362,880, 588,210, and others.
For Chewing Gum (Int. Cl. 30).
First use Apr. 15, 1969.

SN 330,770. The Pillsbury Company, Minneapolis, Minn. Filed June 23, 1969.

TENDERBURST

Owner of Reg. No. 859,033.
For Refrigerated Dough Products—Namely, Biscuits (Int. Cl. 30).
First use Nov. 5, 1968.

SN 331,355. P. R. Dreyer, Inc., New York, N.Y. Filed June 30, 1969.

DREYER

For Flavorings in Extract, Concentrate, and Syrup Form (Int. Cl. 30).
First use July 10, 1925.

SN 331,769. The Nestle Company, Inc., White Plains, N.Y. Filed July 3, 1969.

SECOND WIND

For Powdered Base for Making a Fortified Food Beverage (Int. Cl. 30).
First use June 10, 1969.

SN 334,277. Morning Fresh Dairy, Inc., Minneapolis, Minn. Filed Aug. 4, 1969.

MORNING FRESH

For Dairy Products—Namely, Fresh Milk, Cream, Sour Cream Dips, Cottage Cheese, Butter and Ice Cream; Fresh Orange Juice, Fresh Eggs, Margarine, and Frozen Confections on a Stick (Int. Cls. 29, 30, and 32).
First use Mar. 8, 1966.

SN 339,561. General Foods Corporation, White Plains, N.Y. Filed Oct. 2, 1969.

SOFT FROST

For Powder Mix for Frozen Dessert (Int. Cl. 30).
First use July 3, 1969.

SN 339,564. Gervais-Danone AG, Munich, Germany. Filed Oct. 2, 1969.

CARRINA

Owner of German Reg. No. 822,758, dated Aug. 8, 1966.
For Cheese (Int. Cl. 29).

SN 339,962. R. J. Reynolds Foods, Inc., New York, N.Y. Filed Oct. 7, 1969.

重
CHUN KING

Owner of Reg. Nos. 655,567, 716,565, and others.
For Oriental-Style Foods—Namely, Shrimp, Lobster, Pork, and Chicken Egg Rolls; Chop Suey; Chow Mein; Sweet and Sour Pork; Egg Foo Yong; Chop Suey and Chow Mein Dinners; Fried Rice With or Without Meat or Chicken; Meat Balls in Sauce; Chow Mein Noodles; Chinese Vegetables; Water Chestnuts; Bamboo Shoots; Mixes for Making Chow Mein, Egg Foo Yong, Fried Rice and Sukiyaki; Soy Sauce; Teriyaki Sauce; Hawaiian Barbeque Sauce; Sweet and Sour Sauce; Mustard; Brown Sauce; and Fortune Cookies (Int. Cls. 29 and 30).
First use Sept. 4, 1969.

SN 342,359. General Mills, Inc., Minneapolis, Minn. Filed Nov. 3, 1969.

FRESH CATCH

For Pet Food for Dogs and Cats (Int. Cl. 31).
First use on or about Oct. 7, 1969.

SN 343,480. Alfie's Fish & Chips, Inc., Houston, Tex. Filed Nov. 14, 1969.

ALFIE'S

For Ready-To-Eat Fried Fish and Potatoes (Fish and Chips) (Int. Cl. 29).
First use at least as early as Nov. 24, 1968.

SN 343,914. Thomas J. Lipton, Inc., Englewood Cliffs, N.J. Filed Nov. 19, 1969.

CLASSIC CHEESE

For the purposes of this registration, no claim is made to the exclusive right to use of "Cheese," but applicant waives none of its common law rights therein.
For Non-Frozen Noodle and Cheese Dinner (Int. Cl. 30).
First use on or before Oct. 21, 1969.

SN 344,334. Continental Coffee Company, Chicago, Ill. Filed Nov. 24, 1969.

CO-CO-MATIC

For Cocoa Mix (Int. Cl. 30).
First use on or about Nov. 7, 1969.

Class 50—Merchandise Not Otherwise Classified

SN 301,748. Guild Hall Studios, Inc., Paramus, N.J. Filed July 1, 1968.



GUILD HALL

For Altars, Baldacchinos, Baptismal Fonts, Baptismal Font Covers, Coat of Arms, Crosses, Holy Water Fonts, Hymn Boards, Plaques, Processional Crosses, Processional Crucifixes, Sculpture, Stations of the Cross and Testers (Int. Cls. 16 and 20).
First use Apr. 1, 1966.

SN 321,468. Alston P. Cameron, Houston, Tex. Filed Mar. 12, 1969.

SAFE AND SEEN

For Pliable Reflective Stickers for Affixing to the Clothing of Individuals To Enable Such Individuals To Be Noticed and Detected by a Light During the Night or in Dark Places (Int. Cl. 20).
First use Oct. 20, 1968.

SN 326,784. National Potteries Corporation, Cleveland, Ohio. Filed May 8, 1969.



The words "Old Fashioned Christmas" are disclaimed apart from the mark as shown. Owner of Reg. No. 775,107.
For Decorative Figurines Fabricated of Ceramics, and Artificial Fruits, Flowers and Foliages Fabricated of Polyethylene (Int. Cls. 21 and 26).
First use on or about Jan. 2, 1969.

SN 327,812. Wassell Organization, Inc., Westport, Conn. Filed May 14, 1969.

VISU-TROL

For Visual Control Boards Comprising a Board Suitable for Wall Mounting Upon Which Schedules May be Physically Displayed (Int. Cl. 20).
First use Apr. 11, 1969.

SN 338,629. U.S. Industries, Inc., New York, N.Y. Filed Sept. 22, 1969.

CHAIN-O-MATIC

For Poultry Feeders (Int. Cl. 7).
First use on or about Nov. 1, 1965.

SN 338,907. Greenwald Industries, Inc., Brooklyn, N.Y. Filed Sept. 25, 1969.

TOKETTE

For Disc for Actuating a Coin Operated Device (Int. Cl. 20).
First use Sept. 4, 1969.

SN 339,030. Jas. H. Matthews & Co., Pittsburgh, Pa. Filed Sept. 26, 1969.

CREMORIAL

For Cremation Urns for In-Ground Positioning With Exposed Identification Plates (Int. Cl. 20).
First use at least as early as June 30, 1969.

SN 339,037. Principle Business Enterprises, Inc., Waterville, Ohio. Filed Sept. 26, 1969.

EMPRESS

For Garment Hangers (Int. Cl. 26).
First use Oct. 10, 1968.

SN 339,265. Willcox & Gibbs, Inc., New York, N.Y. Filed Sept. 29, 1969.

SPUR

For Lightweight Pallets Molded of Expandable Styrene Beads (Int. Cl. 20).
First use Sept. 5, 1969.

SN 339,339. Medline Industries, Inc., Northbrook, Ill. Filed Sept. 30, 1969.

STA-FLEX

For Drinking Straws (Int. Cl. 20).
First use Sept. 11, 1969.

SN 341,607. Sweetheart Plastics, Inc., Wilmington, Mass. Filed Oct. 24, 1969.

PIC-A-SIP

For Drinking Straws in a Dispensing Type Package (Int. Cl. 20).
First use Sept. 17, 1969.

Class 51—Cosmetics and Toilet Preparations

SN 300,332. Cosmetics International, Ltd., d.b.a. Accent Nine Dist., Tulsa, Okla. Filed June 13, 1968.

CHAPARRAL

For Men's After Shave Cologne (Int. Cl. 3).
First use Jan. 17, 1968.

SN 301,870. Yardley of London, Inc., New York, N.Y. Filed July 2, 1968.

LONDON LASHES

For Cosmetics—Namely, Brush-On, Waterproof Lash Lengthener (Int. Cl. 3).
First use Sept. 2, 1965.

SN 304,843. Cylax Limited, London, England. Filed Aug. 21, 1968.

MOISTURA

For Non-Medicated Lotions, Creams, and Liquids for Skin Care and Skin Moistening (Int. Cl. 3).
First use March 1964; in commerce September 1964.

SN 309,392. Laboratorios Asteca, S.A., Mexico City, Mexico. Filed Oct. 10, 1968.

GOLBA

Owner of Mexican Reg. No. 45,781, dated Mar. 2, 1943.
For Hair Dyes, Liquid and Solid Brilliantines, Hair Lacquer and Hair Lotion; Perfumes, After Shave Lotion, Eau de Cologne, and Lavender Water; Liquid and Solid Skin Creams, Tanning Lotion, and Chapped Lips Cream; Facial Powders, and Toilet Talcum; Personal Deodorants; and Nail Enamel (Int. Cls. 3 and 5).

SN 315,357. Flame of Hope, Inc., Hyannisport, Mass. Filed Dec. 30, 1968.

Espère

The mark "Espére" means "(you) hope!"
For Perfume (Int. Cl. 3).
First use Nov. 8, 1968.

SN 316,237. Paco Rabanne Parfums, Paris, France. Filed Jan. 9, 1969.

PACO RABANNE

"Paco Rabanne" is a fictitious name of "Francisco Rabaneda-Cuervo," whose consent is of record. Priority claimed under Sec. 44(d) on French Reg. No. 755,988, dated Oct. 31, 1968.
For Perfumes, Rouge, Face Powders, Toilet Waters, Cologne Waters, Cosmetic Cleansing Cream, Moisturizing Cream, Lipsticks, Nail Lacquers, Hair Lotions, After Shave Lotions, Shaving Creams, Bath Salts, Talcum Powders, and Dentifrices (Int. Cl. 3).

SN 322,996. Lynn-Leigh, Beverly Hills, Calif. Filed Mar. 27, 1969.

DANICE

For Skin Lotions, Skin Powders and Rouges, Lipstick, Eye Liner, and Mascara (Int. Cl. 3).
First use on or about Mar. 15, 1959.

SN 325,505. Products of Excellence Ltd., New York, N.Y. Filed Apr. 24, 1969.

SISSIMO

For Cologne (Int. Cl. 3).
First use Mar. 7, 1969.

SN 325,506. Products of Excellence Ltd., New York, N.Y. Filed Apr. 24, 1969.

FLOWER OF HAWAII

Applicant disclaims the word "Hawaii" apart from the mark as shown.
For Perfume (Int. Cl. 3).
First use Nov. 12, 1968.

SN 325,871. James H. Holly and P. T. Daniel, Jr. (joint owners), Pasadena, Tex. Filed Apr. 29, 1969.



The illustration in the drawing is fanciful and does not depict the likeness of any person, living or dead. The word "Stripper" is disclaimed apart from the mark as shown.
For Hair Stripping Preparation for the Removal of Coating, Residues and Any Other Unwanted Properties in the Hair (Int. Cl. 3).
First use Apr. 1, 1968.

SN 327,423. A. Vidal S.A.S., d.b.a. Vidal, Marghera, Venice, Italy. Filed May 15, 1969.

CA' D'ORO

The mark "Ca' d'Oro" is an Italian term meaning "house of gold" or "gold house."
For Eau de Cologne, Perfume, Talcum Powder, and Personal Deodorants (Int. Cls. 3 and 5).
First use March 1959; in commerce March 1959.

SN 341,258. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden, New York, N.Y. Filed Oct. 21, 1969.

EQUALIZING

For Face and Body Lotion and Body Powder (Int. Cl. 3).
First use Oct. 1, 1969.

SN 341,259. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden, New York, N.Y. Filed Oct. 21, 1969.

MOISTING

For Lipstick, Rouge, and Nail Polish (Int. Cl. 3).
First use Oct. 1, 1969.

SN 342,120. Leon Products, Inc., Jacksonville, Fla. Filed Oct. 30, 1969.

DRY SPELL

The word "Dry" is disclaimed apart from the mark as shown, but applicant waives none of its common law rights in the mark shown or any feature thereof.
For Personal Deodorants (Int. Cl. 5).
First use Oct. 24, 1969.

SN 342,793. Lano Corporation, New York, N.Y. Filed Nov. 6, 1969.

CRISTINA OF LONDON

Applicant disclaims the word "London" apart from the mark as shown.
For Perfume, Face Powder, Talcum Powder, Cologne, Lipstick, Eye Shadow, and Mascara (Int. Cl. 3).
First use Sept. 1, 1969.

SN 346,195. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Dec. 15, 1969.

THE END

For Makeup Finish (Int. Cl. 3).
First use Dec. 10, 1969.

SN 348,725. Carter-Wallace, Inc., New York, N.Y. Filed Jan. 16, 1970.

SCENTSLESS

For Personal Deodorants (Int. Cl. 5).
First use Dec. 11, 1969.

SN 350,829. Redken Laboratories, Inc., Van Nuys, Calif. Filed Feb. 9, 1970.

CLIMATRESS

Owner of Reg. Nos. 817,521 and 827,015.
For Permanent Wave Lotion and Neutralizer (Int. Cl. 3).
First use July 18, 1969.

SN 351,072. Dairimetics, Ltd., Venice, Calif. Filed Feb. 11, 1970.

GOOD DEED

For Hand and Body Cream (Int. Cl. 3).
First use Jan. 13, 1970.

Class 52 — Detergents and Soaps

SN 306,123. Curley Company, Inc., Camden, N.J. Filed Aug. 27, 1968.

JIFFY WHITE

Applicant disclaims the word "White" apart from the mark as shown. Owner of Reg. Nos. 432,212, 441,169, and 735,802.
For Laundry Presoak Whiten-Brightening Agent With Stain Removing Properties (Int. Cl. 3).
First use Aug. 19, 1968.

SN 338,548. David, Oksner & Mitchneck, Inc., New York, N.Y. Filed Sept. 22, 1969.

BATHGROOM

For Household Cleaner (Int. Cl. 3).
First use July 2, 1969.

SN 339,135. Andrea Charles Sales Incorporated, Cherry Hill, N.J. Filed Sept. 29, 1969.

MAGIC WAND

For Stain and Spot Remover (Int. Cl. 3).
First use June 3, 1968.

SN 339,522. Zayre Corp., Natick, Mass. Filed Oct. 2, 1969.

ZAYRE

For Green Soap To Be Used for Shampooing Hair (Int. Cl. 3).
First use at least as early as September 1966.

SERVICE MARKS

Class 100 — Miscellaneous

SN 294,348. Ernest C. Cassill, Pompano Beach, Fla. Filed Mar. 28, 1968.



The drawing is lined for the colors blue and red.
For Motel, Motor Hotel, Hotel, and Restaurant Services (Int. Cl. 42).
First use Nov. 22, 1967.

SN 301,606. Chicken Hut Systems, Inc., Fayetteville, Ark. Filed June 28, 1968.

CHICKEN HUT

Applicant disclaims the term "Chicken" separate and apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use June 13, 1968.

SN 303,269. Steve S. Brown Publishing Co., Inc., Lakeport, Calif. Filed July 22, 1968.

AID

For Maintaining a Registry of Animal Identification Numbers To Facilitate the Location and Return of Lost Animals (Int. Cl. 42).
First use May 25, 1968.

SN 311,297. Paperboard Packaging Council, Washington, D.C. Filed Nov. 4, 1968.



For Association Services—Namely, Promoting the Interests of the Paperboard Packaging Industry (Int. Cl. 42).
First use July 1965.

SN 319,156. Frederick Electronics Corporation, Frederick, Md. Filed Feb. 14, 1969.

DATALEASE

For Leasing Data Processing Equipment and Providing Time Access to Similar Equipment (Int. Cl. 42).
First use during November 1968.

SN 320,586. Genovese Drug Stores, Inc., Long Island City, N.Y. Filed Mar. 3, 1969.

ASK YOUR NEIGHBOR

For Prescription Filling Services in Drug Stores (Int. Cl. 42).
First use at least as early as 1924.

SN 322,000. The Straw Restaurant Corporation, Menlo Park, Calif., by change of name and merger from The Straw Hat Restaurant Corporation, San Leandro, Calif. Filed Mar. 17, 1969.



For Restaurant Services Featuring Pizzas and Including Incidental Musical Entertainment (Int. Cl. 42).
First use Jan. 1, 1966.

SN 326,659. Leonard's Pit Barbecue, Inc., Memphis, Tenn. Filed May 7, 1969.



Applicant claims exclusive rights to the slogan "The Original Pit Barbecue" as part of its mark, but not otherwise, without waiving any common law rights to any feature thereof. Owner of Reg. No. 881,043.
For Restaurant and Catering Services (Int. Cl. 42).
First use on or about Oct. 30, 1968; at least as early as 1922 in a different form.

SN 326,877. Benjamin E. Hodgin, Hartford City, Ind. Filed May 9, 1969.



For Restaurant Services (Int. Cl. 42).
First use Dec. 12, 1968.

SN 327,291. National Pet Registration Center, Inc., Gillette, N.J. Filed May 14, 1969.

PERMA MARC

For Permanently Marking Pets With Social Security Numbers of Their Respective Owners for Identification Purposes (Int. Cl. 42).
First use Sept. 1, 1968.

SN 335,889. Monday Night Inc., d.b.a. Bachelors III, New York, N.Y. Filed Aug. 21, 1969.

BACHELORS III

For Restaurant Services (Int. Cl. 42).
First use Nov. 12, 1968.

SN 336,210. Ecosystems Corporation, Minneapolis, Minn. Filed Aug. 22, 1969.

ECOSYSTEMS CORPORATION

For Consulting Services for Geological, Ecological, Agricultural and Environmental Systems Including the Design of Systems for the Control of All Forms of Air, Water and Land Pollution; the Design of Buildings for Others; and the Design and Development of Recreational Areas for Others (Int. Cl. 42).
First use June 16, 1969.

SN 340,911. Dial-A-Horoscope, Incorporated, Pinellas Park, Fla. Filed Oct. 16, 1969.

DIAL-A-HOROSCOPE

For Furnishing Daily Horoscopes to Subscribing Patrons Who Call by Telephone (Int. Cl. 42).
First use Aug. 2, 1969.

SN 343,919. James A. Salmans, New Philadelphia, Ohio. Filed Nov. 19, 1969.



For Carry-Out Restaurant Services (Int. Cl. 42).
First use July 24, 1969.

SN 348,911. Dilly Shops, Inc., Knoxville, Tenn. Filed Jan. 19, 1970.



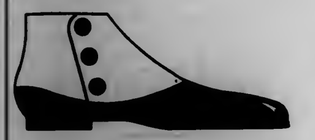
For Restaurant Services (Int. Cl. 42).
First use Sept. 16, 1969.

SN 350,545. Arby's Inc., Youngstown, Ohio. Filed Feb. 5, 1970.

PEGITY'S

For Restaurant Services (Int. Cl. 42).
First use at least as early as Oct. 15, 1969.

SN 351,877. Restaurant Associates Industries, Inc., New York, N.Y. Filed Feb. 20, 1970.



For Restaurant Services (Int. Cl. 42).
First use June 2, 1969.

SN 352,577. Taco Bell, Inc., Torrance, Calif. Filed Feb. 27, 1970.

HICKORY BELL

For Restaurant Services (Int. Cl. 42).
First use on or about Dec. 20, 1969.

Class 101 — Advertising and Business

SN 289,495. Exhibits, Inc., Chicago, Ill. Filed Jan. 24, 1968.

IMAGINACTION

For Designing Exhibits for Others (Int. Cl. 35).
First use Nov. 15, 1967.

SN 293,644. Seafoame Corporation, McLean, Va. Filed Mar. 19, 1968.

Seafoamé

For Distributorship Services in the Cosmetic and Chemical Fields (Int. Cl. 35).
First use on or about May 21, 1967.

SN 308,531. Quick Print Shops, Inc., Memphis, Tenn. Filed Sept. 30, 1968.



For Printing Services (Int. Cl. 35).
First use on or about Sept. 11, 1968.

SN 311,805. SCE Personnel Services, Inc., Summit, N.J. Filed Nov. 4, 1968.

SCE

The map of the United States is disclaimed apart from the mark as shown.

For Personnel Counselling, Employment Service, Hiring of Personnel, and Providing Technical Assistance in the Establishment and Operation of Employment Agencies for Others (Int. Cl. 35).
First use Aug. 21, 1968.

SN 312,644. A. C. Nielsen Company, Chicago, Ill. Filed Nov. 20, 1968.

Telematic

The drawing is lined for the color red, but no claim to color is made.

For Shoppers' Guide Services—Namely, Referring Shoppers to Outlets Where Specifically Requested Goods Can Be Purchased, and Notifying Advertisers and Media of Names and Addresses of Interested Shoppers (Int. Cl. 35).
First use Aug. 28, 1968.

SN 313,619. Turtle Creek Management, Inc., Indianapolis, Ind. Filed Dec. 4, 1968.

turtle creek

For Apartment Management, Office Building Management, and Other Property Management (Int. Cl. 35).
First use at least as early as Sept. 10, 1963.

SN 317,070. Max Leach, Jr., d.b.a. Insta-Search International Agency, Dallas, Tex. Filed Jan. 21, 1969.

INSTA-SEARCH

For Computerized Personnel Recruitment Services (Int. Cl. 35).
First use July 31, 1968.

SN 328,188. The Southland Corporation, Dallas, Tex. Filed Mar. 28, 1969.

7-ELEVEN

Owner of Registration No. 718,016.
For Retail Grocery Store Service (Int. Cl. 35).
First use at least as early as 1944.

SN 325,657. Fill-N-Wash Centers of America, Inc., Hollywood, Fla. Filed Apr. 28, 1969.

FILL-N-WASH

For Rendering Technical Assistance to Prospective Operators of Combined Filling Station and Auto-Wash Plants in the Establishment of and in All Other Phases of Their Business (Int. Cl. 35).
First use at least as early as October 1968.

SN 328,358. Southeast Toyota Distributors, Inc., Pompano Beach, Fla. Filed May 26, 1969.

CAR-NETT

For Business Information Services for Automobile Dealers (Int. Cl. 35).
First use Mar. 21, 1969.

SN 328,706. Arthur S. Kranzley and Company Incorporated, Cherry Hill, N.J. Filed May 29, 1969.

JETSERV

For Installing Software Systems for Airline Applications—Namely, Furnishing Application Programming or Software Systems Comprised of Computer Programs, Instructions, and Documentation for Automating Airline Services Such as On-Line Personal Credit Card Accounting, Revenue Accounting, Equipment and Personnel Control Accounting (Int. Cl. 35).
First use Mar. 27, 1969.

SN 328,819. Clover Farm Stores Corporation, Cleveland, Ohio. Filed June 2, 1969.

CLOVER FARM

Owner of Reg. Nos. 170,847, 666,114, and others.
For Retail Food Market Service and Technical Assistance to Retail Food Markets and All Phases of Their Business (Int. Cl. 35).
First use 1926.

SN 329,943. Save Way Barber and Beauty Supplies, Inc., Hialeah, Fla. Filed June 18, 1969.

save way

For Distributorship and Mail Order Services in the Field of Barber and Beauty Supplies (Int. Cl. 35).
First use October 1963.

SN 330,609. John P. McCormick, Chicago, Ill. Filed June 20, 1969.

ON THE SPOT

For Printing Services (Int. Cl. 35).
First use June 5, 1969.

SN 334,278. Morning Fresh Dairy, Inc., Minneapolis, Minn. Filed Aug. 4, 1969.

MORNING FRESH

For Mobile Dairy Store Services (Int. Cl. 35).
First use Mar. 8, 1966.

SN 341,343. Upper Midwest Research and Development Council and Citizens League (joint venture), Minneapolis, Minn. Filed Oct. 22, 1969.

RAFT

For Providing Governments and Other Groups With Tax and Finance Data, Utilizing Computer Programmed Information (Int. Cl. 35).
First use in or about October 1968.

SN 342,375. Robert Sunshine, d.b.a. Sunshine's Trees, Dallas, Tex. Filed Nov. 3, 1969.

SUNSHINE'S

For Retail Store and Mail Order Services Specializing in the Sale of Trees (Int. Cl. 35).
First use at least as early as April 1964.

SN 345,426. Sunlighting Systems, Inc., Chevy Chase, Md. Filed Dec. 5, 1969.

SUNLIGHTING SYSTEMS

For Aiding in the Establishment and Operation of a Chain of Lamp and Shade Stores (Int. Cl. 35).
First use Aug. 1, 1969.

SN 346,562. IDC, Inc., d.b.a. IDC Real Estate Brokers, El Paso, Tex. Filed Dec. 18, 1969.



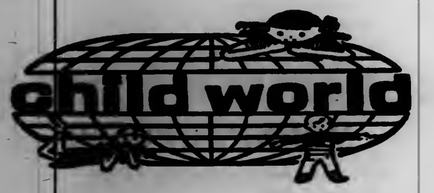
For Real Estate Brokerage; Real Estate Development; Land Use Market Research and Feasibility Studies; Property Management; and Arranging Mortgage Loans (Int. Cl. 35).
First use Jan. 1, 1968.

SN 348,208. Fairco Drug, Inc., Knoxville, Tenn. Filed Jan. 12, 1970.

FAIRCO DRUG

Without waiver of any of its common law rights, applicant disclaims exclusive right to use of the word "Drug" except in the combination shown.
For Retail Drug Store Services (Int. Cl. 35).
First use Dec. 11, 1969.

SN 348,829. Child World, Inc., Avon, Mass. Filed Jan. 19, 1970.



Owner of Reg. Nos. 870,893 and 875,376.
For Mail-Order Services Dealing Primarily in Baby Furniture and Toys (Int. Cl. 35).
First use at least as early as September 1956.

SN 349,051. Progressive Industries Corporation, Dayton, Ohio. Filed Jan. 20, 1970.

FOTO FAIR

Owner of Reg. No. 875,824.
For Retail Store Services—Namely, the Sale of Audio and Photographic Supplies and Equipment Produced by Others (Int. Cl. 35).
First use Sept. 11, 1968.

SN 350,032. Melville Shoe Corporation, New York, N.Y. Filed Jan. 30, 1970.

vanguard

Owner of Reg. No. 655,881.
For Retail Footwear and Accessory Store Services (Int. Cl. 35).
First use Nov. 21, 1969.

SN 350,177. Compumarketing Services Corporation, Chicago, Ill. Filed Feb. 2, 1970.

COMPUMARKETING MEANS BUSINESS

For Preparation of Mailing Lists (Int. Cl. 35).
First use Jan. 14, 1970.

SN 350,413. A.C.T. Tax Service, Inc., Chicago Heights, Ill. Filed Feb. 4, 1970.

A.C.T.

For Preparing Tax Returns (Int. Cl. 35).
First use on or before Jan. 19, 1970.

SN 350,667. Automatic Data Processing, Inc., Clifton, N.J. Filed Feb. 6, 1970.

ADP

Owner of Reg. No. 857,233.
For Computer Data Processing Services (Int. Cl. 35).
First use in or about October 1969; in or about January 1964 in a different form.

Class 102 — Insurance and Financial

SN 319,206. Southern Home Insurance Company, Greer, S.C. Filed Feb. 14, 1969.

AUTOCERT

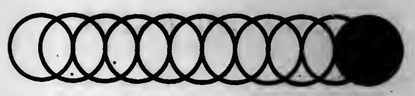
For Insurance Underwriting Service (Int. Cl. 36).
First use Nov. 7, 1967.

SN 319,207. Southern Home Insurance Company, Greer, S.C. Filed Feb. 14, 1969.

HOMESURE MATIC

For Insurance Underwriting Services (Int. Cl. 36).
First use Aug. 16, 1968.

SN 323,897. IDS Progressive Fund, Inc., Minneapolis, Minn. Filed Apr. 1, 1969.



For Investment Services—Namely, Management of a Mutual Fund (Int. Cl. 36).
First use Jan. 2, 1969.

SN 350,805. Capital Finance Corporation, Columbus, Ohio. Filed Feb. 9, 1970.



For the purposes of registration, no claim is made to the exclusive right to the words "Convenient Purchase Payment Plan" apart from the mark as shown, but applicant waives none of its common-law rights in the mark or any feature thereof.
For Consumer Financing Services and the Extending of Credit to Customers of Associated Merchants (Int. Cl. 36).
First use at least as early as 1948.

Class 103 — Construction and Repair

SN 320,432. The Cessna Aircraft Company, Wichita, Kans. Filed Mar. 3, 1969.

CESSNA

Owner of Reg. Nos. 526,100, 739,698, and 867,435.
For Aircraft Maintenance and Repair Services (Int. Cl. 37).
First use Mar. 9, 1946.

SN 325,765. Irving Z. Mann, North Miami, Fla. Filed Apr. 28, 1969.

CONDO-MAXIMUM

For Maintenance Service for Apartments, Marinas, Beach Houses, Recreation Centers, and Related Facilities (Int. Cl. 37).
First use Mar. 3, 1968.

SN 327,655. Montecito Manufacturing Company, Santa Barbara, Calif. Filed May 19, 1969.



Owner of Reg. No. 859,476.
For Linen Supply Services (Int. Cl. 37).
First use Jan. 1, 1948.

SN 327,661. Montecito Manufacturing Company, Santa Barbara, Calif. Filed May 19, 1969.



Applicant disclaims the words "Linen Supply" apart from the mark as shown. Owner of Reg. No. 859,476.
For Linen Supply Services (Int. Cl. 37).
First use Jan. 1, 1961.

SN 336,211. Ecosystems Corporation, Minneapolis, Minn. Filed Aug. 22, 1969.

ECOSYSTEMS CORPORATION

For Construction of Buildings, Dwellings and Recreational Areas to the Order of Others (Int. Cl. 37).
First use June 16, 1969.

Class 106 — Material Treatment

SN 298,372. United Film Club, Inc., Pomona, Calif. Filed May 16, 1968.

UNITED FILM CLUB, INC.

The term "Film Club, Inc." is disclaimed apart from the mark as shown.
For Photo Finishing Service—Namely, Developing, Photo Printing and Photo Enlarging (Int. Cl. 40).
First use Nov. 1, 1959.

SN 352,574. W. S. Rockwell Company, Fairfield, Conn. Filed Feb. 27, 1970.

PLASTIMATIC

For Application of Plastic Coating to the Goods of Others (Int. Cl. 40).
First use December 1968.

Class 107 — Education and Entertainment

SN 297,853. Drive Safe Systems, Inc., Dayton, Ohio. Filed May 10, 1968.



Owner of Reg. No. 806,158.
For Driver Training for Safe Driving of Automotive Vehicles (Int. Cl. 41).
First use February 1963.

SN 299,010. General Music Corporation, Atlanta, Ga., assignee of Elliott Associates, Inc., Atlanta, Ga. Filed May 24, 1968.

IN-GROUP STUDIOS

The term "Studio" is disclaimed separate and apart from the mark as shown.
For Classroom Instructions in the Playing of Guitars (Int. Cl. 41).
First use in or about June 1967.

SN 302,161. Viatron Programming, Inc., Burlington, Mass. Filed July 5, 1968.

VPI

For Educational Services—Namely, Instruction in Computer Sciences (Int. Cl. 41).
First use May 16, 1968.

SN 303,210. Irene Webb, d.b.a. Gymnastics for Physical Fitness, San Diego, Calif. Filed July 19, 1968.



The mark consists of the letters "PF" within the letter "G" surrounded by a spiral design adjacent a pennant combining in a design similar to a musical note symbol.

For Educational Services—Namely, Providing Instruction in Physical Education (Int. Cl. 41).

First use December 1966.

SN 318,081. Mid-America Majorette Association, Inc., Celina, Ohio. Filed Jan. 31, 1969.



The representation of the batons appearing in the drawing is disclaimed apart from the mark as shown.

For Promotion of Education and Health by Teaching Baton Twirling Through Clinics, Camps, Regular School Classes, and Annual Contests (Int. Cl. 41).

First use Nov. 4, 1968.

CERTIFICATION MARKS

Class A—Goods

SN 303,530. Inter-Radia Services Association, Basel, Switzerland. Filed July 24, 1968.



The mark certifies that the goods have been manufactured and produced in accordance with the technical conditions and quality promulgated by the applicant. Priority claimed under Sec. 44(d) on Swiss Reg. No. 230,906, dated Jan. 30, 1968.

For Cooling Radiators for Motors; Heat Exchangers for Cooling and Heating Land Vehicles, Sea and Aircraft; Regulators for Cooling and Heating Circuits for Vehicles; Detachable Parts and Accessories Mounted on Automobiles; Anti-Freeze and Anti-Corrosion Solutions.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

891,418. UTAH SUPREME. Utah Supreme. SN 314,001. Pub. 3–10–70. Filed 12–9–68.

891,419. STYRASAR. Dart Industries Inc., by change of name from Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 324,501. Pub. 1–13–70. Filed 4–14–69.

891,420. CARBASAR. Dart Industries Inc., by change of name from Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 324,502. Pub. 1–13–70. Filed 4–14–69.

891,421. ACRYLASAR. Dart Industries Inc., by change of name from Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 324,503. Pub. 1–13–70. Filed 4–14–69.

891,422. ETHOSAR. Dart Industries Inc., by change of name from Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 324,505. Pub. 1–13–70. Filed 4–14–69.

Class 2—Receptades

891,423. CLOVER "PAC." GTI Corporation. SN 329,225. Pub. 3–10–70. Filed 6–5–69.

891,424. PERMANEX. Sears, Roebuck and Co. SN 331,072. Pub. 3–10–70. Filed 6–26–69.

891,425. DELCON. Container Corporation of America. SN 332,085. Pub. 3–10–70. Filed 7–9–69.

891,426. PLASTI-PEEL. Tower Products, Inc., by change of name from Tower Packaging Company. SN 332,635. Pub. 3–10–70. Filed 7–15–69.

891,427. POLY-CLEAN. Poly-Genic, Inc. SN 338,091. Pub. 3–10–70. Filed 9–17–69.

891,428. POLY-GENIC. Poly-Genic, Inc. SN 338,092. Pub. 3–10–70. Filed 9–17–69.

891,429. POLY-PURE. Poly-Genic, Inc. SN 338,093. Pub. 3–10–70. Filed 9–17–69.

891,430. "ECONO-MISER." Percy Harms Corporation. SN 339,279. Pub. 3–10–70. Filed 9–30–69.

891,431. USE. United States Envelope Company. MULTIPLE CLASS (Classes 2 and 37). SN 339,953. Pub. 3–10–70. Filed 10–7–69.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

891,432. GREYHOUND. The Greyhound Corporation. SN 311,033. Pub. 3–10–70. Filed 10–31–68.

891,433. SAF-T-SHANK. Mayfair Plastics, Inc. SN 327,396. Pub. 3–10–70. Filed 5–15–69.

891,434. THE TALISMAN. Lark Luggage Corp. SN 327,635. Pub. 3–10–70. Filed 5–19–69.

891,435. LOK.R.PAK. Herz Specialty Products, Inc. SN 328,851. Pub. 3–10–70. Filed 6–2–69.

891,436. FASHIONLITE. Sears, Roebuck and Co. SN 329,275. Pub. 3–10–70. Filed 6–5–69.

891,437. SWINGLES. J. Rudolph, Inc. SN 329,514. Pub. 3–10–70. Filed 6–9–69.

891,438. SWIVELER. Buxton, Incorporated. SN 329,603. Pub. 3–10–70. Filed 6–10–69.

891,439. COUTURE. Hartmann Luggage Company. SN 330,281. Pub. 3–10–70. Filed 6–17–69.

Class 4—Abrasives and Polishing Materials

891,440. CHEVRON AND DESIGN. Standard Oil Company of California. SN 329,525. Pub. 3–10–70. Filed 6–9–69.

891,441. PRISM. Sterling Drug Inc. SN 332,672. Pub. 3–10–70. Filed 7–16–69.

Class 5—Adhesives

891,442. SHELLBOND. Shell Oil Company. SN 282,732. Pub. 2–4–69. Filed 10–17–67.

891,443. CHARSTAR. Paul F. Werler, d.b.a. Chemstar Products Company. SN 321,709. Pub. 3–10–70. Filed 3–13–69.

891,444. FIBERSTAR. Paul F. Werler, d.b.a. Chemstar Products Company. SN 321,711. Pub. 3–10–70. Filed 3–13–69.

891,445. CORSTAR. Paul F. Werler, d.b.a. Chemstar Products Company. SN 321,712. Pub. 3–10–70. Filed 3–13–69.

891,446. A–3. Atlantic Gummed Paper Corporation. SN 328,524. Pub. 3–10–70. Filed 5–28–69.

891,447. NA–3. Atlantic Gummed Paper Corporation. SN 328,525. Pub. 3–10–70. Filed 5–28–69.

891,448. PANTHER. The Okonite Company. SN 329,001. Pub. 3–10–70. Filed 6–3–69.

Class 6—Chemicals and Chemical Compositions

891,449. WT AND DESIGN. Water Treatment Corporation of America. MULTIPLE CLASS (Classes 6 and 52). SN 234,490. Pub. 4–30–68. Filed 12–13–65.

891,450. DIAMOND-S. Stauffer Chemical Company. SN 286,073. Pub. 4–23–68. Filed 12–4–67.

891,451. VENTROMERS. Ventron Corporation. SN 290,116. Pub. 3–10–70. Filed 2–1–68.

891,452. REDEEM. Wyandotte Chemicals Corporation. SN 294,106. Pub. 3–10–70. Filed 3–25–68.

891,453. RAZINE. Geigy Chemical Corporation. SN 326,369. Pub. 3–10–70. Filed 5–5–69.

891,454. AVIROSAN. Geigy Chemical Corporation. SN 326,870. Pub. 3–10–70. Filed 5–9–69.

891,455. IRGARESERVE. Geigy Chemical Corporation. SN 326,871. Pub. 3–10–70. Filed 5–9–69.

891,456. BLOMACAN. Geigy Chemical Corporation. SN 326,872. Pub. 3–10–70. Filed 5–9–69.

891,457. FERRO-CHEK. Baxter Laboratories, Inc. SN 326,980. Pub. 3–10–70. Filed 5–12–69.

891,458. LIQUILAN. Robinson-Wagner Company, Inc. SN 327,680. Pub. 3–10–70. Filed 5–19–69.

Class 8—Smokers' Articles, Not Including Tobacco Products

891,459. ROSENTHAL STUDIO LINE AND DESIGN. Rosenthal Aktiengesellschaft. MULTIPLE CLASS (Classes 8, 21, 23, 28, 30, 32, 33, 34, and 50). SN 273,336. Pub. 3–10–70. Filed 6–8–67.

891,460. EMERALD. Bewlay Tobacconists Limited, assignee of Peterson's Ltd., Inc. SN 315,333. Pub. 9–23–69. Filed 12–27–68.

Class 9—Explosives, Firearms, Equipments, and Projectiles

891,461. PROJECT-A-FLARE. Smith & Wesson Pyrotechnics, Inc. SN 339,289. Pub. 3–10–70. Filed 9–30–69.

Class 10—Fertilizers

891,462. GROVE AND DESIGN. The Flintkote Company. SN 325,969. Pub. 3–10–70. Filed 4–30–69.

891,463. TEX-ORGANIC. Reiko, Inc. SN 326,907. Pub. 3–10–70. Filed 5–9–69.

Class 12—Construction Materials

891,464. WINSTON AND DESIGN. Winston Manufacturing Corporation. MULTIPLE CLASS (Classes 12, 13, and 31). SN 276,496. Pub. 3–10–70. Filed 7–21–67.

891,465. APACHE AND DESIGN. Apache Flooring Company. MULTIPLE CLASS (Classes 12 and 20). SN 288,488. Pub. 3–10–70. Filed 1–10–68.

891,466. SEMI-PAVE. Witco Chemical Corporation. SN 306,008. Pub. 3–10–70. Filed 8–26–68.

891,467. "FYER-WARD." White Consolidated Industries, Inc. SN 309,707. Pub. 3–10–70. Filed 10–15–68.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

891,464. (See Class 12 for this trademark.)

891,468. JET-O-MATIC. Monogram Industries, Inc. SN 305,093. Pub. 3–10–70. Filed 8–14–68.

891,469. PIN-PEG. Dampp-Chaser Electronics, Inc. SN 315,540. Pub. 3–10–70. Filed 1–2–69.

891,470. TASKMASTER. Westinghouse Air Brake Company. SN 333,468. Pub. 3–10–70. Filed 7–24–69.

Class 14—Metals and Metal Castings and Forgings

891,471. MARCOA. Marketing Corporation of America. SN 303,327. Pub. 3–10–70. Filed 7–22–68.

Class 15—Oils and Greases

891,472. MS 4. Midland Silicones Limited. SN 282,200. Pub. 3–10–70. Filed 10–10–67.

891,473. BUR DENT. American Hospital Supply Corporation. SN 319,259. Pub. 3–10–70. Filed 2–17–69.

891,474. HUDTANE. Hudson Oil Co. of Missouri, Inc. SN 326,533. Pub. 3–10–70. Filed 5–6–69.

891,475. MODULE-LUBE. Columbia Lubricants, Inc. SN 327,860. Pub. 3–10–70. Filed 5–21–69.

891,476. CAN-DO. North American Aerosols, Inc. SN 331,064. Pub. 3–10–70. Filed 6–26–69.

891,477. EIKA. Eika Wachswerke Fulda Gesellschaft mit beschrankter Haftung. SN 332,928. Pub. 3–10–70. Filed 7–18–69.

891,478. ARGINA. Shell Oil Company. SN 334,386. Pub. 3–10–70. Filed 8–4–69.

891,479. V.S.I. Shell Oil Company. SN 334,387. Pub. 3–10–70. Filed 8–4–69.

Class 16—Protective and Decorative Coatings

891,480. EASTCO-TILE. Eastern States Paint & Varnish Co. SN 330,261. Pub. 3–10–70. Filed 6–17–69.

891,481. TRUCK-TEX. Madison Chemical Division of Chemtrust Industries Corp. SN 332,114. Pub. 3–10–70. Filed 7–9–69.

Class 17—Tobacco Products

891,482. CABARET. T. E. Brooks & Co. SN 332,912. Pub. 3–10–70. Filed 7–18–69.

Class 18—Medicines and Pharmaceutical Preparations

891,483. KALI-CHEMIE AND DESIGN. Kali-Chemie Aktiengesellschaft. SN 295,532. Pub. 3–10–70. Filed 4–12–68.

891,484. ZAROXOLYN. Pennwalt Corporation, by merger and change of name from Wallace & Tiernan Inc. SN 304,028. Pub. 3–10–70. Filed 7–31–68.

891,485. SINOVAN TIMED. Vanol Chemical Company. SN 306,288. Pub. 3–10–70. Filed 8–29–68.

891,486. TRICODERM. Mead Johnson & Company. SN 306,307. Pub. 3–10–70. Filed 8–30–68.

891,487. OXY-TETRACHEL. Rachelle Laboratories, Inc. SN 312,497. Pub. 2–24–70. Filed 11–18–68.

891,488. CLEARASIL. Richardson-Merrell Inc. MULTIPLE CLASS (Classes 18 and 52). SN 314,287. Pub. 3–10–70. Filed 12–12–68.

891,489. CLI AND DESIGN. Cobe Laboratories, Inc. MULTIPLE CLASS (Classes 18, 26, and 44). SN 321,102. Pub. 3–10–70. Filed 3–10–69.

891,490. BILEVAC. Lafayette Pharmacal, Inc. SN 321,512. Pub. 3–10–70. Filed 3–12–69.

891,491. WITHDRAW. Carter-Wallace, Inc. SN 326,288. Pub. 3–10–70. Filed 5–5–69.

891,492. KOTIQUE. Kimberly-Clark Corporation. SN 336,293. Pub. 3–10–70. Filed 7–24–69.

891,493. AGRIVAC. Chas. Pfizer & Co., Inc. SN 337,489. Pub. 3–10–70. Filed 9–10–69.

891,494. MECADOX. Chas. Pfizer & Co., Inc. SN 337,490. Pub. 3–10–70. Filed 9–10–69.

891,495. DELCINE. Dellen Inc. SN 338,306. Pub. 3–10–70. Filed 9–19–69.

891,496. DELVINE. Dellen Inc. SN 338,307. Pub. 3–10–70. Filed 9–19–69.

891,497. DELBAC. Dellen Inc. SN 338,308. Pub. 3–10–70. Filed 9–19–69.

891,498. HEPCINE. Dellen Inc.. SN 338,310. Pub. 3–10–70. Filed 9–19–69.

891,499. ORNEX. Smith Kline & French Laboratories. SN 338,729. Pub. 3–10–70. Filed 9–24–69.

891,500. PREMIOMYCINA. Beecham Inc. SN 339,387. Pub. 3–10–70. Filed 10–1–69.

891,501. LACTOPEN. Beecham Inc. SN 339,388. Pub. 3–10–70. Filed 10–1–69.

Class 19—Vehicles

891,502. SUPERCRUISER. The Greyhound Corporation. SN 306,481. Pub. 3–10–70. Filed 9–3–68.

891,503. SER AND DESIGN. The Sierracin Corporation. SN 312,816. Pub. 3–10–70. Filed 11–21–68.

891,504. PLAYHOUSE. Robert R. McKnight, Jr., d.b.a. Playhouse Camper Manufacturing Co. SN 314,648. Pub. 3–10–70. Filed 12–11–68.

891,505. MISCELLANEOUS DESIGN. North American Rockwell Corporation. SN 315,094. Pub. 3–10–70. Filed 12–32–68.

891,506. BATCH-MAN. Saline Manufacturing Co., Inc. SN 324,235. Pub. 3–10–70. Filed 4–10–69.

891,507. MOTO GRAZIELLA. S.p.A. Teodoro Carnielli & C. SN 325,996. Pub. 3–10–70. Filed 4–30–69.

891,508. SENTINEL. Edgewater Corporation. SN 326,216. Pub. 3–10–70. Filed 5–2–69.

891,509. BIKE-A-DELIC. Bike-A-Delic, Inc. SN 335,161. Pub. 3–10–70. Filed 8–13–69.

891,510. PATTERNIQUE. Rubbermaid Incorporated. SN 335,709. Pub. 3–10–70. Filed 8–19–69.

891,511. DRIFT WING. Mallard Coach Corporation. SN 339,337. Pub. 3–10–70. Filed 9–30–69.

Class 20—Linoleum and Oiled Cloth

891,465. (See Class 12 for this trademark.)

891,512. HEUGATILE. Van Heugten Western Hemisphere A.G. SN 320,195. Pub. 3–10–70. Filed 2–26–69.

Class 21—Electrical Apparatus, Machines, and Supplies

891,459. (See Class 8 for this trademark.)

891,513. FUJIYA. Fujiya Denki Kabushiki Kaisha. MULTIPLE CLASS (Classes 21 and 36). SN 265,188. Pub. 3–10–70. Filed 2–21–67.

891,514. AMERICAN. Eaton Yale & Towne Inc., by merger from American Monorail Company. MULTIPLE CLASS (Classes 21 and 23). SN 272,149. Pub. 12–24–70. Filed (Classes 21 and 23). SN 272,149. Pub. 12–24–68. Filed

891,515. AMERICAN MONORAIL. Eaton Yale & Towne Inc., by merger from American Monorail Company. MULTIPLE CLASS (Classes 21 and 23). SN 272,152. Pub. 7–15–69. Filed 5–23–67.

891,516. RAILKO. Railko Limited. SN 273,109. Pub. 3–10–70. Filed 6–5–67.

891,517. ANODICATE. George Koch Sons, Inc. SN 281,797. Pub. 3–10–70. Filed 10–4–67.

891,518. PALACE. Itoka Products Co., Ltd. MULTIPLE CLASS (Classes 21 and 36). SN 290,497. Pub. 3–10–70. Filed 2–7–68.

891,519. CHAPMAN. United Industrial Syndicate, Inc. SN 293,761. Pub. 3–10–70. Filed 3–20–68.

891,520. HIPPO-VAC. The Craftool Company. SN 306,351. Pub. 3–10–70. Filed 8–30–68.

891,521. CIRCUIT-DECK. Beckman Instruments, Inc. SN 310,057. Pub. 3–10–70. Filed 10–21–68.

891,522. PORCH N PATIO. The Singer Company. SN 312,817. Pub. 3–10–70. Filed 11–21–68.

891,523. COOPERHEAT. Cooperheat. MULTIPLE CLASS (Classes 21 and 34). SN 315,696. Pub. 3–10–70. Filed 12–2–68.

891,524. DIPSTIK. ACS Industries, Inc. SN 319,258. Pub. 3–10–70. Filed 2–17–69.

891,525. CONDOR. IMC Magnetics Corp. SN 322,069. Pub. 3–10–70. Filed 3–18–69.

891,526. HARCO AND DESIGN. Harco Corporation. SN 322,588. Pub. 3–10–70. Filed 3–24–69.

891,527. SUPER Q. MSI Electronics Inc. SN 331,672. Pub. 3–10–70. Filed 7–2–69.

891,528. WINPOWER AND DESIGN. Winpower Manufacturing Co. SN 332,391. Pub. 3–10–70. Filed 7–11–69.

Class 22—Games, Toys, and Sporting Goods

891,529. ALUMAFLITE. Shakespeare Company. SN 326,448. Pub. 1–20–70. Filed 5–5–69.

891,530. PSYCHOTEAZE. Psychoteaze, Inc. SN 330,193. Pub. 3–10–70. Filed 6–16–69.

891,531. DIAMOND RATTLESUB. James W. Strader. SN 330,783. Pub. 3–10–70. Filed 6–23–69.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

891,459. (See Class 8 for this trademark.)

891,514. (See Class 21 for this trademark.)

891,515. (See Class 21 for this trademark.)

891,532. DRMCO HYDRA-PLANETARY. The Dominion Road Machinery Co., Limited. SN 263,362. Pub. 3–10–70. Filed 1–26–67.

891,533. PICKER UPPER. Christian B. Rasmussen. SN 277,934. Pub. 3–10–70. Filed 8–9–67.

891,534. DIADEM. Heinrich Wilhelm Dreyer. SN 279,882. Pub. 3–10–70. Filed 8–30–67.

891,535. SNR AND DESIGN. Societe Nouvelle de Roulements. SN 288,544. Pub. 3–10–70. Filed 1–10–68.

891,536. SCTM AND DESIGN. Silk City Textile Machinery Co. SN 297,097. Pub. 3–10–70. Filed 5–1–68.

891,537. CYROL. Kugelfischer Georg Schafer & Co. SN 303,805. Pub. 3–10–70. Filed 7–29–68.

891,538. DYNA-SET. Palmer Supply Co., d.b.a. Dupar Dynamics Division. SN 307,860. Pub. 3–10–70. Filed 9–20–68.

891,539. DAZEY AND DESIGN. Dazey Products Company. SN 308,471. Pub. 3–10–70. Filed 9–30–68.

891,540. STEEL CORE AND DESIGN. The Warner & Swazey Company. SN 308,728. Pub. 3–10–70. Filed 10–2–68.

891,541. CYCLO INDEX. Cyclo Index Corporation. SN 310,866. Pub. 3–10–70. Filed 10–30–68.

891,542. MARVEL. Marvel Industries, Inc. SN 314,580. Pub. 3–10–70. Filed 12–16–68.

891,543. FALCON AND F (DESIGN). Falcon Lock Co. MULTIPLE CLASS (Classes 23 and 25). SN 316,269. Pub. 3–10–70. Filed 1–10–69.

891,544. PANEL-VAC. Lear Siegler, Inc. SN 322,878. Pub. 3–10–70. Filed 3–26–69.

891,545. ANCHOR-VAC. Lear Siegler, Inc. SN 322,880. Pub. 3–10–70. Filed 3–26–69.

891,546. DECO AND DESIGN. Deco Tools, Inc. SN 328,091. Pub. 3–10–70. Filed 3–28–69.

891,547. HYDRADRIVER. Sky-Van Limited. SN 324,940. Pub. 3–10–70. Filed 4–18–69.

891,548. COMPUTERBILT. The John T. Parsons Company. SN 326,597. Pub. 3–10–70. Filed 5–7–69.

891,549. UCAR. Union Carbide Corporation. SN 330,812. Pub. 3–10–70. Filed 6–17–69.

891,550. MECANO. Hans Sickinger Co. SN 330,748. Pub. 3–10–70. Filed 6–23–69.

891,551. SURGITE AND DESIGN. Garsite Products, Inc. SN 332,659. Pub. 3–10–70. Filed 7–16–69.

Class 25—Locks and Safes

891,543. (See Class 23 for this trademark.)

Class 26—Measuring and Scientific Appliances

891,489. (See Class 18 for this trademark.)

891,552. SENSAUR. Foremost-McKesson, Inc., assignee, by mesne assignment, of Brunswick Corporation. SN 271,093. Pub. 9–9–69. Filed 5–10–67.

891,553. TRIDENT. Foremost-McKesson, Inc., assignee, by mesne assignment, of Brunswick Corporation. SN 279,246. Pub. 8–19–69. Filed 8–29–67.

891,554. SCOPE AD. Vectograph Corporation of America. SN 296,364. Pub. 3–10–70. Filed 4–23–68.

891,555. KORVETTE. Spartans Industries, Inc. SN 300,014. Pub. 3–10–70. Filed 6–7–68.

891,556. CHALLENGE AND DESIGN. The Challenge Machinery Company. SN 305,310. Pub. 3–10–70. Filed 8–16–68.

891,557. DIGITEMP. Delta Design, Inc. SN 306,464. Pub. 3–10–70. Filed 9–3–68.

891,558. AUCHEC. Dynamics Corporation of America. SN 308,316. Pub. 3–10–70. Filed 9–26–68.

891,559. FILMOSOUND EIGHT. Bell & Howell Company. SN 309,829. Pub. 3–10–70. Filed 10–17–68.

890,560. C. Chronetics, Inc. SN 312,564. Pub. 3–10–70. Filed 11–19–68.

891,561. MISCELLANEOUS DESIGN. Chronetics, Inc., assignee of Intercontinental Instruments, Inc. SN 312,592. Pub. 3–10–70. Filed 11–19–68.

891,562. ARABESQUE. Burwood Products Company. MULTIPLE CLASS (Classes 26, 32, and 50). SN 312,944. Pub. 3–10–70. Filed 11–25–68.

891,563. METALLOSCOPE. Spectrex Company. SN 319,645. Pub. 3–10–70. Filed 2–19–69.

891,564. AUDIO-LINK AND MAGIC LANTERN DESIGN. Link Enterprises, Inc. SN 320,067. Pub. 3–10–70. Filed 2–25–69.

891,565. ELLISON. Dieterich Standard Corporation. SN 327,867. Pub. 3–10–70. Filed 5–21–69.

891,566. VISILINE. American Map Company, Inc. MULTIPLE CLASS (Classes 26, 37, 38, and 50). SN 331,139. Pub. 3–10–70. Filed 6–27–69.

891,567. MINIMASTER. Dwyer Instruments, Inc. SN 338,966. Pub. 3–10–70. Filed 9–26–69.

Class 27—Horological Instruments

891,568. M AND DESIGN. Mite Corporation. SN 300,606. Pub. 3–10–70. Filed 6–17–68.

891,569. QUARTZ-CHRON. Longines-Wittnauer Watch Co., Inc. SN 333,277. Pub. 3–10–70. Filed 7–23–69.

891,570. QUARTRON. Timex Corporation (Delaware corporation), by merger and change of name from Timex Corporation (Connecticut corporation). MULTIPLE CLASS (Classes 27 and 28). SN 337,394. Pub. 3–10–70. Filed 9–9–69.

Class 28—Jewelry and Precious-Metal Ware

891,459. (See Class 8 for this trademark.)

891,570. (See Class 27 for this trademark.)

Class 30—Crockery, Earthenware, and Porcelain

891,459. (See Class 8 for this trademark.)

891,464. (See Class 12 for this trademark.)

891,571. AQUA-TAP. The Cuno Engineering Corporation. SN 278,581. Pub. 3–10–70. Filed 8–18–67.

891,572. BIOFLEX. Union Carbide Corporation. SN 316,848. Pub. 3–10–70. Filed 1–16–69.

891,573. WEBCOR. U.S. Industries, Inc. SN 333,952. Pub. 3–10–70. Filed 7–30–69.

Class 32—Furniture and Upholstery

891,459. (See Class 8 for this trademark.)

891,562. (See Class 26 for this trademark.)

891,574. ORTHO-CARE. Nationwide Bedding Corp. SN 327,293. Pub. 3–10–70. Filed 5–14–69.

891,575. PLUS ONE. Drexel Enterprises, Inc. SN 330,374. Pub. 3–10–70. Filed 6–18–69.

891,576. SELECT-A-SLIDE. Wilder Mfg. Co. Inc. SN 330,978. Pub. 3–10–70. Filed 6–24–69.

Class 33—Glassware

891,459. (See Class 8 for this trademark.)

891,577. PROTEX. Mississippi Glass Company. SN 299,470. Pub. 3–10–70. Filed 5–31–68.

Class 34—Heating, Lighting, and Ventilating Apparatus

891,459. (See Class 8 for this trademark.)

891,523. (See Class 21 for this trademark.)

891,578. FLEX-LO-X. Flex-Cable Corporation. SN 292,477. Pub. 3–10–70. Filed 3–5–68.

891,579. WEBCOR. U.S. Industries, Inc. SN 333,953. Pub. 3–10–70. Filed 7–30–69.

891,580. HURRICANE. Hurricane Fan and Ventilator Co. SN 336,932. Pub. 3–10–70. Filed 9–3–69.

891,581. THERMO-FLECTOR. International Telephone and Telegraph Corporation. SN 340,478. Pub. 3–10–70. Filed 10–13–69.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

891,582. MISCELLANEOUS DESIGN. Minnesota Rubber Company. SN 294,844. Pub. 3–10–70. Filed 4–3–68.

891,583. EASY-TITE. J. A. Sexauer Mfg. Co., Inc. SN 327,060. Pub. 3–10–70. Filed 5–12–69.

Class 36—Musical Instruments and Supplies

891,513. (See Class 21 for this trademark.)

891,518. (See Class 21 for this trademark.)

891,584. BLUES WAY . . . IS WHERE IT'S AT! AND DESIGN. ABC Records, Inc. SN 323,773. Pub. 3–10–70. Filed 4–7–69.

891,585. MISCELLANEOUS DESIGN. Jon W. Whirry, d.b.a. Jonathan W. Little. SN 332,389. Pub. 3–10–70. Filed 7–11–69.

891,586. PTI. Peerless Telerad, Inc. SN 339,812. Pub. 3–10–70. Filed 10–6–69.

Class 37—Paper and Stationery

891,431. (See Class 2 for this trademark.)

891,566. (See Class 26 for this trademark.)

891,587. MINI-MORNAP. Fort Howard Paper Company. SN 295,133. Pub. 3–27–68. Filed 4–8–68.

891,588. CARDIOREX. Robert Koreska, d.b.a. W. Koreska. SN 296,827. Pub. 3–10–70. Filed 4–23–68.

891,589. MAGNA. The Northwest Paper Company. SN 316,671. Pub. 8–5–69. Filed 1–15–69.

891,590. SPUN-TUFF. Kimberly-Clark Corporation. SN 330,892. Pub. 3–10–70. Filed 6–18–69.

Class 38—Prints and Publications

891,566. (See Class 26 for this trademark.)

891,591. DESIGN OF A FIGURE. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 277,676. Pub. 3–10–70. Filed 8–7–67.

891,592. DESIGN OF FIGURE AND FOUR HEADS. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 277,677. Pub. 3–10–70. Filed 8–7–67.

891,593. SUB-MARINER. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 278,014. Pub. 3–10–70. Filed 8–10–67.

891,594. MALE. Magazine Management Co., Inc., assignee, by mesne assignment, of Magazine Management Company. SN 278,710. Pub. 3–10–70. Filed 8–21–67.

891,595. SECURITY COLOR CODE AND DESIGN. Security Van Lines, Inc. SN 287,588. Pub. 3–10–70. Filed 12–26–67.

891,596. IMAGENUITY. Kenneth Stremming, d.b.a. Imagenuity. SN 298,762. Pub. 3–10–70. Filed 5–21–68.

891,597. MOVIE WORLD. Magazine Management Co., Inc., assignee of Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group. SN 308,526. Pub. 3–10–70. Filed 9–30–68.

891,598. WEATHER. Mead Johnson & Company. SN 314,498. Pub. 3–10–70. Filed 12–16–68.

891,599. TV PICTO GAME. Robert Russell. SN 314,918. Pub. 3–10–70. Filed 12–19–68.

891,600. THE DENTISTS MARKET PLACE. Marketplace Publications, Inc. SN 317,074. Pub. 3–10–70. Filed 1–21–69.

891,601. THE LAWYERS MARKET PLACE. Marketplace Publications, Inc. SN 317,075. Pub. 3–10–70. Filed 1–21–69.

891,602. THE PRINCIPLES OF PERSUASION AND DESIGN. Burt Munk Productions, Inc. SN 317,204. Pub. 3–10–70. Filed 1–22–69.

891,603. THE EXPLORER. The Cleveland Museum of Natural History. SN 318,292. Pub. 3–10–70. Filed 2–4–69.

891,604. VIKING SEAFARER BOOKS AND DESIGN. The Viking Press, Inc. SN 319,004. Pub. 3–10–70. Filed 2–12–69.

891,605. WASHINGTON DRUG LETTER. McGraw-Hill, Inc. SN 323,002. Pub. 3–10–70. Filed 3–27–69.

891,606. SYNOPSIS. Curriculum Innovations, Inc. SN 330,910. Pub. 3–10–70. Filed 6–25–69.

891,607. THOMAS REGISTER. Thomas Publishing Company. SN 332,866. Pub. 3–10–70. Filed 7–17–69.

891,608. O.W.L. Woodmen of the World Life Insurance Society and/or Omaha Woodmen Life Insurance Society. SN 334,412. Pub. 3–10–70. Filed 8–4–69.

891,609. FE DESIGN. Addison-Wesley Publishing Company, Inc. SN 335,830. Pub. 3–10–70. Filed 8–21–69.

891,610. REPLAY. Replay Publications, Inc. SN 336,602. Pub. 3–10–70. Filed 8–28–69.

891,611. AUDUBON. National Audubon Society, Inc. SN 338,687. Pub. 3–10–70. Filed 9–23–69.

891,612. DIAL-'N-ALBUM. W. R. Grace & Co. SN 338,778. Pub. 3–10–70. Filed 9–24–69.

891,613. THE GOLDEN MAGAZINE FOR BOYS AND GIRLS. Western Publishing Company, Inc. SN 338,826. Pub. 3–10–70. Filed 9–24–69.

891,614. PSAE. Production Systems for Architects & Engineers, Inc. SN 339,682. Pub. 3–10–70. Filed 10–3–69.

891,615. EC AND ART PALLET DESIGN. Elmcraft, Inc. SN 339,790. Pub. 3–10–70. Filed 10–6–69.

Class 39—Clothing

891,616. VANAPRESS. Phillips-Van Heusen Corporation. SN 215,259. Pub. 9–7–65. Filed 3–29–65.

891,617. VANOPRESS. Phillips-Van Heusen Corporation. SN 215,260. Pub. 9–7–65. Filed 3–29–65.

891,618. CHARLEY BROWN. Woolrich Woolen Mills. SN 291,930. Pub. 11–5–68. Filed 2–26–68.

891,619. WIGGLE TOES. Jayson Shoe Manufacturing Co., Inc. SN 317,959. Pub. 3–10–70. Filed 1–30–69.

891,620. ARISTOC TOPS. Aristoc Limited. SN 321,592. Pub. 3–10–70. Filed 4–16–69.

891,621. MILER. Genesco Inc. SN 321,795. Pub. 3–10–70. Filed 3–17–69.

891,622. DIA-STAR. Pilgrim Industries, Inc. MULTIPLE CLASS (Classes 39 and 40). SN 323,124. Pub. 3–10–70. Filed 3–28–69.

891,623. PARTOUT AND DESIGN. Partout International Corp. SN 327,047. Pub. 3–10–70. Filed 5–12–69.

891,624. THE HIGHWICK. Consolidated Foods Corporation. SN 330,107. Pub. 3–10–70. Filed 6–16–69.

891,625. NEW MAN. Perret-Jaunet S.A. SN 333,295. Pub. 3–10–70. Filed 7–23–69.

891,626. L'EGGS. Hanes Corporation. SN 335,572. Pub. 3–10–70. Filed 8–18–69.

891,627. DINA. Bogart Neckwear, Ltd. SN 337,224. Pub. 3–10–70. Filed 9–8–69.

Class 40—Fancy Goods, Furnishings, and Notions

891,622. (See Class 30 for this trademark.)

891,628. DESIGN OF A DOE-EYED FEMALE MANNEQUIN. Bernard, Inc. MULTIPLE CLASS (Classes 40, 100, 101, and 102). SN 317,271. Pub. 3–10–70. Filed 1–23–69.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

891,629. WIZARDRY. Burlington Industries, Inc. SN 327,764. Pub. 3–10–70. Filed 5–20–69.

Class 43—Thread and Yarn

891,630. PRISCILLA AND DESIGN. Orchard Yarn and Thread Company. SN 307,750. Pub. 3–10–70. Filed 9–19–68.

Class 44—Dental, Medical, and Surgical Appliances

891,489. (See Class 18 for this trademark.)

891,631. ELECTRONIC ORTHOPTOR. Harry C. Otwell. SN 299,876. Pub. 3–10–70. Filed 5–29–68.

891,632. PYROLITE. Gulf General Atomic Incorporated. SN 312,673. Pub. 3–10–70. Filed 11–20–68.

891,633. JL AND DESIGN. The Jaeger Machine Company. SN 323,195. Pub. 3–10–70. Filed 3–28–69.

891,634. AUROLITE. Aurium Research Corp. SN 325,279. Pub. 3–31–70. Filed 4–23–69.

891,635. PORTASCAN. Picker Electronics, Inc. SN 330,625. Pub. 3–10–70. Filed 6–20–69.

891,636. COMFORT STREAM. Boulevard Electronics, Inc. SN 331,479. Pub. 3–10–70. Filed 7–1–69.

891,637. W AND DESIGN. Wilkinson Dental Manufacturing Company, Incorporated, d.b.a. The Wilkinson Company. SN 331,548. Pub. 3–10–70. Filed 7–1–69.

891,638. OFFSET. Medical Supply Company. SN 332,036. Pub. 3–10–70. Filed 7–8–69.

891,639. X-GRID. Bio-Medical Systems Inc. SN 332,213. Pub. 3–10–70. Filed 7–10–69.

891,640. KRYOSPRAY. Brymill Corporation. SN 323,430. Pub. 2–10–70. Filed 4–2–69.

891,641. TACT. Chesebrough-Pond's Inc. SN 337,749. Pub. 3–10–70. Filed 9–12–69.

891,642. TINA. Chesebrough-Pond's Inc. SN 337,751. Pub. 3–10–70. Filed 9–12–69.

Class 45—Soft Drinks and Carbonated Waters

891,643. WITH THAT HUG-A-JUG FLAVOR! The Cotton Club Bottling Company. SN 283,321. Pub. 3–10–70. Filed 10–25–67.

891,644. HOLLYWOOD. National Bakers Services, Inc. SN 286,276. Pub. 3–10–70. Filed 12–5–67.

891,645. TART SWEET. The Squirt Company. SN 296,882. Pub. 3–10–70. Filed 4–29–68.

891,646. HIGH PROTEIN YOO-HOO CHOCOLATE ENERGY DRINK AND DESIGN. Yoo-Hoo Beverage Co. SN 324,321. Pub. 3–10–70. Filed 4–11–69.

Class 46—Foods and Ingredients of Foods

891,647. FESTIVE FANCIES. Eskimo Pie Corporation. SN 280,370. Pub. 3–10–70. Filed 9–15–67.

891,648. MC SORLEY'S. McSorley's, Inc. MULTIPLE CLASS (Classes 46 and 100). SN 286,864. Pub. 3–10–70. Filed 12–14–67.

891,649. BONUSBURGER. Foodmaker, Inc. SN 303,781. Pub. 9–9–69. Filed 7–31–68.

891,650. MINIKINS. Ward Chocolate Company, Inc., by change of name from Blumenthal Bros. Chocolate Co. SN 308,358. Pub. 3–10–70. Filed 9–27–68.

891,651. XAVI. Cooperative Conservera Navarra (Conserna). SN 309,241. Pub. 3–10–70. Filed 10–9–68.

891,652. URSCHELBURGER. Urschel Laboratories, Inc. SN 312,080. Pub. 3–10–70. Filed 11–13–68.

891,653. GRISTEDE'S AND DESIGN. Gristede Bros., Inc. SN 314,340. Pub. 3–10–70. Filed 12–12–68.

891,654. GRISTEDE'S AND DESIGN. Gristede Bros., Inc. SN 314,343. Pub. 3–10–70. Filed 12–12–68.

891,655. GRISTEDE'S AND DESIGN. Gristede Bros., Inc. SN 314,345. Pub. 3–10–70. Filed 12–12–68.

891,656. GRISTEDE'S AND DESIGN. Gristede Bros., Inc. SN 314,347. Pub. 3–10–70. Filed 12–12–68.

891,657. SQ SPARTAN QUALITY AND DESIGN. Spartan Grain & Mill Co. SN 314,365. Pub. 3–10–70. Filed 12–12–68.

891,658. MERILAC. The Dietene Company, d.b.a. The Delmark Company. SN 314,390. Pub. 3–10–70. Filed 12–30–68.

891,659. HAUTLY. Hautly Cheese Company, Inc. SN 315,412. Pub. 3–10–70. Filed 12–30–68.

891,660. DIP'N SIP. Dip'n Sip Donuts of America, Inc. SN 315,475. Pub. 3–10–70. Filed 12–31–68.

891,661. THE TASTE TELLS THE TALE AND T DESIGN. Dip'n Sip Donuts of America, Inc. SN 316,004. Pub. 3–10–70. Filed 1–7–69.

891,662. HEREFORD HAVEN BRANDS. Geo. A. Hormel & Company. SN 319,603. Pub. 3–10–70. Filed 2–19–69.

891,663. ORO. Otto Roth & Company, Inc. SN 323,020. Pub. 3–10–70. Filed 3–27–69.

891,664. SOLA. Otto Roth & Company, Inc. SN 323,021. Pub. 3–10–70. Filed 3–27–69.

891,665. POLLY PARROT. Hiland Potato Chip Co. of Des Moines, d.b.a. Hiland Potato Chip Co. of Sioux Falls and Polly Parrot Potato Chip Co. SN 323,454. Pub. 3–10–70. Filed 4–2–69.

891,666. MARVAL. Marval Poultry Company, Inc. SN 323,718. Pub. 3–10–70. Filed 4–4–69.

891,667. ROYAL VALLEY. Marval Poultry Company, Inc. SN 323,719. Pub. 3–10–70. Filed 4–4–69.

891,668. HOG ENOUGH TO WANT YOUR BUSINESS . . . MAN ENOUGH TO TREAT YOU RIGHT. Bettie M. Taylor, d.b.a. Taylor's Sausage Co. SN 323,859. Pub. 3–10–70. Filed 4–7–69.

891,669. CINAMON JOE. General Mills, Inc. SN 324,009. Pub. 3–10–70. Filed 4–9–69.

891,670. JOLLY PUFFS. General Mills, Inc. SN 324,014. Pub. 3–10–70. Filed 4–9–69.

891,671. HADLEY. Hadley Fruit Orchards, Inc. SN 325,086. Pub. 3–10–70. Filed 4–21–69.

891,672. FIRE CHIEF. Topps Chewing Gum, Incorporated. SN 325,904. Pub. 3–10–70. Filed 4–29–69.

891,673. PICTORIAL DESIGN OF MINNIE PEARL. Performance Systems, Inc. SN 327,320. Pub. 3–10–70. Filed 5–15–69.

891,674. CORY. Cory Corporation. SN 329,035. Pub. 3–10–70. Filed 6–4–69.

891,675. THERE IS A DIFFERENCE. Strazzulla Bros. Company. SN 329,393. Pub. 3–10–70. Filed 6–6–69.

891,676. HAMBURGER HELPER. General Mills, Inc. SN 332,067. Pub. 3–10–70. Filed 7–9–69.

891,677. ORADEX. General Mills, Inc. SN 332,581. Pub. 3–10–70. Filed 7–15–69.

891,678. POWS. General Mills, Inc. SN 333,049. Pub. 3–10–70. Filed 7–22–69.

Class 47—Wines

891,679. GOLDENE SONNE. Schenley Affiliated Brands Corp. d.b.a. Dreyfus Ashby & Co. SN 324,840. Pub. 3–10–70. Filed 4–17–69.

Class 48—Malt Beverages and Liquors

891,680. JAMAICA SUN. Jamaica Company Ltd., d.b.a. Jamaica Brewing Co. SN 339,505. Pub. 3–10–70. Filed 10–2–69.

Class 49—Distilled Alcoholic Liquors

891,681. EZRA WEBB AND DESIGN. Ezra S. Webb, d.b.a. Ezra Webb Distilling Co. SN 324,666. Pub. 3–10–70. Filed 4–16–69.

891,682. SUNSET. Consolidated Distilled Products, Inc. d.b.a. Sunset Company. SN 326,999. Pub. 3–10–70. Filed 5–12–69.

891,683. YOUR HOST. Gilmore & Co., d.b.a. Your Host Products Co. SN 333,124. Pub. 3–10–70. Filed 7–22–69.

Class 50—Merchandise Not Otherwise Classified

891,459. (See Class 8 for this trademark.)

891,562. (See Class 26 for this trademark.)

891,566. (See Class 26 for this trademark.)

891,684. HAMMERHEAD AND DESIGN. Hammerhead, Inc. SN 311,683. Pub. 3–10–70. Filed 11–8–68.

891,685. GLOBERRIES. Panaura Limited, d.b.a. Top-Optic Designs. SN 313,829. Pub. 3–10–70. Filed 12–6–68.

891,686. "GRIN AND WEAR IT." Milton Story. SN 326,924. Pub. 3–10–70. Filed 5–9–69.

891,687. CHILD AND BLANKET (DESIGN). The Security Blanket Co. SN 327,334. Pub. 3–10–70. Filed 5–15–69.

Class 51—Cosmetics and Toilet Preparations

891,688. VOTE. Bristol-Myers Company. SN 227,242. Pub. 5–10–66. Filed 9–7–65.

891,689. WORLD OF BEAUTY. World of Beauty, Inc., assignee of Max Factor & Co., d.b.a. Max Factor. SN 244,912. Pub. 8–15–67. Filed 5–4–66.

891,690. PORT OF CALL. Anson Incorporated. SN 247,871. Pub. 11–29–66. Filed 6–13–66.

891,691. WORLD OF BEAUTY. World of Beauty, Inc., assignee of Viviane Woodard Corporation. SN 250,543. Pub. 12–12–67. Filed 7–18–66.

891,692. MISCELLANEOUS DESIGN. H. G. Lettner & S5hne. MULTIPLE CLASS (Classes 51 and 52). SN 278,505. Pub. 3–10–70. Filed 8–17–67.

891,693. SOFT & DRI. The Gillette Company. SN 309,860. Pub. 3–10–70. Filed 10–17–68.

891,694. ANTISEP. Carter-Wallace, Inc. SN 319,223. Pub. 3–10–70. Filed 2–17–69.

891,695. HAL-SPORT. Lancôme S.A. SN 327,150. Pub. 3–10–70. Filed 5–13–69.

891,696. KOTIQUE. Kimberly-Clark Corporation. SN 336,294. Pub. 3–10–70. Filed 7–24–69.

Class 52—Detergents and Soaps

891,449. (See Class 6 for this trademark.)

891,488. (See Class 18 for this trademark.)

891,692. (See Class 52 for this trademark.)

891,697. HASTE. Pathway Products Corporation. SN 328,580. Pub. 3–10–70. Filed 5–28–69.

Service Marks

Class 100—Miscellaneous

891,628. (See Class 40 for this trademark.)

891,648. (See Class 46 for tis trademark.)

891,698. WORLD OF BEAUTY CLUB. World of Beauty, Inc., assignee of The Reuben H. Donnelley Corporation. SN 235,171. Pub. 12–12–67. Filed 12–28–65.

891,699. "MODELING ASSOCIATION OF AMERICA—STUDENT MODEL PAGEANTS—PROFESSIONAL MODEL PAGEANT—MAA" AND DESIGN. Modeling Association of America, Inc. SN 294,744. Pub. 3–10–70. Filed 4–2–68.

891,700. NAPOLIS. Wal-Bon of Ohio, Inc. SN 304,685. Pub. 3–10–70. Filed 8–7–68.

891,701. STOP 50. The Standard Oil Company, assignee of Boron Oil Company. MULTIPLE CLASS (Classes 100 and 103). SN 307,608. Pub. 3–10–70. Filed 9–18–68.

891,702. MARK INN AND DESIGN. Great American Investment Company. SN 308,781. Pub. 7–29–69. Filed 10–3–68.

891,703. MISCELLANEOUS DESIGN. Joseph P. Kennedy, Jr. Foundation. SN 310,566. Pub. 3–10–70. Filed 10–25–68.

891,704. SYNERGETIC. Schlumberger Technology Corporation. SN 317,622. Pub. 3–10–70. Filed 1–27–69.

891,705. AMERICAN SCHIZOPHRENIA FOUNDATION. American Schizophrenia Foundation. SN 320,927. Pub. 3–10–70. Filed 3–6–69.

891,706. STEAKMASTER. Al Reiser, d.b.a. Steakmaster. SN 323,126. Pub. 3–10–70. Filed 3–28–69.

891,707. AZAR'S. Azar's, Inc. SN 323,415. Pub. 3–10–70. Filed 4–2–69.

891,708. JOHN JAY. John J. Grisafi. SN 323,560. Pub. 3–10–70. Filed 4–3–69.

891,709. COMPROFILE. Computer Profiles, Inc. SN 324,691. Pub. 3–10–70. Filed 4–16–69.

891,710. COMPROFLO. Computer Profiles, Inc. SN 324,693. Pub. 3–10–70. Filed 4–16–69.

891,711. MISCELLANEOUS DESIGN. Tinkers & Thinkers Co. SN 325,312. Pub. 3–10–70. Filed 4–23–69.

891,712. TINKERS & THINKERS. Tinkers & Thinkers Co. SN 325,313. Pub. 3–10–70. Filed 4–23–69.

891,713. EDDY ARNOLD'S. Eddy Arnold's Tennessee Fried Chicken, Inc. SN 325,690. Pub. 3–10–70. Filed 4–28–69.

891,714. POOLE AND SHIELD DESIGN. L.A.P., Inc. SN 328,143. Pub. 3–10–70. Filed 5–23–69.

891,715. MOTHER'S. Greenwood Restaurant Corporation. SN 328,296. Pub. 3–10–70. Filed 5–26–69.

891,716. "LUXURY FOR LESS." Ramada Inns, Inc. SN 329,647. Pub. 3–10–70. Filed 7–24–69.

891,717. A TOUCH OF GOLD. Steak n Shake, Inc. SN 330,017. Pub. 3–10–70. Filed 6–13–69.

891,718. PEPSICO. PepsiCo, Inc. SN 337,412. Pub. 3–10–70. Filed 9–9–69.

Class 101—Advertising and Business

891,628. (See Class 40 for this trademark.)

891,719. AID. American Institutional Developers, Inc. SN 298,094. Pub. 3–10–70. Filed 5–14–68.

891,720. MISCELLANEOUS DESIGN. The Children's Hospital of Akron. SN 299,807. Pub. 3–10–70. Filed 5–7–68.

891,721. TIMELY TOP TEMPORARIES TTT AND DESIGN. Temporary Help Services, Inc. SN 302,776. Pub. 3–10–70. Filed 7–15–68.

891,722. COHEN KELLEY AND DESIGN. Jay J. Shuer. SN 305,078. Pub. 3–10–70. Filed 8–13–68.

891,723. COPPER KETTLE. Copper Kettle, Inc. SN 307,813. Pub. 5–6–69. Filed 9–13–68.

891,724. A & B PERSONNEL SYSTEMS. A & B Personnel Systems, Ltd. SN 309,002. Pub. 3–10–70. Filed 10–7–68.

891,725. DEDICATION-INTEGRITY AND DESIGN. Professional Nurses Bureau, Inc. SN 309,893. Pub. 3–10–70. Filed 10–17–68.

891,726. SC SHOPPER'S CREDIT AND DESIGN. Shopper's Credit, Inc. SN 309,911. Pub. 3–10–70. Filed 10–17–68.

891,727. BONUSAVER. Shopper's Credit, Inc. SN 309,912. Pub. 3–10–70. Filed 10–17–68.

891,728. TAXPEDITERS. Taxpediters, Inc. SN 311,076. Pub. 3–10–70. Filed 10–31–68.

891,729. TURTLE CREEK. Turtle Creek Management, Inc. SN 313,620. Pub. 3–10–70. Filed 12–4–68.

891,730. ATOM DESIGN. Facsimile Transmission Network, Inc. MULTIPLE CLASS (Classes 101 and 104). SN 317,541. Pub. 3–10–70, Filed 1–27–69.

891,731. FTN. Facsimile Transmission Network, Inc. MULTIPLE CLASS (Classes 101 and 104). SN 317,542. Pub. 3–10–70. Filed 1–27–69.

891,732. TOPS. Southern Pacific Transportation Company, assignee of Southern Pacific Company. SN 319,968. Pub. 3–10–70. Filed 2–24–69.

891,733. GRASP. Decision Sciences Corporation. SN 320,446. Pub. 3–10–70. Filed 3–3–69.

891,734. GOLDEN PANTRY AND DESIGN. Golden Pantry Food Stores, Inc. SN 322,062. Pub. 3–10–70. Filed 3–18–69.

891,735. HEP-UR-SEF. Hep-Ur-Sef, Inc. SN 322,983. Pub. 3–10–70. Filed 3–27–69.

891,736. TRS. Ticket Reservation Systems, Inc. SN 323,211. Pub. 3–10–70. Filed 4–1–69.

891,737. ANITA SHOPS. Anita Shops Incorporated. SN 323,774. Pub. 3–10–70. Filed 4–7–69.

891,738. BARNABY'S. Barnaby's Incorporated. SN 327,736. Pub. 3–10–70. Filed 5–20–69.

891,739. HOUSING SYSTEMS FRANCHISE HSF AND DESIGN. Abee Homes, Inc. SN 330,992. Pub. 3–10–70. Filed 6–26–69.

891,740. ARTHUR TREACHER'S FISH & CHIPS AND DESIGN. Arthur Treacher's Fish & Chips, Inc. SN 331,810. Pub. 3–10–70. Filed 7–7–69.

891,741. GIFTS FOR MEN, INC. AND DESIGN. Gifts for Men, Inc. SN 332,660. Pub. 3–10–70. Filed 7–17–69.

Class 102 — Insurance and Financial

891,628. (See Class 40 for this trademark.)

891,742. TOWN & COUNTRY CHARGE. Continental Illinois National Bank and Trust Company of Chicago. SN 258,288. Pub. 10–3–67. Filed 11–9–66.

891,743. PROSURANCE. Prosurance, Inc. SN 280,328. Pub. 5–20–69. Filed 9–14–67.

891,744. DESIGN OF A HUMAN HOLDING A TELEPHONE. General Finance Corporation. SN 313,574. Pub. 3–10–70. Filed 12–4–68.

891,745. FRIENDLY BOB ADAMS. General Finance Corporation. SN 313,575. Pub. 3–10–70. Filed 12–4–68.

891,746. MISCELLANEOUS DESIGN. Continental Illinois National Bank and Trust Company of Chicago. SN 321,384. Pub. 3–10–70. Filed 3–11–69.

891,747. ARROWS DESIGN. Continental Illinois National Bank and Trust Company of Chicago. SN 321,385. Pub. 3–10–70. Filed 3–11–69.

Class 103 — Construction and Repair

891,701. (See Class 100 for this traemark.)

891,748. DIKOR. Serv-Kor, Inc. SN 334,431. Pub. 3–10–70. Filed 8–5–69.

Class 104 — Communication

891,730. (See Class 101 for this trademark.)

891,731. (See Class 101 for this trademark.)

Class 107 — Education and Entertainment

891,749. MOTOR TOWN REVUE. Motown Record Corporation. SN 285,140. Pub. 3–10–70. Filed 11–17–67.

891,750. THE TRADER BEN SHOW. Rosenbush Advertising Agency, Inc. SN 298,151. Pub. 3–10–70. Filed 5–14–68.

891,751. HANK WILLIAMS, JR. AND THE CHEATIN' HEARTS. Randall Hank Williams, d.b.a. Hank Williams, Jr. SN 303,555. Pub. 3–10–70. Filed 7–24–68.

891,752. REDS IN C DESIGN. Cincinnati Reds, Inc. SN 319,279. Pub. 3–10–70. Filed 2–17–69.

891,753. THE PHIL DONAHUE SHOW. Avco Broadcasting Corporation. SN 323,671. Pub. 3–10–70. Filed 4–4–69.

891,754. BOONE HALL. Nancy T. and Harris M. McRae (joint owners). SN 323,835. Pub. 3–10–70. Filed 4–7–69.

891,755. ST REGIS. St. Regis Paper Company. SN 324,233. Pub. 3–10–70. Filed 4–10–69.

891,756. ST REGIS. St. Regis Paper Company. SN 324,234. Pub. 3–10–70. Filed 4–10–69.

891,757. SHANGO. Shango Enterprises, Inc. SN 326,800. Pub. 3–10–70. Filed 5–8–69.

891,758. MISCELLANEOUS DESIGN. Southwestern Historical Wax Museum, Inc. SN 327,069. Pub. 3–10–70. Filed 5–12–69.

891,759. THE COUNTRY PLACE. Show Biz, Inc. SN 328,735. Pub. 3–10–70. Filed 5–29–69.

891,760. IFT. Instrument Flight Training, Inc. SN 332,204. Pub. 3–10–70. Filed 7–10–69.

891,761. BULLETS. Baltimore Bullets Basketball Club, Inc. SN 332,307. Pub. 3–10–70. Filed 7–11–69.

Collective Membership Mark

Class 200

891,762. NHL AND SHIELD DESIGN. National Hockey League. SN 314,765. Pub. 3–10–70. Filed 12–18–68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

891,766. Modernage Products, Inc., Union, N.J. SN 255,154. Filed P.R. 9–22–66; Am. S.R. 1–9–70.

PROTECT

Class 4—Abrasives and Polishing Materials

For Liquid Preparation for Polishing, Sealing or Covering Floors (Int. Cl. 8).

Class 52—Detergents and Soaps

For Liquid Preparation for Removing Wax From Floors (Int. Cl. 8).

First use July 7, 1966.

891,822. Clairol Incorporated, New York, N.Y. SN 297,490. Filed P.R. 5–7–68; Am. S.R. 2–11–70.

THE JAR

Class 51—Cosmetics and Toilet Preparations

For Hair Coloring, Hair Lightener, Hair Conditioner, Hair Groom, Nail Polish, Lipstick, Rouge, Skin Moisturizing Lotion, Compact Face Powder, Moisture Foundation Make-Up, Skin Freshener and Cleanser (Int. Cl. 8).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 8).

First use Apr. 16, 1968.

891,823. Clairol Incorporated, New York, N.Y. SN 297,492. Filed P.R. 5–7–68; Am. S.R. 2–11–70.

THE BOTTLE

Class 51—Cosmetics and Toilet Preparations

For Hair Coloring, Hair Lightener, Hair Conditioner, Hair Groom, Nail Polish, Lipstick, Rouge, Skin Moisturizing Lotion, Compact Face Powder, Moisture Foundation Make-Up, Skin Freshener and Cleanser (Int. Cl. 8).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 8).

First use Apr. 16, 1968.

891,824. Clairol Incorporated, New York, N.Y. SN 297,493. Filed P.R. 5–7–68; Am. S.R. 2–11–70.

THE CUP

Class 51—Cosmetics and Toilet Preparations

For Hair Coloring, Hair Lightener, Hair Conditioner, Hair Groom, Nail Polish, Lipstick, Rouge, Skin Moisturizing Lotion, Compact Face Powder, Moisture Foundation Make-Up, Skin Freshener and Cleanser (Int. Cl. 8).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 8).

First use Apr. 16, 1968.

891,825. Clairol Incorporated, New York, N.Y. SN 297,494. Filed P.R. 5–7–68; Am. S.R. 2–11–70.

THE BOX

Class 51—Cosmetics and Toilet Preparations

For Hair Coloring, Hair Lightener, Hair Conditioner, Hair Groom, Nail Polish, Lipstick, Rouge, Skin Moisturizing Lotion, Compact Face Powder, Moisture Foundation Make-Up, Skin Freshener and Cleanser (Int. Cl. 8).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 8).

First use Apr. 16, 1968.

SECTION 2

Class 1 — Raw or Partly Prepared Materials

891,763. Alta Industries, Inc., Portland, Oreg. SN 309,352. Filed P.R. 10–10–68; Am. S.R. 12–22–69.

PLASTIC PARCHMENT

For Decorative Synthetic Plastic Sheet Material Having a Surface Simulating the Appearance of Parchment (Int. Cl. 17).
First use July 25, 1965.

Class 2 — Receptacles

891,764. Brookpark-Royalon Inc., Sebring, Ohio. SN 321,465. Filed P.R. 3–12–69; Am. S.R. 1–26–70.

STAIN-PROOF

For Plastic Dinnerware (Int. Cl. 21).
First use on or about Apr. 30, 1962.

891,765. J. Chein & Company, Burlington, N.J. SN 325,431. Filed P.R. 4–24–69; Am. S.R. 3–5–70.

WOODBURY

For Waste Baskets, Bread Boxes, Canisters, Tissue Boxes, Hampers, and Dust Pans (Int. Cls. 20 and 21).
First use February 1968.

Class 4 — Abrasives and Polishing Materials

891,766. See Section 1 (Combined Certificate).

Class 6 — Chemicals and Chemical Compositions

891,767. Western Brush Co., Inc., Chicago, Ill. SN 299,389. Filed P.R. 5–29–68; Am. S.R. 11–12–69.



STATIC-STOP!

For Anti-Static Electric Spray (Int. Cl. 1).
First use September 1963.

891,768. The Barcolene Company, Holbrook, Mass. SN 312,745. Filed 11–21–68.

CLEAN SHIELD

For Windshield Washer Anti-Freeze (Int. Cl. 1).
First use Sept. 11, 1968.

Class 12 — Construction Materials

891,769. The Bostwick Steel Lath Company, Niles, Ohio. SN 298,565. Filed P.R. 5-20-68; Am. S.R. 5-28-69.

"SPLASH-GUARD"

For Casing Bead for Doors and Windows With an Attached Apron of Polyethylene Film (Int. Cl. 6).
First use Sept. 6, 1967.

891,770. Mastic Corporation, South Bend, Ind. SN 305,661. Filed P.R. 8-21-68; Am. S.R. 2-27-70.

BARKWOOD

For Building Siding Material Formed of Metal (Int. Cl. 6).
First use Jan. 19, 1968.

Class 16 — Protective and Decorative Coatings

891,771. Connoisseur Studio, Inc., Middletown, Ky. SN 293,478. Filed P.R. 3-18-68; Am. S.R. 4-7-69.

DECAL-IT

For Emulsion To Be Applied to Pictures in Order To Convert Them to Decals (Int. Cl. 16).
First use Feb. 26, 1968.

Class 17 — Tobacco Products

891,772. Brown & Williamson Tobacco Corporation, Louisville, Ky. SN 326,586. Filed P.R. 5-7-69; Am. S.R. 2-5-70.

BROWN & WILLIAMSON TOBACCO CORPORATION

For Cigarettes (Int. Cl. 34).
First use at least as early as May 2, 1968.

891,773. La Campana Fabrica de Tabacos, Inc., Makati, Rizal, Philippines. SN 329,493. Filed 6-9-69.



For Cigars (Int. Cl. 34).
First use Jan. 31, 1946.

Class 18 — Medicines and Pharmaceutical Preparations

891,774. Laboratorios del Dr. Esteve, S.A., Barcelona, Spain. SN 276,988. Filed P.R. 7-27-67; Am. S.R. 12-12-68.

ESTEVE

Owner of Spanish Reg. No. 160,118, dated Oct. 4, 1945.
For Pharmaceutical, Medicinal and Veterinary Preparations, Serums and Vaccines (Int. Cl. 5).

Class 22 — Games, Toys, and Sporting Goods

891,775. Ronan & Kunzl, Inc., Marshall, Mich. SN 272,857. Filed P.R. 6-1-67; Am. S.R. 1-7-70.



For Protective Cushions for the Edges of Basketball Backboards (Int. Cl. 28).
First use Oct. 31, 1966.

891,776. Forrest Athletic Equipment Company, Incorporated, Mobile, Ala. SN 282,694. Filed P.R. 10-17-67; Am. S.R. 12-8-69.

FORREST POP UP DUMMY

No claim is made to the word "Dummy" apart from the mark as shown.
For Football Blocking and Tackling Dummies (Int. Cl. 28).
First use September 1966.

891,777. Milton Bradley Company, Springfield, Mass. SN 322,260. Filed P.R. 3-20-69; Am. S.R. 1-13-70.

PUPPY PUZZLE

For Jigsaw Puzzles (Int. Cl. 28).
First use Sept. 1, 1968.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

891,778. The Warner & Swasey Company, Cleveland, Ohio. SN 274,008. Filed P.R. 6-15-67; Am. S.R. 1-27-70.

SELECT-A-COIL

For Steel Metal Coil Storage and Feeding Machines (Int. Cl. 7).
First use Apr. 28, 1967.

891,779. Ideal Industries, Inc., Sycamore, Ill. SN 318,174. Filed P.R. 11-27-68; Am. S.R. 2-6-70.

SWIVEL-BLADE

For Hand-Held Cable Strippers (Int. Cl. 8).
First use Sept. 16, 1968.

891,780. Toyota Jidosha Kogyo Kabushiki Kaisha (Toyota Motor Co., Ltd.), Toyota-shi, Aichi-ken, Japan. SN 318,248. Filed P.R. 2-3-69; Am. S.R. 1-26-70.

TOYODA

For Grinding Machines, Carding Machines and Looms (Int. Cl. 7).
First use Nov. 18, 1926; in commerce Feb. 8, 1966.

Class 25 — Locks and Safes

891,781. Loxem Manufacturing Corporation, Midland Park, N.J. SN 318,073. Filed P.R. 1-31-69; Am. S.R. 12-17-69.

SASH-LOC

For Locks for Windows (Int. Cl. 6).
First use June 1, 1968.

Class 26 — Measuring and Scientific Appliances

891,782. Recognition Equipment Incorporated, Dallas, Tex. SN 273,679. Filed P.R. 6-12-67; Am. S.R. 12-30-69.

ELECTRONIC RETINA

For Automatic Character Recognition Equipment, and Equipment Used in Conjunction Therewith—Namely, Electro-Mechanical Document Handling Apparatus for Identifying Printed Characters, and Computers for Controlling the Operation of Such Apparatus (Int. Cl. 9).
First use Feb. 6, 1967.

891,783. Viewlex, Inc., Holbrook, N.Y. SN 289,548. Filed P.R. 1-24-68; Am. S.R. 12-17-69.

CINE SOUND 16

For Strip Film Combined Viewer-Projector-Editor-Reader (Int. Cl. 9).
First use July 24, 1967.

891,784. Planetariums Unlimited, Inc., Holbrook, N.Y. SN 289,829. Filed P.R. 1-29-68; Am. S.R. 12-17-69.



For Audio-Visual Automatically Programmed Educational Astronomy Models and Equipment (Int. Cl. 9).
First use Sept. 15, 1967.

891,785. Steven A. Warren, Lake Forest, Ill. SN 299,109. Filed P.R. 6-4-68; Am. S.R. 2-4-70.

VISUALIZER

For Hand Operated Tachistoscope for Reading Improvement (Int. Cl. 9).
First use in or about August 1965.

891,786. United States Safety Service Co., Kansas City, Mo. SN 300,297. Filed P.R. 6-12-68; Am. S.R. 3-16-70.

SAF-HED-CAP

For Helmets for Protection Against Falling Objects and Electrical Shock (Int. Cl. 9).
First use May 10, 1968.

891,787. Style Patterns Ltd., London, England. SN 304,022. Filed 7-31-68.

STYLE

For Men's, Women's and Children's Garment and Accessory Patterns, Doll and Toy Patterns, and Needlecraft Patterns (Int. Cl. 16).
First use Feb. 6, 1937; in commerce Oct. 14, 1966.

891,788. Tex-O-Con Optics, Inc., Dallas, Tex. SN 306,408. Filed P.R. 8-30-68; Am. S.R. 1-12-70.

HAZE CONTROL

For Contact Lenses (Int. Cl. 9).
First use at least as early as January 1968.

891,789. Robertson Photo-Mechanix, Inc., Des Plaines, Ill. SN 319,197. Filed P.R. 2-14-69; Am. S.R. 1-30-70.

LEADING BY DESIGN

For Photo-Mechanical Equipment of All Types—Namely, Graphic Arts Cameras and Parts Thereof, Developing Sinks, Washer-Viewers, Utility Sinks, Halftone Exposure Control System and Parts Thereof, Light Table, Film Cabinet and Trimmer and Stripping Table (Int. Cl. 9).
First use Jan. 21, 1969.

891,790. Meyer L. Pederson, d.b.a. Custom Photographics Co., Portland, Oreg. SN 319,354. Filed P.R. 2-17-69; Am. S.R. 2-27-70.

FILTER-PAK

For Holders for Gelatin Photographic Filters and Kits Containing Such Holders and Materials and Accessories for Making, Mounting, Storing, and Using Such Filters (Int. Cl. 9).
First use May 1968.

Class 28 — Jewelry and Precious-Metal Ware

891,791. Wasko Gold Products Corp., New York, N.Y. SN 322,656. Filed P.R. 3-24-69; Am. S.R. 3-9-70.

WASKO

For Rings, Wedding Bands, Earrings, Pendants, Brooches, Pins and Tie Tacks, Watch Bracelets, and Scholastic Jewelry (Int. Cl. 14).
First use Jan. 14, 1969.

891,792. Tamraz Incorporated, Chicago, Ill. SN 323,153. Filed P.R. 3-28-69; Am. S.R. 2-26-70.

Montagne

For Jewelry—Namely, Necklaces, Earrings, Bracelets, Brooches, Pins and Rings (Int. Cl. 14).
First use Oct. 28, 1968.

891,793. Towle Manufacturing Company, Newburyport, Mass. SN 337,823. Filed P.R. 9–11–69; Am. S.R. 2–16–70.

STANDISH

For Silver Plated Flatware (Int. Cl. 8).
First use Nov. 8, 1968.

891,794. Towle Manufacturing Company, Newburyport, Mass. SN 337,825. Filed P.R. 9–11–69; Am. S.R. 2–16–70.

LONDONDERRY

For Silver Plated Flatware (Int. Cl. 8).
First use Nov. 8, 1968.

891,795. Towle Manufacturing Company, Newburyport, Mass. SN 338,019. Filed P.R. 9–16–69; Am. S.R. 2–16–70.

BYFIELD

For Silver Plated Flatware (Int. Cl. 8).
First use Nov. 8, 1968.

Class 32 — Furniture and Upholstery

891,796. Textron, Inc., Providence, R.I. SN 301,595. Filed P.R. 6–26–68; Am. S.R. 2–11–69.

RANDALL

For Chairs, Step Stools, Folding Chairs and Tables, Stools, High Chairs, Serving Carts, Children's Tables and Chairs, Playpens, and Chests (Int. Cl. 20).
First use September 1965.

Class 34 — Heating, Lighting, and Ventilating Apparatus

891,797. Lochinvar Water Heating Corporation, Detroit, Mich. SN 296,851. Filed P.R. 4–29–68; Am. S.R. 12–23–69.

COPPER-FIN

For Water Heaters (Int. Cl. 11).
First use Jan. 17, 1968.

891,798. The Air Preheater Company, Inc., Wellsville, N.Y. SN 314,853. Filed P.R. 12–19–68; Am. S.R. 12–15–69.

COMBUSTALL

For Solid Waste Incinerators (Int. Cl. 11).
First use at least as early as Dec. 12, 1968.

Class 37 — Paper and Stationery

891,799. Avar, Inc., St. Louis, Mo. SN 301,898. Filed P.R. 6–26–68; Am. S.R. 10–29–69.

PONI ROLLS

For Rolls of Plastic Wrapping Film (Int. Cl. 16).
First use May. 1, 1968.

891,800. Avar, Inc., St. Louis, Mo. SN 304,297. Filed P.R. 8–5–68; Am. S.R. 10–29–69.



For Rolls of Plastic Wrapping Film (Int. Cl. 16).
First use June 28, 1968.

Class 38 — Prints and Publications

891,801. GF Books, Inc., Omaha, Nebr. SN 319,302. Filed P.R. 2–17–69; Am. S.R. 3–16–70.

MONEY MONTHLY

For Monthly Pamphlet Relating to Household Economics (Int. Cl. 16).
First use Mar. 24, 1967.

Class 44 — Dental, Medical, and Surgical Appliances

891,802. Baxter Laboratories, Inc., Morton Grove, Ill. SN 303,657. Filed P.R. 7–26–68; Am. S.R. 1–12–70.

TRU-CUT

For Biopsy Needle for Surgical and Medical Use (Int. Cl. 10).
First use June 28, 1968.

Class 46 — Foods and Ingredients of Foods

891,803. North Pacific Canners & Packers, Inc., Portland, Oreg. SN 282,389. Filed P.R. 10–12–67; Am. S.R. 5–26–69.

SACK O' CORN

For Frozen Corn on the Cob (Int. Cl. 29).
First use Apr. 27, 1967.

891,804. Compagnie Fermiere de l'Etablissement Thermal de Vichy, Societe Anonyme, Paris, France. SN 288,493. Filed P.R. 1–10–68; Am. S.R. 1–2–69.



Owner of U.S. Reg. No. 299,186.
For Candy Mints Which Also Refreshes the Breath (Int. Cl. 30).
First use May 1965; in commerce May 1965.

891,805. Borden, Inc., New York, N.Y., by change of name from The Borden Company, New York, N.Y. SN 294,805. Filed P.R. 4–3–68; Am. S.R. 1–29–70.



For Reconstituted Bottled Lemon and Reconstituted Bottled Lime Juice for Food and Food Beverage Purposes (Int. Cl. 32).
First use Sept. 6, 1967.

891,806. The Huger-Davidson-Sale Co., Inc., Lexington, Va. SN 302,083. Filed P.R. 7–5–68; Am. S.R. 1–28–70.

FINA

For Canned and Frozen Fruits, Vegetables, Seafoods, Meats; Mayonnaise, Salad Dressing, Pure Mustard; Ketchup; Jellies and Preserves; Soups and Soup Bases; Gelatin Desserts; Cake Mixes; Cookies; Fountain Syrups for Food and Food Beverage Use; Spices; Food Flavoring Extracts; Pure Vegetable Shortenings and Cooking Oils; Animal Shortening and Animal Vegetable Shortening; Pickles; Coffee; Canned and Frozen Fruit Juices and Vegetable Juices (Int. Cls. 29, 30, and 32).
First use 1948.

891,807. General Foods Corporation, White Plains, N.Y. SN 303,909. Filed P.R. 7–30–68; Am. S.R. 1–16–70.

FANCY FROSTED

For Food Product, Dough-Like in Nature, With or Without a Fruit Filling To Be Prepared in a Pop-Up Toaster (Int. Cl. 30).
First use July 8, 1968.

891,808. Jean Allary, Brive (Correze), France. SN 305,708. Filed P.R. 8–22–68; Am. S.R. 10–14–69.

FINORANGE

Owner of French Reg. No. 762, dated Aug. 5, 1963 (Brive); Natl. Inst. No. 210,869; and U.S. Reg. No. 828,931.
For Canned, Frozen and/or Bottled Fruit Juice (Int. Cl. 32).

891,809. Richard C. Hicks, d.b.a. Z. F. Simmons Oyster Company and Simmons Oyster Co., Olympia, Wash. SN 312,996. Filed P.R. 11–25–68; Am. S.R. 2–10–70.



For Frozen, Concentrated Stew Containing Oysters, Oyster Nectar, Powdered Milk, Butter, and Seasoning (Int. Cl. 29).
First use Sept. 10, 1968.

891,810. Leslie Salt Co., d.b.a. Leslie Foods, Inc., San Francisco, Calif. SN 316,938. Filed P.R. 1–21–69; Am. S.R. 2–13–70.

CALCISAL

For Tomato Canning Tablets—Namely, Tablets for Improving Quality, Appearance, and Flavor of Canned Tomatoes (Int. Cl. 30).
First use July 10, 1968.

891,811. Schutter Candy Company, d.b.a. Surrey Candy Kitchens, New York, N.Y. SN 321,831. Filed P.R. 3–14–69; Am. S.R. 2–18–70.

itty bittys

For Candy (Int. Cl. 30).
First use Nov. 7, 1968.

891,812. Zander's Creamery, Inc., Cross Plains, Wis. SN 322,020. Filed 3–17–69.



The drawing is lined for the color yellow.
For Foods—Namely, a Spreadable Dairy Product Similar to Butter (Int. Cl. 29).
First use Sept. 26, 1967.

891,813. Trebor Sharps Limited, Woodford Green, Essex, England. SN 332,754. Filed P.R. 7–16–69; Am. S.R. 2–18–70.

REFRESHERS

Owner of British Reg. No. 754,662, dated June 12, 1956.
For Candy (Int. Cl. 30).

Class 47 — Wines

891,814. Meireles, Baptista & Ca. Lda., Porto, Portugal. SN 301,287. Filed P.R. 6–24–68; Am. S.R. 2–18–70.

MEIRELES

Owner of Portuguese Reg. No. 123,688, dated July 16, 1954.
For Wines (Int. Cl. 33).

891,815. United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. SN 312,962. Filed P.R. 11-25-68; Am. S.R. 3-5-70.

NAPA VALLEY GROWERS

For Wines (Int. Cl. 33).
First use Apr. 23, 1968.

891,816. United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. SN 312,963. Filed P.R. 11-25-68; Am. S.R. 3-12-70.

NAPA VALLEY WINEGROWERS

For Wines (Int. Cl. 33).
First use Apr. 23, 1968.

891,817. Takatsugu Numano, d.b.a. House of Koshu, Los Angeles, Calif. SN 335,829. Filed P.R. 8-21-69; Am. S.R. 2-2-70.

HOUSE of KOSHU

For Wines (Int. Cl. 33).
First use at least as early as June 1, 1964.

Class 48 — Malt Beverages and Liquors

891,818. Takatsugo Numano, d.b.a. House of Koshu, Los Angeles, Calif. SN 335,828. Filed P.R. 8-21-69; Am. S.R. 2-16-70.

HOUSE of KOSHU

For Sake (Int. Cl. 32).
First use at least as early as July 1, 1964.

Class 49 — Distilled Alcoholic Liquors

891,819. Haas Brothers, d.b.a. Marlboro Company, San Francisco, Calif. SN 320,398. Filed P.R. 3-3-69; Am. S.R. 2-20-70.

McATEER'S

For Blended Scotch Whisky (Int. Cl. 33).
First use Feb. 10, 1969.

891,820. Haas Brothers, d.b.a. Marlboro Company, San Francisco, Calif. SN 320,399. Filed P.R. 3-3-69; Am. S.R. 2-20-70.

LORD DEVERON

For Blended Scotch Whisky (Int. Cl. 33).
First use Feb. 10, 1969.

Class 51 — Cosmetics and Toilet Preparations

891,822. See Section 1 (Combined Certificate).
891,823. See Section 1 (Combined Certificate).
891,824. See Section 1 (Combined Certificate).
891,825. See Section 1 (Combined Certificate).

891,821. Clairol Incorporated, New York, N.Y. SN 289,781. Filed P.R. 1-29-68; Am. S.R. 2-11-70.

THE TUBE

For Sun Tan Lotion, Blusher, Rouge, Foundation, Make-Up, Face Powder, and Compact Powder (Int. Cl. 3).
First use Dec. 6, 1967.

891,826. Yardley of London, Inc., New York, N.Y. SN 310,529. Filed P.R. 10-25-68; Am. S.R. 2-27-70.

BUBBLING WASH

For Cosmetic Facial Cream for Use as a Skin Cleanser (Int. Cl. 3).
First use Sept. 4, 1968.

891,827. Buty-Wave Products Co. Inc., Los Angeles, Calif. SN 315,469. Filed P.R. 12-31-68; Am. S.R. 2-4-70.

TANGLE-FREE

For Hair and Wig Spray (Int. Cl. 3).
First use Apr. 15, 1968.

891,828. Chesebrough-Pond's Inc., New York, N.Y. SN 319,114. Filed P.R. 2-14-69; Am. S.R. 2-20-70.

BODY AND HOLD

For Conditioner for the Hair (Int. Cl. 3).
First use Jan. 28, 1969.

891,829. Chesebrough-Pond's Inc., New York, N.Y. SN 319,115. Filed P.R. 2-14-69; Am. S.R. 2-20-70.

BODY AND CONTROL

For Conditioner for the Hair (Int. Cl. 3).
First use Jan. 28, 1969.

891,830. Beecham Inc., Clifton, N.J. SN 321,173. Filed P.R. 3-10-69; Am. S.R. 2-17-70.

PUTS A GLEAM IN GRAY HAIR AS IT GROOMS

For Hairdressing and Hair Tonic (Int. Cl. 3).
First use July 21, 1966.

891,831. Samuel Bonat & Bro., Inc., West Paterson, N.J. SN 320,425. Filed P.R. 3-3-69; Am. S.R. 1-21-70.

CREME CARE

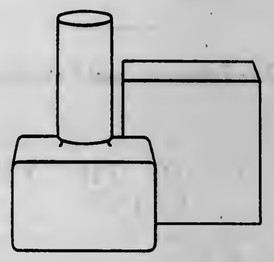
For Permanent Waving Solutions (Int. Cl. 3).
First use Dec. 20, 1968.

891,832. Yardley of London, Inc., New York, N.Y. SN 322,375. Filed P.R. 3-20-69; Am. S.R. 2-27-70.

SHINE-STOPPER

For Face Powder and Foundation Makeup (Int. Cl. 3).
First use Jan. 16, 1969.

891,833. Chesebrough-Pond's Inc., New York, N.Y. SN 323,627. Filed P.R. 2-24-70; Am. S.R. 2-24-70.



The mark comprises the configuration of the container for the goods.
For Nail Polish (Int. Cl. 3).
First use Sept. 6, 1968.

891,834. Revlon, Inc., New York, N.Y. SN 327,412. Filed P.R. 5-15-69; Am. S.R. 2-16-70.

TERRA COPPER

For Permanent Hair Coloring; and Coloration Tint in Fluid Form for the Skin (Int. Cl. 3).
First use Nov. 13, 1964.

891,835. Merle Norman Cosmetics, Inc., Los Angeles, Calif. SN 328,122. Filed P.R. 5-28-69; Am. S.R. 3-30-70.

HARDLY PINK

For Lipstick (Int. Cl. 3).
First use Mar. 5, 1969.

891,836. Merle Norman Cosmetics, Inc., Los Angeles, Calif. SN 328,125. Filed P.R. 5-28-69; Am. S.R. 3-30-70.

PLUM FROST

For Brush-On Eye Shadow (Int. Cl. 3).
First use Mar. 5, 1969.

891,837. Merle Norman Cosmetics, Inc., Los Angeles, Calif. SN 328,126. Filed P.R. 5-28-69; Am. S.R. 3-30-70.

SNOW MINK

For Eye Shadow (Int. Cl. 3).
First use Mar. 5, 1969.

891,838. Revlon, Inc., New York, N.Y. SN 341,946. Filed 10-28-69.

MILLION DOLLAR RED

For Lipstick and Nail Enamel (Int. Cl. 3).
First use June 23, 1962.

Class 52 — Detergents and Soaps

891,766. See Section 1 (Combined Certificate).
891,822. See Section 1 (Combined Certificate).
891,823. See Section 1 (Combined Certificate).
891,824. See Section 1 (Combined Certificate).
891,825. See Section 1 (Combined Certificate).

891,839. Marshall Enterprises, Inc., Hialeah, Fla. SN 309,937. Filed P.R. 10-18-68; Am. S.R. 2-16-70.

DRI-CELL

For Storage Battery Terminal-Post Cleaner and Protective Coating (Int. Cl. 3).
First use Aug. 26, 1968.

891,840. Alcon Laboratories, Inc., Fort Worth, Tex. SN 324,380. Filed P.R. 4-14-69; Am. S.R. 2-24-70.

CLEAN-TABS

For Preparation for Use in the Cleaning of Contact Lenses (Int. Cl. 3).
First use Feb. 21, 1969.

Service Marks

Class 100 — Miscellaneous

891,841. Brownell Travel Bureau, Inc., Birmingham, Ala. SN 311,461. Filed P.R. 11-6-68; Am. S.R. 2-13-70.

Quali-T-Tours

For Association Services—Namely, Promoting the Interests of Travel Agencies (Int. Cl. 39).
First use July 29, 1968.

891,842. Al Hirt's Sandwich Saloons, Inc., Nashville, Tenn. SN 315,763. Filed P.R. 1-3-69; Am. S.R. 1-5-70.

SANDWICH SALOON

For Restaurant Services (Int. Cl. 42).
First use Dec. 10, 1968.

891,843. American Rehabilitation Foundation, Inc., d.b.a. Institute for Interdisciplinary Studies, Minneapolis, Minn. SN 329,212. Filed P.R. 6-5-69; Am. S.R. 2-25-70.

INSTITUTE FOR INTERDISCIPLINARY STUDIES

For Research and Planning Services Involving the Disciplines of Medicine, Sociology, Psychology, Systems Analysis, Statistics, Economics, Public Administration and Education—Namely, Planning of Management Systems for Public Welfare Programs; Development of Methods for Quality Assessment of Health Care for the Poor and Aged; and Research on the Extent and Availability of Medical Manpower (Int. Cl. 42).
First use Feb. 10, 1969.

Class 101 — Advertising and Business

891,844. Professional Dictating Service of N.E., Inc., d.b.a. Professional Dictating Service, Cranston, R.I. SN 292,127. Filed P.R. 2-28-68; Am. S.R. 1-23-70.

PROFESSIONAL DICTATING SERVICE

For Transcribing Reports From Professional Clients—Namely, Physicians and Related Personnel (Int. Cl. 35). First use on or about Feb. 12, 1964.

891,845. Uniforce Temporary Personnel, Inc., New York, N.Y. SN 301,981. Filed P.R. 7-3-68; Am. S.R. 1-7-70.

CUSTOM TAILORED

For Employment Agency Services (Int. Cl. 35). First use on or about Dec. 1, 1967.

891,846. Nationwide Auto Auction, Ltd., Bronx, N.Y. SN 319,018. Filed P.R. 2-13-69; Am. S.R. 2-18-70.

NATIONWIDE AUTO AUCTION

For Auctioning Automobiles (Int. Cl. 35). First use April 1968.

Class 103 — Construction and Repair

891,847. Customcare Franchise Sales, Inc., Peoria, Ill. SN 285,530. Filed P.R. 11-24-67; Am. S.R. 2-9-70.

ONE HOUR *CustomCare*

For Dry Cleaning Services (Int. Cl. 37). First use July 1, 1962.

Class 107 — Education and Entertainment

891,848. Coach of the Year Clinic, East Lansing, Mich. SN 265,997. Filed P.R. 3-6-67; Am. S.R. 1-28-70.

COACH OF THE YEAR CLINIC

For Conducting Football Clinics for Coaches (Int. Cl. 41). First use Feb. 2, 1958.

891,849. Famous Artists Schools, Inc., New York, N.Y. SN 312,581. Filed P.R. 11-19-68; Am. S.R. 11-7-69.

YOUNG PEOPLE'S ART COURSE

For Correspondence Courses in Graphic Arts (Int. Cl. 41). First use Sept. 30, 1968.

TRADEMARK REGISTRATIONS RENEWED

78,823. REPRESENTATION OF PEACOCK. Cl. 10 (Int. Cl. 1). 7-12-10.
260,782. SWIFT'S. Cl. 46 (Int. Cl. 29). 8-27-29.
266,333. CREPE DE CHINE. Cl. 51 (Int. Cl. 3). 1-14-30.
266,648. ACME. Cl. 46 (Int. Cl. 31). 1-28-30.
266,913. VICTOR AND DESIGN. Cl. 23 (Int. Cl. 7). 2-11-30.
266,914. VICTOR. Cl. 23 (Int. Cl. 7). 2-11-30.
267,485. SUNSHINE FASHIONS. Cl. 39 (Int. Cl. 25). 2-18-30.
268,272. PLOCAST. Cl. 44 (Int. Cl. 5). 3-11-30.
268,415. CINCH. Cl. 13 (Int. Cl. 26). 3-11-30.
268,557. EVEREADY LABEL. Cl. 21 (Int. Cl. 9). 3-18-30.
268,760. BUCKHIDE. Cl. 39 (Int. Cl. 25). 3-18-30.
269,076. ARISTOCRAT. Cl. 42 (Int. Cl. 24). 3-25-30.
269,150. SILVO. Cl. 4 (Int. Cl. 3). 3-25-30.
269,634. LUGER. Cl. 9 (Int. Cl. 13). 4-22-30.
269,878. CARTER'S MOTOR OIL AND DESIGN. Cl. 15 (Int. Cl. 4). 4-22-30.
269,890. CONCERT MASTER. Cl. 36 (Int. Cl. 15). 4-22-30.
269,908. SANS ADIEU. Cl. 51 (Int. Cl. 3). 4-22-30.
270,450. COCONETTES. Cl. 46 (Int. Cl. 30). 5-6-30.
270,970. ETHICON. Cl. 44 (Int. Cl. 5). 5-20-30.
271,347. PETROHOL. Cl. 16 (Int. Cl. 2). 6-3-30.
272,428. EPHROL. Cl. 44 (Int. Cl. 10). 7-8-30.
273,010. PENWORTHY. Cl. 37 (Int. Cl. 16). 7-15-30.
274,307. LUBE-A-TUBE. Cl. 15 (Int. Cl. 4). 8-26-30.
443,780. DR. N. G. PAYOT. Cl. 51 (Int. Cl. 3). 2-28-50.
443,801. SILVERTOWN. Cl. 46 (Int. Cl. 30). 3-7-50.
443,909. REQUETE WORTH. Cl. 51 (Int. Cl. 3). 4-11-50.
512,292. NATIONAL INDUSTRIAL LAUNDRIES AND DESIGN. Cl. 103 (Int. Cl. 37). 7-12-49.
513,290. FOWLER CRAFTSMAN AND DESIGN. Cl. 26 (Int. Cl. 7). 8-9-49.
518,576. WILTRIM. Cl. 23 (Int. Cl. 7). 12-13-49.
518,826. ART-CARVED. Cl. 28 (Int. Cl. 14). 12-13-49.
518,943. ARMOUR. Cl. 1 (Int. Cl. 18). 12-20-49.
519,111. VIRGINIA RED. Cl. 11 (Int. Cl. 2). 12-20-49.
519,214. OLD INNKEEPER (DESIGN). Cl. 32 (Int. Cl. 20). 12-27-49.
519,667. H (DESIGN). Cl. 22 (Int. Cl. 28). 1-10-50.
521,024. BONNETED (DESIGN). Cl. 46 (Int. Cl. 29). 2-14-50.
521,142. S AND L (DESIGN). Cl. 23 (Int. Cl. 7). 2-21-50.
521,555. FLIGHT BRAND AND DESIGN. Cl. 6 (Int. Cl. 5). 2-28-50.
521,747. MERIT. Cl. 23 (Int. Cl. 8). 3-7-50.
521,750. MISCELLANEOUS DESIGN. Cl. 23 (Int. Cl. 7). 3-7-50.
521,766. MOLY-COP. Cl. 23 (Int. Cl. 7). 3-7-50.
521,837. KITCHE-PULVERATOR. Cl. 21 (Int. Cl. 7). 3-7-50.
521,869. LITE-MITE. Cl. 21 (Int. Cl. 9). 3-7-50.
521,987. RESTRAWARE. Cl. 2 (Int. Cl. 21). 3-7-50.
521,989. SILVERTIPT. Cl. 37 (Int. Cl. 16). 3-7-50.
522,008. CRESCENT AND DESIGN. Cl. 21 (Int. Cl. 9). 3-7-50.
522,009. LOS TRES MOSQUETEROS. Cl. 46 (Int. Cl. 30). 3-7-50.
522,020. 3 MUSKETEERS. Cl. 46 (Int. Cl. 30). 3-7-50.
522,045. WATERMAN'S ETC. AND DESIGN. Cl. 11 (Int. Cl. 16). 3-7-50.
522,053. ANGLEPOISE. Cl. 21 (Int. Cl. 11). 3-7-50.
522,088. VERTI-LIFT. Cl. 23 (Int. Cl. 7). 3-14-50.
522,111. EMMA DOMB. Cl. 39 (Int. Cl. 25). 3-14-50.
522,136. WILKINS. Cl. 46 (Int. Cl. 30). 3-14-50.
522,199. GAINSBOROUGH. Cl. 32 (Int. Cl. 20). 3-14-50.
522,204. NOISETTA. Cl. 46 (Int. Cl. 30). 3-14-50.
522,205. TRADITION. Cl. 46 (Int. Cl. 30). 3-14-50.
522,228. MM AND DESIGN. Cl. 42 (Int. Cl. 24). 3-14-50.
522,331. SNOWLAND. Cl. 37 (Int. Cl. 16). 3-14-50.
522,399. AIRCOLOY. Cl. 14 (Int. Cl. 6). 3-14-50.
522,407. SANFORLAN. Cl. 43 (Int. Cl. 23). 3-14-50.
522,408. FILAMATIC. Cl. 43 (Int. Cl. 23). 3-14-50.
522,529. SAFEDGE. Cl. 33 (Int. Cl. 21). 3-21-50.
522,540. MONO-CHROME. Cl. 12 (Int. Cl. 19). 3-21-50.

522,550. NCG. Cl. 14 (Int. Cls. 6 and 9). 3-21-50.
522,609. CHELSEA. Cl. 27 (Int. Cl. 14). 3-21-50.
522,717. DENTOTAPE. Cl. 44 (Int. Cl. 5). 3-21-50.
522,718. ETHICON. Cl. 44 (Int. Cl. 10). 3-21-50.
522,833. CORDOGLAS. Cl. 42 (Int. Cl. 24). 3-21-50.
522,945. COLOR KEY. Cl. 26 (Int. Cl. 9). 3-28-50.
523,136. ALDRICH. Cl. 23 (Int. Cl. 7). 3-28-50.
523,185. TYRO. Cl. 52 (Int. Cl. 3). 3-28-50.
523,252. 999 STEAMBOAT ETC. AND DESIGN. Cl. 22 (Int. Cl. 16). 3-28-50.
523,253. 808 BICYCLE SECOND ETC. AND DESIGN. Cl. 22 (Int. Cl. 16). 3-28-50.
523,254. 22 RAMBLER ETC AND DESIGN. Cl. 22 (Int. Cl. 16). 3-28-50.
523,255. 1002 ALADDIN ETC. AND DESIGN. Cl. 22 (Int. Cl. 16). 3-28-50.
523,290. KINA CIRCLE. Cl. 34 (Int. Cl. 11). 4-4-50.
523,786. HAPPY JACK. Cl. 46 (Int. Cl. 30). 4-11-50.
523,889. TRU-LINE. Cl. 23 (Int. Cl. 7). 4-11-50.
523,900. CAFFE VIVO. Cl. 46 (Int. Cl. 30). 4-11-50.
523,913. ARIANA. Cl. 46 (Int. Cl. 31). 4-11-50.
523,930. DANS LA NUIT. Cl. 51 (Int. Cl. 3). 4-11-50.
523,938. PHENO-DONNA. Cl. 18 (Int. Cl. 5). 4-11-50.
523,939. THEBA-PHEN. Cl. 18 (Int. Cl. 5). 4-11-50.
524,071. NEVAMAR ETC. AND DESIGN. Cl. 1 (Int. Cl. 17). 4-18-50.
524,292. D AND D. Cl. 16 (Int. Cls. 2, 3, and 4). 2-25-50.
524,477. TIME T-D DELAY. Cl. 21 (Int. Cl. 9). 4-25-50.
524,513. SPOOLPIN AND DESIGN. Cl. 22 (Int. Cl. 28). 4-25-50.
524,630. MORLEY. Cl. 39 (Int. Cl. 25). 5-2-50.
524,934. FLO-CILLIN. Cl. 18 (Int. Cl. 5). 5-9-50.
525,046. MODESS. Cl. 44 (Int. Cl. 5). 5-9-50.
525,049. STEEL-FLEX. Cl. 35 (Int. Cl. 6). 5-9-50.
525,059. RONDIC. Cl. 44 (Int. Cl. 5). 5-29-50.
525,356. LA FRANCE. Cl. 39 (Int. Cl. 25). 5-16-50.
525,566. AWAKE AT THE SWITCH. Cl. 21 (Int. Cl. 9). 5-23-50.
525,791. SCIENTIFIC AMERICAN. Cl. 38 (Int. Cl. 16). 5-30-50.
525,873. CINDERELLA. Cl. 46 (Int. Cls. 29 and 30). 6-6-50.
525,878. SUNDSTRAND. Cl. 23 (Int. Cl. 7). 6-6-50.
525,879. BUDGIT. Cl. 21 (Int. Cl. 7). 6-6-50.
525,913. GOLD MEDAL AND DESIGN. Cl. 19 (Int. Cl. 12). 6-6-50.
526,066. ABC. Cl. 4 (Int. Cl. 3). 6-6-50.
526,096. OKOBESTOS. Cl. 21 (Int. Cls. 9 and 17). 6-6-50.
526,097. OKOGLASS. Cl. 21 (Int. Cls. 9 and 17). 6-6-50.
526,098. OKOSEAL. Cl. 21 (Int. Cls. 9 and 17). 6-6-50.
526,289. REGAL-AIR CUSHION TRED. Cl. 39 (Int. Cl. 25). 6-13-50.
526,329. COPPERIZED. Cl. 7 (Int. Cl. 22). 6-13-50.
526,390. YANKEE. Cl. 7 (Int. Cl. 22). 6-13-50.
526,490. COP-R-TOX. Cl. 6 (Int. Cl. 2). 6-20-50.
526,554. BARDAHL. Cl. 15 (Int. Cl. 4). 6-20-50.
526,580. SPECIALIST. Cl. 44 (Int. Cls. 5 and 10). 6-20-50.
526,598. BRUNSWICK. Cl. 44 (Int. Cl. 5). 6-20-50.
526,623. KENITE. Cl. 1 (Int. Cl. 1). 6-20-50.
526,750. HARLEY-DAVIDSON. Cl. 19 (Int. Cl. 12). 6-27-50.
526,766. NASHUA. Cl. 37 (Int. Cl. 16). 6-27-50.
526,863. MISCELLANEOUS DESIGN. Cl. 32 (Int. Cl. 20). 6-27-50.
527,185. MILKTEST. Cl. 31 (Int. Cl. 16). 7-4-50.
527,420. IT HASTA BE SHASTA. Cl. 45 (Int. Cl. 32). 7-4-50.
527,569. OKOLENE. Cl. 21 (Int. Cls. 9 and 17). 7-11-50.
527,570. OKOVAR. Cl. 21 (Int. Cls. 9 and 17). 7-11-50.
527,702. BURKAY. Cl. 34 (Int. Cl. 11). 7-18-50.
527,710. HYGEIA. Cl. 2 (Int. Cl. 21). 7-18-50.
527,833. CORROGEN. Cl. 6 (Int. Cl. 1). 7-18-50.
527,876. NITEAIR. Cl. 34 (Int. Cl. 11). 7-18-50.
528,025. HI-SWEET. Cl. 46 (Int. Cl. 30). 7-25-50.
528,220. VON DURRIN. Cl. 12 (Int. Cl. 6). 8-1-50.
528,422. VITADEX-B. Cl. 18 (Int. Cl. 5). 8-1-50.
528,456. RIALTO. Cl. 17 (Int. Cl. 34). 8-1-50.
528,575. VALLEY-MAID. Cl. 46 (Int. Cl. 29). 8-8-50.
528,614. HAWAIIAN DELIGHT. Cl. 45 (Int. Cl. 32). 8-8-50.
528,661. JUCI DRINK. Cl. 46 (Int. Cl. 32). 8-8-50.
528,668. BORG & BECK. Cl. 23 (Int. Cls. 7 and 12). 8-8-50.
528,776. DRAPER. Cl. 23 (Int. Cl. 7). 8-8-50.
528,778. UTICA TOOLS. Cl. 23 (Int. Cl. 8). 8-8-50.
528,810. PALMOSHIELD. Cl. 15 (Int. Cl. 4). 8-8-50.
528,875. NDI. Cl. 101 (Int. Cl. 35). 8-8-50.
528,876. NFI. Cl. 101 (Int. Cl. 35). 8-8-50.
528,890. THE NATIONAL BILLIARD MFG CO. AND DESIGN. Cl. 22 (Int. Cl. 28). 8-8-50.
528,907. THE DOW THEORY TRADER. Cl. 38 (Int. Cl. 16). 8-8-50.
529,438. TOP FLAVOR. Cl. 46 (Int. Cl. 31). 8-22-50.
529,521. LUCKY LEGS. Cl. 39 (Int. Cl. 25). 8-22-50.
529,568. AEROHALOR. Cl. 18 (Int. Cl. 5). 8-22-50.
530,010. ESTATOLOGY AND DESIGN. Cl. 100 (Int. Cl. 42). 8-29-50.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

650,184. SUGARINE. Cl. 46. 8-13-57.
799,128. INSPIRATIONAL PARCHMENT. Cl. 38. 11-23-65.
803,584. SIRLOIN AND SADDLE. Cl. 100. 2-8-66.
885,905. MOD MATES. Cl. 37. 2-10-70.

Section 8

162,324. MUSICAL COURIER. Cl. 38. 12-12-22.
383,998. NUTREGEN. Cl. 46. 12-31-40.
406,004. PHILCO. Cl. 30. 3-7-44.
409,079. PERT. Cl. 51. 9-12-44.
410,799. LI'L IVRY. Cl. 38. 12-19-44.

The following registrations issued Apr. 7, 1964

767,773. KYRIAL. Cl. 1.
767,777. PARADISE KID. Cl. 1.
767,780. SPILL CLEAR. Cl. 2.
767,781. CHEF'S CORN CRIBS. Cl. 2.
767,783. DORCOLIPSE. Cl. 2.
767,791. HI-LITE. Cl. 6.
767,792. CLOSET SACHET. Cl. 6.
767,803. QUAILS FARGO. Cl. 9.
767,806. QUALITY CONTROLLED FROM ORE TO FINISHED PRODUCT. Cl. 13.
767,815. LANAT. Cl. 18.
767,820. DIOTHYLLINE. Cl. 18.
767,821. BOL-THUM. Cl. 18.
767,825. PESON. Cl. 18.
767,826. RENALGEN. Cl. 18.
767,832. WINTOS. Cl. 18.
767,833. VAPOFAC. Cl. 18.
767,835. SIERRAGLO. Cl. 19.
767,840. MICRONIC RUBY. Cl. 21.
767,842. CROWN DEVICE (DESIGN MARK). Cl. 22.
767,843. CHATTY CHERYL. Cl. 22.
767,844. DUNCAN. Cl. 22.
767,845. BANKROLL. Cl. 22.
767,846. SARANADE. Cl. 22.
767,847. BIRTHSTONE BELLES. Cl. 22.
767,848. MIGHTY MO. Cl. 22.
767,850. RIJO. Cl. 22.
767,855. CENTRI-BREW. Cl. 23.
767,856. CHRONIWELD. Cl. 23.
767,860. HEFCO. Cl. 23.
767,861. MINI-MAX. Cl. 23.
767,863. VIBRA HIDER. Cl. 23.
767,866. TOWN HOUSE. Cl. 23.
767,873. BANDOR. Cl. 31.
767,875. ARTEL. Cl. 32.
767,876. PARTHENEAN. Cl. 32.
767,877. MAR-CEL. Cl. 32.
767,881. TAB. Cl. 38.
767,882. SPELL C-A-R-D. Cl. 38.
767,884. RX MICRO-TEL AND DESIGN. Cl. 38.
767,887. SHOWPLACE. Cl. 38.
767,889. GEOMETRIC DESIGN. Cl. 38.
767,890. CHRISTOPHEL CINE CAMERA, INC. AND DESIGN. Cl. 38.
767,891. PARTY LINE STUDIO CARD AND DESIGN. Cl. 38.

767,895. DAN FLAGG. Cl. 38.
767,896. ELECTRONIC SCIENCE PREVIEW AND DESIGN. Cl. 38.
767,898. ELECTROGUIDE. Cl. 38.
767,899. EVERKREASED. Cl. 39.
767,901. MISTER A. Cl. 39.
767,902. CROWN AND GLOBE (DESIGN). Cl. 39.
767,903. PRIVATE LABEL. Cl. 39.
767,904. NORTH BAY. Cl. 39.
767,907. NYOCO. Cl. 39.
767,911. SPARKL'ETTE. Cl. 39.
767,912. OX-CORD. Cl. 39.
767,913. OX-WOOL. Cl. 39.
767,917. UCB AND DESIGN. Cl. 42.
767,930. HAWAIIAN HARVEST SALAD. Cl. 46.
767,932. DILLY CUES AND DESIGN. Cl. 46.
767,936. MAMA WEISS'. Cl. 46.
767,943. KOFFEE-BALL. Cl. 46.
767,944. ORANGE-BALL. Cl. 46.
767,945. SKREW-BALL. Cl. 46.
767,946. ELDA'S CHIC N KRISP AND DESIGN. Cl. 46.
767,949. LSP. Cl. 46.
767,952. OCEANSIDE AND DESIGN. Cl. 46.
767,957. REGENT STREET. Cl. 49.
767,961. SAF-T-TUB. Cl. 50.
767,964. TITLE SPORTS. Cl. 50.
767,965. SCENT-A-RAMA. Cl. 50.
767,966. PORT-A-SCAF. Cl. 50.
767,967. REDI-RUNG. Cl. 50.
767,968. CRYSTOLUME. Cl. 50.
767,971. SHELLEY. Cl. 51.
767,972. RENAULD OF FRANCE. Cl. 51.
767,976. BABY'S BREATH. Cl. 51.
767,977. SO PRETTY. Cl. 51.
767,978. TWIN GEMS. Cl. 51.
767,979. MISCELLANEOUS DESIGN. Cl. 51.
767,980. AWAKEN. Cl. 51.
767,982. CADDIE CLEAN AND DESIGN. Cl. 52.
767,983. ROBBIE JET. Cl. 52.
767,984. DEOSTAY. Cl. 52.
767,986. GUN BUTTER. Cl. 52.
767,988. UP 'N OUT AND DESIGN. Cl. 52.
767,991. PANGO. Cl. 52.
767,994. GENERAL TEST AND INSP. Cl. 100.
767,996. GAIT. Cl. 100.
767,998. GIFT-O-GRAM. Cl. 101.
768,004. DOANE DESIGNED AND DESIGN. Cl. 103.
768,009. BRIEFCASE COMMUTER SERVICE. Cl. 105.
768,012. GEOMETRIC DESIGN. Cl. 105.
768,017. CALI-LOPE. Cl. A.
768,018. MARTI-THRIFT. Cl. B.
768,022. TWIN DOR. Cl. 12.
768,025. CRYSTAL FROST. Cl. 16.
768,027. COLOR MATCHER. Cl. 21.
768,029. THE BIG SPINNER. Cl. 22.
768,033. ROLLEY OF FRANCE. Cl. 26.
768,035. SPINE EASE. Cl. 32.
768,036. RUMPUS LOUNGER. Cl. 32.
768,038. GREAT SPORTSWEAR FOR ACTIVE LIVING. Cl. 39.
768,040. STOKES AND DESIGN. Cl. 39.
768,042. FRESH-WHIPT. Cl. 46.
768,048. NOEL AND DESIGN. Cl. 50.
768,051. THE SPACE AGE CARRIER. Cl. 105.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

858,735. CORCO. Cl. 2. 10–22–68. The Cornelius Company, Anoka, Minn. Corrected: In the statement, column 1, line 1, "Minneapolis" should be deleted and *Minnesota* should be inserted.

876,202. BIG POWER. Cl. 52. 9–2–69. Imoco-Gateway Corporation, Chicago, Ill. Corrected: In the statement, column 1, line 1, "Illinois" should be deleted and *Delaware* should be inserted.

885,387. OMNILINE. Cl. 23. 2–3–70. Sundstrand Corporation, Rockford, Ill. Corrected: In the statement, column 1, line 1, "Sunstrand" should be deleted and *Sundstrand* should be inserted.

885,807. FAIRMONT. Cl. 23. 2–10–70. Oneida Ltd., Oneida, N.Y. Corrected: In the statement, column 2, line 2, "23" should be deleted and *13* should be inserted.

886,199. LILLIAN RUSSELL. Cl. 17. 2–17–70. Lorillard Corporation, New York, N.Y. Corrected: In the statement, column 2, line 5 should be deleted.

888,183. G AND DESIGN. Cl. 21. 3–24–70. Gardner Cryogenics Corporation, Bethlehem, Pa. Corrected: In the statement, column 1, line 1, "Pennsylvania" should be deleted and *Delaware* should be inserted.

888,533. GUARDIAN ANGEL. Cl. 9. 3–31–70. The Delta American Corporation, assignee of LFR Sales Corp., Cleveland, Ohio. Corrected: In the statement, column 1, before line 1, *The Delta American Corporation (Ohio corporation), 777 E. 82nd St., Cleveland, Ohio 44103, assignee of* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

192,777. RAMTITE. Cl. 12. The S. Obermayer Co. 12–9–24. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

322,560. FRACTO-CRETE. Cl. 12. The S. Obermayer Co. 3–12–35. New Cer. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

535,738. HANDY SAND. Cl. 23. Newaygo Engineering Company. 1–2–51. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

547,425. NEWAY AND DESIGN. Cl. 23. Newaygo Engineering Company. 9–4–51. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

557,701. READY SAND. Cl. 23. Newaygo Engineering Company. 4–15–52. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

593,198. GUN-RAM. Cl. 12. The S. Obermayer Co., also doing business as The Ramtite Co. 8–3–54. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

613,768. RAMTITE. Cl. 12. The S. Obermayer Co. 10–11–55. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

645,930. RILLTON. Cl. 1. The S. Obermayer Co. 5–28–57. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

649,124. EMERALD. Cl. 5. The S. Obermayer Co. 7–30–57. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

652,948. BLACK-RAM. Cl. 12. The S. Obermayer Co., doing business as The Ramtite Company. 10–15–57. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

661,538. 90-RAM. Cl. 12. The S. Obermayer Co., doing business as The Ramtite Company. 5–13–58. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

696,628. DRI-BOND. Cl. 12. The S. Obermayer Co., doing business as The Ramtite Co. 4–26–60. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

707,683. HI-LO. Cl. 12. Wolfe Products, Inc. 11–29–60. New Cert. Sec. 7(c) to Production Experts, Inc., Cleveland, Ohio.

707,684. SAMSON. Cl. 12. Wolfe Products, Inc. 11–29–60. New Cert. Sec. 7(c) to Production Experts, Inc., Cleveland-Ohio.

733,179. BUSINESS FARMING. Cl. 38. Garden State Publishing Company. 6–19–62. New Cert. Sec. 7(c) to Business Farming Inc., Monroe, La.

738,428. MULTI-LEVEL CONTROL. Cl. 26. Newaygo Engineering Company. 9–25–62. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

740,574. TORNADOVEYOR. Cl. 23. Newaygo Engineering Company. 11–13–62. New Cert. Sec. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

741,949. ENM AND DESIGN. Cl. 26. Nicholas G. Polydoris. 12–11–62. New Cert. Sec. 7(c) to ENM Company, Chicago, Ill.

755,219. CAMKLEEN. Cl. 52. The Cambridge Tile Manufacturing Company. 8–20–63. New Cert. Sec. 7(c) to Woodhill Chemical Sales Corporation, Cleveland, Ohio.

760,624. DIGILOCK. Cl. 26. Space-General Corporation, assignee of Space Electronics Corporation. 11–26–63. New Cert. Sec. 7(c) to Aerojet-General Corporation, El Monte, Calif.

795,060. QUIC SEAL AND DESIGN. Cl. 16. The S. Obermayer Co. 8–31–65. New Cert. 7(c) to Combustion Engineering, Inc., Windsor, Conn.

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Given Mfg. Co., to Waste King Corp., Los Angeles, Calif. 521,837, ren. 5–26–70. Cl. 21.
Golden Pantry Food Stores, Inc., Athens, Ga. 891,734, pub. 3–10–70. Cl. 101.
Grace, W. R., & Co., New York, N.Y. 891,612, pub. 3–10–70. Cl. 38.
Great American Investment Co., Atlanta, Ga. 891,702, pub. 7–29–69. Cl. 100.
Greenwich Mills Co.: *See*—
Fromme, H. S., Co., Inc.
Greenwood Restaurant Corp., Greenwood Lake, N.Y. 891,715, pub. 3–10–70. Cl. 100.
Greyhound Corp., The, Chicago, Ill. 891,482, pub. 3–10–70. Cl. 3.
Greyhound Corp., The, Chicago, Ill. 891,502, pub. 3–10–70. Cl. 19.
Griffin Mfg. Co., Inc., Brooklyn, N.Y. to American Home Products Corp., New York, N.Y. 526,066, ren. 5–26–70. Cl. 4.
Grisaffi, John J. New Orleans, La. 891,708, pub. 3–10–70. Cl. 100.
Gristede Bros., Inc., New York, N.Y. 891,653–6, pub. 3–10–70. Cl. 46.
Gulf General Atomic Inc., San Diego, Calif. 891,632, pub. 3–10–70. Cl. 44.
Gulf & Western Industrial Products Co.: *See*—
Mackintosh-Hemphill Co.
HCA Food Corp.: *See*—
Natural Sugars, Inc.
H & P Mfg. Co., Hayward, Calif. 767,780, canc. Cl. 2.
Haas Brothers, d.b.a. Marlboro Co., San Francisco, Calif. 891,819–20. Cl. 49.
Hadley Fruit Orchards, Inc., Cabason, Calif. 891,671 pub. 3–10–70. Cl. 46.
Hammerhead, Inc., Miami, Fla. 891,684, pub. 3–10–70. Cl. 50.
Hanes Corp., Winston-Salem, N.C. 891,626, pub. 3–10–70. Cl. 39.
Harco Corp., Cleveland, Ohio. 891,526, pub. 3–10–70. Cl. 21.
Harley-Davidson Motor Co., Milwaukee, Wis., to American Machine & Foundry Co., New York, N.Y. 526,750, ren. 5–26–70. Cl. 19.
Harms Percy Corp., Skokie, Ill. 891,430, pub. 3–10–70. Cl. 2.
Harris, D. P., Hardware & Mfg. Co., Inc., New York, N.Y. 525,913, ren. 5–26–70. Cl. 19.
Hartford Publications, Inc., New York, N.Y. 767,887, canc. Cl. 38.
Hartmann Luggage Co., Lebanon, Tenn. 891,489, pub. 3–10–70. Cl. 3.
Hautely Cheese Co., Inc., St. Louis, Mo. 891,659, pub. 3–10–70. Cl. 46.
Hefco, Inc., Cleveland, Ohio. 767,860, canc. Cl. 23.
Hep-Ur-Sef, Inc., Prescott, Ark. 891,735, pub. 3–10–70. Cl. 101.
Herz Mfg. Corp., New York, to Sanita Paper Products, Co., Inc., Hickeville, N.Y. 527,710, ren. 5–26–70. Cl. 2.
Herz Specialty Products, Inc., Long Island City, N.Y. 891,435, pub. 3–10–70. Cl. 3.
Heublein, Inc., Hartford, Conn. 767,957, canc. Cl. 49.
Hicks, Richard C., d.b.a. Z. F. Simmons Oyster Co., & Simmons Oyster Co., Olympia, Wash. 891,800. Cl. 46.
Hiland Potato Chip Co. of Des Moines, Des Moines, Iowa. 891,665, pub. 3–10–70. Cl. 46.
Hinz, Herman F., Jr., d.b.a. Hinz Publishing Co., Mount Prospect, Ill. 767,891, canc. Cl. 38.
Hirt's, Al Sandwich Saloons, Inc., Nashville, Tenn. 891,842. Cl. 100.
Hobam, Inc., Buffalo, N.Y. 767,863, canc. Cl. 23.
Holgate Brothers Co., Kane, Pa., to Playskool, Inc., Chicago, Ill. 519,667, ren. 5–26–70. Cl. 22.
Hormel, Geo. A., & Co., Austin, Minn. 891,662, pub. 3–10–70. Cl. 46.
Hornschuch, Konrad, Aktiengesellschaft Werk Weissbach, Weissbach, Wuerttemberg, Germany. 767,773, canc. Cl. 1.
Howell, R. E., Co., to R. E. Howell Co., Minneapolis, Minn. 522,088, ren. 5–26–70. Cl. 23.
Huber, Solomon, to Estatology, Inc., New York, N.Y. 530,010, ren. 5–26–70. Cl. 100.
Hubinger Co., The, Keokuk, Iowa. 528,025, ren. 5–26–70. Cl. 46.
Hudson Oil Co. of Missouri, Inc., Kansas City, Kans. 891,474, pub. 3–10–70. Cl. 15.
Hudson Photographic Industries, Inc., Irvington-on-Hudson, N.Y. 767,964, canc. Cl. 50.
Huger-Davidson Sale Co., Inc., The, Lexington, Va. 891,806. Cl. 46.
Hurricane Fan & Ventilator Co., Miami, Fla. 891,580, pub. 3–10–70. Cl. 34.
IMC Magnetics Corp., Westbury, N.Y. 891,525, pub. 3–10–70. Cl. 21.
Ideal Industries, Inc., Sycamore, Ill. 891,779. Cl. 28.
Imoco-Gateway Corp., Chicago, Ill. 876,202, cor. Cl. 52.
Ingersoll-Rand Co.: *See*—
Aldrich Pump Co., The.
Instrument Flight Training, Inc., Minneapolis, Minn. 891,760, pub. 3–10–70. Cl. 107.
Intercontinental Instruments, Inc.: *See*—
Chronetics, Inc.
International Telephone & Telegraph Corp., New York, N.Y. 891,581, pub. 3–10–70. Cl. 34.
Ironsides Co., The, Columbus, Ohio. 528,810, ren. 5–26–70. Cl. 15.
Itoka Products Co., Ltd., Tokyo, Japan. 891,518, pub. 3–10–70. Multiple Class (Classes 21 and 36).
Jacoby, Henry C., d.b.a. H. C. Jacoby Co., Hollywood, Calif. 767,845, canc. Cl. 22.
Jaeger Machine Co., The, Columbus, Ohio. 891,633, pub. 3–10–70. Cl. 44.
Jamica Co. Ltd., Camden, N.J. 891,680, pub. 3–10–70. Cl. 48.
Jayson Shoe Mfg. Co., Inc., Clayton, Mo. 891,619, pub. 3–10–70. Cl. 39.
Johnson & Johnson, New Brunswick, N.J. 522,717, ren. 5–26–70. Cl. 44.
Johnson & Johnson, to Ethicon, Inc., New Brunswick, N.J. 270,970, ren. 5–26–70. Cl. 44.
Johnson & Johnson, to Ethicon, Inc., New Brunswick, N.J. 522,718, ren. 5–26–70. Cl. 44.
Johnson & Johnson: *See*—
Personal Products Corp.
Johnson & Johnson, New Brunswick, N.J. 526,580, ren. 5–26–70. Cl. 44.
Johnson & Johnson, New Brunswick, N.J. 526,598, ren. 5–26–70. Cl. 44.
Kaiser Aluminum & Chemical Corp.: *See*—
Mexico Refractories Co.
Kali-Chemie Aktiengesellschaft, Hannover, Germany. 891,483, pub. 3–10–70. Cl. 18.
Koreska, Robert, d.b.a. W. Koreska, Vienna, Austria. 891,588, pub. 3–10–70. Cl. 37.
Kayser-Roth Corp.: *See*—
Roth, Chester H., Co., Inc.
Kendall Co., The, Walpole, Mass. 525,059, ren. 5–26–70. Cl. 44.
Kenite Corp.: *See*—
Frankenhoss Corp.
Kennedy, Joseph P., Jr., Foundation, New York, N.Y. 891,708, pub. 3–10–70. Cl. 100.
Keystone Brass Works, Inc., Erie, Pa., to Owens-Illinois, Inc., Toledo, Ohio. 521,987, ren. 5–26–70. Cl. 2.
Kimball, A., Co., to Litton Business Systems, Inc., New York, N.Y. 521,989, ren. 5–26–70. Cl. 37.
Kimberly-Clark Corp., Neenah, Wis. 891,492, pub. 3–10–70. Cl. 18.
Kimberly-Clark Corp., Neenah, Wis. 891,590, pub. 3–10–70. Cl. 37.
Kimberly-Clark Corp., Neenah, Wis. 891,696, pub. 3–10–70. Cl. 51.
King, Milt, d.b.a. Sediment Testing Supply Co., to Sediment Testing Supply Co., Chicago, Ill. 527,185, ren. 5–26–70. Cl. 31.
Klauer Mfg. Co., Dubuque, Iowa. 523,290, ren. 5–26–70. Cl. 34.
Kleen-Air, Inc., Payne, Ohio. 767,983, canc. Cl. 52.
Koch, George, Sons, Inc., Evansville, Ind. 891,517, pub. 3–10–70. Cl. 21.
Kugelfischer George Schafer & Co., Schweinfurt, Germany. 891,537, pub. 3–10–70. Cl. 23.
Kuppenheimer, B., & Co. Inc., Chicago, Ill. 767,899, canc. Cl. 39.
L.A.P., Inc., Madison, Wis. 891,714, pub. 3–10–70. Cl. 100.
La Boetie Perfumes Corp.: *See*—
Societe Anonyme Arts d'Hygiene & Toilette.
Laboratorios del Dr. Esteve, S.A., Barcelona, Spain. 891,774. Cl. 18.
Laboratoires du Dr. N. G. Payot, Paris, France, to Laboratoires du Dr. N. G. Payot Etablissement, Vaduz, Liechtenstein. 448,780, ren. 5–26–70. Cl. 51.

La Campana Fabrica de Tabacos, Inc., Makati, Rizal, Philippine Islands. 891,773. Cl. 17.
Lafayette Pharmacal, Inc., Lafayette, Ind. 891,490, pub. 3–10–70. Cl. 18.
La France Hosiery Corp.: *See*—
Marshall Field & Co.
Lancome S.A., Paris, France. 891,695, pub. 3–10–70. Cl. 51.
La Primadora Cigar Corp., to Universal Cigar Corp., New York, N.Y. 528,456, ren. 5–26–70. Cl. 17.
Lark Luggage Corp., New York, N.Y. 891,434, pub. 3–10–70. Cl. 3.
Lau Blower Co., The, to Lau Inc., Dayton, Ohio. 527,876, ren. 5–26–70. Cl. 34.
Lau Inc.: *See*—
Lau Blower Co., The.
Lear Siegler, Inc., Salem, Ill. 891,544–5, pub. 3–10–70. Cl. 23.
Lee, H. D., Co., Inc., The, Kansas City, Mo. 767,907, canc. Cl. 39.
Leisure Group, Inc., The: *See*—
Lyman Gun Sight Corp., The.
Lealle Salt Co., San Francisco, Calif. 891,810. Cl. 46.
Les Parfums Worth de Paris, Inc.: *See*—
Worth.
Les Parfums Worth de Paris, Inc., New York, N.Y. 443,909, ren. 5–26–70. Cl. 51.
Les Parfums Worth de Paris, Inc., New York, N.Y. 523,930, ren. 5–26–70. Cl. 51.
Lettner, H. G., & Sohne, Graz, Steiermark, Austria. 891,692, pub. 3–10–70. Multiple Class (Classes 51 and 52).
Link Enterprises, Inc., Hope Hull, Ala. 891,564, pub. 3–10–70. Cl. 26.
Litton Business Systems, Inc.: *See*—
Kimball, A., Co.
Lloyd Bros., Inc., Cincinnati, Ohio. 767,825, canc. Cl. 18.
Lochinvar Water Heating Corp., Detroit, Mich. 891,797. Cl. 34.
Lorillard Corp., New York, N.Y. 886,199, cor. Cl. 17.
Loxem Mfg. Corp., Midland Park, N.J. 891,781. Cl. 25.
Lyman Gun Sight Corp., The, Middlefield, Conn., to The Leisure Group, Inc., Los Angeles, Calif. 523,889, ren. 5–26–70. Cl. 23.
MSI Electronics Inc., Woodside, N.Y. 891,527, pub. 3–10–70. Cl. 21.
Mackenzie, A. B., d.b.a. Angus Mackenzie, Oceanside, Calif. 767,952, canc. Cl. 46.
Mackintosh-Hemphill Co., Pittsburgh, Pa., to Gulf & Western Industrial Products Co., Grand Rapids, Mich. 521,750, ren. 5–26–70. Cl. 23.
Madison Chemical Division of Chemtrust Industries Corp., Maywood, Ill. 891,481, pub. 3–10–70. Cl. 16.
Magazine Management Co., Inc., from Magazine Management Co., d.b.a. Marvel Comics Group, New York, N.Y. 891,591–4, pub. 3–10–70. Cl. 38.
Magazine Management Co., Inc., from Perfect Film && Chemical Corp., d.b.a. Marvel Comics Group, New York, N.Y. 891,597, pub. 3–10–70. Cl. 38.
Mallard Coach Corp., West Bend, Wis. 891,511, pub. 3–10–70. Cl. 19.
Mama Weiss Foods, Inc., Los Angeles, Calif. 767,936, canc. Cl. 46.
Manning, Maxwell & Moore, Inc., New York, N.Y. to Dresser Industries, Inc., Dallas, Tex. 525,879, ren. 5–26–70. Cl. 21.
Maremont Corp.: *See*—
Saco-Lowell Shops.
Victor Ring Traveler Co.
Marketing Corp. of America, Atlanta, Ga. 891,471, pub. 3–10–70. Cl. 14.
Marketplace Publications, Inc., New Canaan, Conn. 891,600–1, pub. 3–10–70. Cl. 38.
Marriott-Hot Shoppes, Inc., Washington, D.C. 803,584, canc. Cl. 100.
Mars, Inc., Chicago, Ill., to Mars, Inc., Wilmington, Del. 522,009, ren. 5–26–70. Cl. 46.
Mars, Inc., Chicago, Ill., to Mars, Inc., Wilmington, Del. 522,020, ren. 5–26–70. Cl. 46.
Marshall Enterprises, Inc., Hialeah, Fla. 891,839. Cl. 52.
Marshall Field & Co., Chicago, Ill., to La France Hosiery Corp., New York, N.Y. 525,356, ren. 5–26–70. Cl. 39.
Marval Poultry Co., Inc., Dayton, Va. 891,666–7, pub. 3–10–70. Cl. 46.
Marvel Industries, Inc., Sturgis, Mich. 891,542, pub. 3–10–70. Cl. 23.
Mastic Corp., South Bend, Ind., 891,770. Cl. 12.
Mattel, Inc., Hawthorne, Calif. 767,843, canc. Cl. 22.
Mayfair Plastics, Inc., Birmingham, Mich. 891,433, pub. 3–10–70. Cl. 3.
McGraw-Edison Co., Elgin, Ill. 768,018, canc. Cl. B.
McGraw-Hill, Inc., New York, N.Y. 891,605, pub. 3–10–70. Cl. 38.
McKnight, Robert R., Jr., d.b.a. Playhouse Camper Mfg. Co., Stanton, Calif. 891,504, pub. 3–10–70. Cl. 19.
McRae, Nancy T. & Harris M., Ellerbe, N.C. 891,754, pub. 3–10–70. Cl. 107.
McSorley's Inc., Pittsburgh, Pa. 891,648, pub. 3–10–70. Multiple Class (Classes 46 and 100).
Mead Johnson & Co., Evansville, Ind., 891,486, pub. 3–10–70. Cl. 18.
Mead Johnson & Co., Evansville, Ind. 891,598, pub. 3–10–70. Cl. 38.
Medical Supply Co., Rockford, Ill. 891,638, pub. 3–10–70. Cl. 44.
Meireles, Baptista & Ca. Lda., Porto, Portugal. 891,814. Cl. 47.
Mexico Refractories Co., Mexico, Mo., to Kaiser Aluminum & Chemical Corp., Oakland, Calif. 522,540, ren. 5–26–70. Cl. 12.
Meyers & Rosser, to Meyers & Rosser Pharmaceutical Co., Dallas, Tex. 523,938–9, ren. 5–26–70. Cl. 18.
Meyers & Rosser Pharmaceutical Co.: *See*—
Meyers & Rosser.
Miami Margarine Co., The, Cincinnati, Ohio. 521,024, ren. 5–26–70. Cl. 46.
Michels, Peter J., Inc., Brooklyn, N.Y. 521,747, ren. 5–26–70. Cl. 23.
Micro-Fax Service, Inc., Perry, Iowa. 767,884, canc. Cl. 38.
Midland Silicones Ltd., Reading, England. 891,472, pub. 3–10–70. Cl. 15.
Miller Wholesale Drug Co., Cleveland, Ohio, to American Home Products Corp., New York, N.Y. 272,428, ren. 5–26–70. Cl. 44.
Minnesota Rubber Co., Minneapolis, Minn. 891,582, pub. 3–10–70. Cl. 35.
Mississippi Glass Co., St. Louis, Mo. 891,577, pub. 3–10–70. Cl. 33.
Mite Corp., New Haven, Conn. 891,568, pub. 3–10–70. Cl. 27.
Mobile Paint Mfg. Co. of Delaware, Inc., Mobile, Ala., 526,490, ren. 5–26–70. Cl. 6.
Modeling Association of America, Inc., Norfolk, Va. 891,699, 3–10–70. Cl. 100.
Modernage Products, Inc., Union, N.J. 891,766. Multiple Class (Classes 4 and 52).
Moniteau Mills, Inc., California, Mo., 522,228, ren. 5–26–70. Cl. 42.
Monogram Industries, Inc., Los Angeles, Calif. 891,468, pub. 3–10–70. Cl. 13.
Morley, I. & R. Ltd., Heanor, England. 524,630, ren. 5–26–70. Cl. 39.
Motown Record Corp., Detroit, Mich. 891,749, pub. 3–10–70. Cl. 107.
Munk, Burt Productions, Inc., Chicago, Ill. 891,602, pub. 3–10–70. Cl. 38.
Musical Courier Co., Inc., New York, N.Y. 162,324, canc. Cl. 38.
Nashua Corp.: *See*—
Nashua Gummed & Coated Paper Co.
Nashua Gummed & Coated Paper Co., to Nashua Corp., Nashua, N.H. 526,766, ren. 5–26–70. Cl. 37.
National Audubon Society, Inc., New York, N.Y. 891,611, pub. 3–10–70. Cl. 38.
National Bakers Services, Inc., Hollywood, Fla. 891,644, pub. 3–10–70. Cl. 45.
National Billiard Mfg. Co., The, Cincinnati, Ohio. 528,890, ren. 5–26–70. Cl. 22.
National Carbon Co., Inc., to Union Carbide Corp., New York, N.Y. 268,557, ren. 5–26–70. Cl. 21.
National Cylinder Gas Co., to Chemetron Corp., Chicago, Ill. 522,550, ren. 5–26–70. Cl. 14.
National Hockey League, Montreal, Quebec, Canada. 891,762, pub. 3–10–70. Cl. 200.
National Industrial Laundries, Newark, to Servisco, Elizabeth, N.J. 512,292, ren. 5–26–70. Cl. 103.
National Plastic Products Co., The, Odenton, Md., to Standard Oil Co., New York, N.Y. 524,071, ren. 5–26–70 Cl. 1.
Natural Sugars, Inc., New York, N.Y., to HCA Food Corp., Baltimore, Md. 523,786, ren. 5–26–70. Cl. 46.
Nationwide Auto Auction, Ltd., Bronx, N.Y. 891,846. Cl. 101.
Nationwide Bedding Corp., New York, N.Y. 891,574, pub. 3–10–70. Cl. 32.
New York Loose Leaf Corp., Bronx, N.Y. 885,905, canc. Cl. 37.
Newaygo Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 535,738, new cert. Cl. 23.
Newaygo Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 547,425, new cert. Cl. 23.
Newaygo Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 557,701, new cert. Cl. 23.
Newaygo Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 738,428, new cert. Cl. 26.
Newaygo Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 740,574, new cert. Cl. 23.
Newaygo Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 813,938, new cert. Cl. 23.
Newaygo Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 839,527, new cert. Cl. 23.
Newaygo Engineering Co., to Combustion Engineering, Inc., Windsor, Conn. 860,496, new cert. Cl. 23.
Nielsen, A. C., Co., to A. C. Nielsen Co., Chicago, Ill. 528,875–6, ren. 5–26–70. Cl. 101.
Norcross, Inc., New York, N.Y. 799,128, canc. Cl. 38.
Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 891,835–7. Cl. 51.
North American Aerosols, Inc., Wayne, Mich. 891,476, pub. 3–10–70. Cl. 15.
North American Rockwell Corp.: *See*—
Draper Corp.
North American Rockwell Corp., El Segundo, Calif. 891,505, pub. 3–10–70. Cl. 19.
North Pacific Canners & Packers, Inc., Portland, Oreg. 891,803. Cl. 46.
Northwest Paper Co., The, Cloquet, Minn. 891,589, pub. 8–5–69. Cl. 37.
Numano, Taketsugu, d.b.a. House of Koshu, Los Angeles, Calif. 891,817–18. Cl. 47.
Nutregen Ltd., London, England. 383,998, canc. Cl. 46.
Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 192,777, new cert. Cl. 12.
Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 322,560, new cert. Cl. 12.
Obermayer, S., Co., The, d.b.a. The Ramtite Co., to Combustion Engineering, Inc., Windsor, Conn. 593,198, new cert. Cl. 12.
Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 613,768, new cert. Cl. 12.

Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 645,930, new cert. Cl. 1.
Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 649,124, new cert. Cl. 5.
Obermayer, S., Co., The, d.b.a. The Ramtite Co., to Combustion Engineering, Inc., Windsor, Conn. 652,948, new cert. Cl. 12.
Obermayer, S., Co., The, d.b.a. The Ramtite Co., to Combustion Engineering, Inc., Windsor, Conn. 661,538, new cert. Cl. 12.
Obermayer, S., Co., The, d.b.a. The Ramtite Co., to Combustion Engineering, Inc., Windsor, Conn. 696,628, new cert. Cl. 12.
Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 795,060, new cert. Cl. 16.
Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 804,490, new cert. Cl. 12.
Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 804,493. Cl. 12.
Obermayer, S., Co., The, to Combustion Engineering, Inc., Windsor, Conn. 812,884, new cert. Cl. 12.
Okonite Co., The, to The Okonite Co., Passaic, N.J. 526,096–8, ren. 5–26–70. Cl. 21.
Okonite Co., The, to The Okonite Co., Passaic, N.J. 527,569–70, ren. 5–26–70. Cl. 21.
Okonite Co., The, Passaic, N.J. 891,448, pub. 3–10–70. Cl. 5.
Oneida Ltd., Oneida, N.Y. 885,807, cor. Cl. 23.
Orchard Yarn & Thread Co., New York, N.Y. 891,630, pub. 3–10–70. Cl. 43.
Otwell, Harry C., Fayetteville, Ark. 891,631, pub. 3–10–70. Cl. 44.
Owens-Illinois Glass Co., to Owens-Illinois, Inc., Toledo, Ohio. 522,529, ren. 5–26–70. Cl. 33.
Owens-Illinois, Inc.: *See*—
Keystone Brass Works, Inc.
Owens-Illinois Glass Co.
Oxford Boyswear, Inc., New York, N.Y. 767,912–13, canc. Cl. 39.
Palmer Supply Co., Portland, Oreg. 891,538, pub. 3–10–70. Cl. 23.
Panaura Ltd., d.b.a. Top-Optic Designs, Farnham, Surrey, England. 891,685, pub. 3–10–70. Cl. 50.
Park & Hagna (Inc.), New York, N.Y. 767,932, canc. Cl. 46.
Parsons, John T., Co., The, Traverse City, Mich. 891,648, pub. 3–10–70. Cl. 23.
Partout International Corp., New York, N.Y. 891,623, pub. 3–10–70. Cl. 39.
Pathway Products Corp., Verona, N.J. 891,697, pub. 3–10–70. Cl. 52.
Pederson, Meyer L., d.b.a. Custom Photographics Co., Portland, Oreg. 891,790. Cl. 26.
Peerless Teletad, Inc., New York, N.Y. 891,586, pub. 3–10–70. Cl. 36.
Pennwalt Corp., Philadelphia, Pa., from Wallace & Tiernan Inc., East Orange, N.J. 891,484, pub. 3–10–70. Cl. 18.
PepsiCo, Inc., New York, N.Y. 891,718, pub. 3–10–70. Cl. 100.
Perfex Co., The, Shenandoah, Iowa, to Church & Dwight Co., Inc., New York, N.Y. 523,185, ren. 5–26–70. Cl. 52.
Performance Systems, Inc., Nashville, Tenn. 891,673, pub. 3–10–70. Cl. 46.
Perret-Jannet S.A., Lyon (Rhone), France. 891,625, pub. 3–10–70. Cl. 39.
Personal Products Corp., North Brunswick, to Johnson & Johnson, New Brunswick, N.J. 525,046, ren. 5–26–70. Cl. 44.
Peter Paul, Inc.: *See*—
Tasty Baking Co.
Peterson's Ltd., Inc.: *See*—
Bewlay Tobacconists Ltd.
Pfizer, Chas., & Co., Inc., New York, N.Y. 891,493–4, pub. 3–10–70. Cl. 18.
Philco Corp., Philadelphia, Pa. 406,004, canc. Cl. 80.
Phillips-Van Heusen Corp., New York, N.Y. 891,616–17, pub. 9–7–65. Cl. 39.
Picker Electronics, Inc., Longmont, Colo. 891,635, pub. 3–10–70. Cl. 44.
Piedmont Fertilizer Co., Opelika, Ala. 78,828, ren. 5–26–70. Cl. 10.
Pilgrim Industries, Inc., New York, N.Y. 891,622, pub. 3–10–70. Multiple Class (Classes 39 and 40).
Planetariums Unlimited, Inc., Holbrook, N.Y. 891,784. Cl. 26.
Playskool, Inc.: *See*—
Holgate Brothers Co.
Plymouth Cordage Co., to Columbian Rope Co., Auburn, N.Y. 526,890, ren. 5–26–70. Cl. 7.
Polydoris, Nicholas G., to ENM Co., Chicago, Ill. 741,949, new cert. Cl. 26.
Poly-Genic, Inc., New York, N.Y. 891,427–9, pub. 3–10–70. Cl. 2.
Preview Publications, Inc., Elmhurst, Ill. 767,896, canc. Cl. 38.
Procter & Gamble Co., The, Cincinnati, Ohio. 410,799, canc. Cl. 38.
Procter & Gamble Co., The, Cincinnati, Ohio. 767,984, canc. Cl. 52.
Procter & Gamble Co., The, Cincinnati, Ohio. 767,991, canc. Cl. 52.
Production Systems for Architects & Engineers, Inc., Chicago, Ill. 891,514, pub. 3–10–70. Cl. 38.
Professional Dictating Service of N.E., Inc., d.b.a. Professional Dictating Service, Cranston, R.I. 891,844. Cl. 101.
Professional Nurses Bureau, Inc., San Francisco, Calif. 891,725, pub. 3–10–70. Cl. 101.
Prosurance, Inc., Fremont, Ohio. 891,743, pub. 5–20–69. Cl. 102.
Psychotease, Inc., New York, N.Y. 891,530, pub. 3–10–70. Cl. 22.
Rachelle Laboratories, Inc., Long Beach, Calif. 891,487, pub. 2–24–70. Cl. 18.
Railko Ltd., High Wycombe, England. 891,516, pub. 3–10–70. Cl. 21.
Ramada Inns, Inc., Phoenix, Ariz. 891,716, pub. 3–10–70. Cl. 100.
Rasmussen, Christian B., Sanborn, Iowa. 891,533, pub. 3–10–70. Cl. 23.
Rayette-Faberge, Inc.: *See*—
Faberge, Inc.
Rebold, Rudolph, New Brunswick, N.J. 767,976, canc. Cl. 51.
Regal Shoe Co., Whitman, Mass., to Brown Shoe Co., Inc., St. Louis, Mo. 526,289, ren. 5–26–70. Cl. 39.
Rexall Drug & Chemical Co.: *See*—
Dart Industries Inc.
Reckitts (U.S.A.), Ltd., Hull, England, to The R. J. French Co., Rochester, N.Y. 269,150, ren. 5–26–70. Cl. 4.
Recognition Equipment Inc., Dallas, Tex. 891,762. Cl. 26.
Redi-Rung Mfg. Co., Inc., Rye, N.Y. 767,967, canc. Cl. 50.
Reichman, Henry, New York, N.Y. 767,882, canc. Cl. 38.
Reiser, Al, d.b.a. Steakmaster, Boulder, Colo. 891,706, pub. 3–10–70. Cl. 100.
Reiko, Inc., Amarillo, Tex. 891,463, pub. 3–10–70. Cl. 10.
Replay Publications, Inc., St. Louis, Mo. 891,610, pub. 3–10–70. Cl. 38.
Revlon, Inc., New York, N.Y. 891,834. Cl. 51.
Revlon, Inc., New York, N.Y. 891,838. Cl. 51.
Richards, G. Whitfield, to G. Whitfield Richards Co., Philadelphia, Pa. 274,307, ren. 5–26–70. Cl. 15.
Richardson-Merrell Inc., New York, N.Y. 891,488, pub. 3–10–70. Multiple Class (Classes 18 and 52).
Richmond-Chase Co., San Jose, to California Canners & Growers, San Francisco, Calif. 528,661, ren. 5–26–70. Cl. 46.
Rijo Ski Mfg. Co., Jacksonville, Fla. 767,850, canc. Cl. 22.
Ring, Victor Traveler Co., Providence, R.I., to Maremont Corp., Chicago, Ill. 266,913–14, ren. 5–26–70. Cl. 23.
Robertson Photo-Mechanix, Inc., Des Plaines, Ill. 891,789. Cl. 26.
Robinson-Wagner Co., Inc., Mamaroneck, N.Y. 891,458, pub. 3–10–70. Cl. 6.
Roctim Co., The, Wilmington, N.C. 767,988, canc. Cl. 52.
Ronan & Kunzl, Inc., Marshall, Mich. 891,775. Cl. 22.
Rosecrest Inc., Boston, Mass. 768,088, canc. Cl. 39.
Rosenbush Advertising Agency, Inc., Baltimore, Md. 891,750, pub. 3–10–70. Cl. 107.
Rosenthal Aktiengesellschaft, Selb, Bavaria, Germany. 891,459, pub. 3–10–70. Multiple Class (Classes 8, 21, 23, 28, 30, 32, 33, 34, and 50).
Roth, Chester H., Co., Inc., to Kayser-Roth Corp., New York, N.Y. 529,521, ren. 5–26–70. Cl. 39.
Roth, Otto & Co., Inc., New York, N.Y. 891,663–4, pub. 3–10–70. Cl. 46.
Rubbermaid Inc., Wooster, Ohio. 891,510, pub. 3–10–70. Cl. 19.
Rudolph, J., Inc., New York, N.Y. 891,437, pub. 3–10–70. Cl. 3.
Russell, Robert, Sterling, Va. 891,599, pub. 3–10–70. Cl. 38.
Saco-Lowell Shops, Boston, Mass., to Maremont Corp., Chicago, Ill. 521,142, ren. 5–26–70. Cl. 23.
Saf-T-Tub Corp., Toledo, Ohio. 767,961, canc. Cl. 50.
St. Regis Paper Co., New York, N.Y. 891,755–6, pub. 3–10–70. Cl. 107.
Saline Mfg. Co., Inc., Essexville, Mich. 891,506, pub. 3–10–70. Cl. 19.
Sanita Paper Products Co., Inc.: *See*—
Herz Mfg. Corp.
Schaefer, E. George, Indianapolis, Ind. 528,907, ren. 5–26–70. Cl. 38.
Schenley Affiliated Brands Corp., d.b.a. Dreyfus Ashby & Co., New York, N.Y. 891,679, pub. 3–10–70. Cl. 47.
Schenley Industries, Inc., New York, N.Y. 767,965, canc. Cl. 50.
Schick, William F., d.b.a. Comfort Cushions, West Hollywood, Fla. 768,035, canc. Cl. 32.
Schlein, Samuel E., Inc., New York, N.Y. 767,902, canc. Cl. 39.
Schlumberger Technology Corp., Houston, Tex. 891,704, pub. 3–10–70. Cl. 100.
Schutter Candy Co., d.b.a. Surrey Candy Kitchens, New York, N.Y. 891,811. Cl. 46.
Scientific American, Inc., New York, N.Y. 525,791, ren. 5–26–70. Cl. 38.
Sears, Roebuck & Co., Chicago, Ill. 891,424, pub. 3–10–70. Cl. 2.
Sears, Roebuck & Co., Chicago, Ill. 891,436, pub. 3–10–70. Cl. 3.
Security Blanket Co., The, Malibu, Calif. 891,687, pub. 3–10–70. Cl. 50.
Security Van Lines, Inc., Kenner, La. 891,595, pub. 3–10–70. Cl. 38.
Sediment Testing Supply Co.: *See*—
King, Milt.
Servisco: *See*—
National Industrial Laundries.
Serv-Kor, Inc., Carmi, Ill. 891,748, pub. 3–10–70. Cl. 103.
Sexauer, J. A., Mfg. Co., Inc, White Plains, NY. 891,583, pub. 3–10–70. Cl. 35.
Shakespeare Co., Kalamazoo, Mich. 891,529, pub. 1–20–70. Cl. 22.
Shango Enterprises, Inc., Altadena, Calif. 891,757, pub. 3–10–70. Cl. 107.
Shasta Water Co., The, San Francisco, Calif., to Consolidated Foods Corp., d.b.a. Shasta Beverages, Chicago, Ill. 527,420, ren. 5–26–70. Cl. 45.
Sheffield Steel Corp., Kansas City, Mo., to Armco Steel Corp., Middletown, Ohio. 521,766, ren. 5–26–70. Cl. 23.
Shell Oil Co., New York, N.Y. 767,838, canc. Cl. 18.
Shell Oil Co., New York, N.Y. 891,442, pub. 2–4–69. Cl. 5.
Shell Oil Co., New York, N.Y. 891,478–9, pub. 3–10–70. Cl. 15.

Sherwin-Williams Co., The, Cleveland, Ohio. 522,945, ren. 5–26–70. Cl. 26.
Sherwood, Don, New York, N.Y. 767,895, canc. Cl. 38.
Shopper's Credit, Inc., Torrington, Conn. 891,726–7, pub. 3–10–70. Cl. 101.
Show Biz, Inc., Nashville, Tenn. 891,759, pub. 3–10–70. Cl. 107.
Shuer, Jay J., Toledo, Ohio. 891,722, pub. 3–10–70. Cl. 101.
Sickinger, Hans, Co., Pontiac, Mich. 891,550, pub. 3–10–70. Cl. 23.
Sierracin Corp., The, Burbank, Calif. 767,835, canc. Cl. 19.
Sierracin Corp., The, Sylmar, Calif. 891,503, pub. 3–10–70. Cl. 19.
Silk City Textile Machinery Co., Paterson, N.J. 891,536, pub. 3–10–70. Cl. 23.
Silvertown Biscuit Co., Chicago, Ill., to Ward Foods, Inc., New York, N.Y. 443,801, ren. 5–26–70. Cl. 46.
Simmons Gun Specialties, Inc., Kansas City, Mo. 767,803, canc. Cl. 9.
Singer Co., The, New York, N.Y. 891,522, pub. 3–10–70. Cl. 21.
Sky-Van Ltd., Vancouver, British Columbia, Canada. 891,547, pub. 3–10–70. Cl. 23.
Smith, A. O. Corp.: *See*—
Burkay Co., The.
Smith Kline & French Laboratories, Philadelphia, Pa. 891,499, pub. 3–10–70. Cl. 18.
Smith & Wesson Pyrotechnics, Inc., Jefferson, Ohio. 891,461, pub. 3–10–70. Cl. 9.
Smythe, Bensel R., Sherman Oaks, Calif. 767,998, canc. Cl. 101.
Societe Anonyme Arts d'Hygiene & Toilette, d.b.a. F. Millot, Paris, France, to La Boetic Perfumes Corp., New York, N.Y. 266,133, ren. 5–26–70. Cl. 51.
Societe Nouvelle de Roulements, Annecy, Haute-Savoie, France. 891,535, pub. 3–10–70. Cl. 23.
Southern Pacific Transportation Co., from Southern Pacific Co., San Francisco, Calif. 891,732, pub. 3–10–70. Cl. 101.
Southwestern Historical Wax Museum, Inc., Dallas, Tex. 891,758, pub. 3–10–70. Cl. 107.
Space-General Corp., from Space Electronics Corp., to Aerojet-General Corp., El Monte, Calif. 760,624, new cert. Cl. 26.
Spartan Grain & Mill Co., Spartanburg, S.C. 891,657, pub. 3–10–70. Cl. 46.
Spartans Industries, Inc., New York, N.Y. 891,555, pub. 3–10–70. Cl. 26.
Spectrex Co., Redwood City, Calif. 891,563, pub. 3–10–70. Cl. 26.
Squirt Co., The, Sherman Oaks, Calif. 891,645, pub. 3–10–70. Cl. 45.
Stanco Inc., Wilmington, Del., to Standard Oil Co., New York, N.Y. 271,347, ren. 5–26–70. Cl. 16.
Standard Oil Co.: *See*—
Carter, Chas C.
National Plastic Products Co., The.
Stanco Inc.
Standard Oil Co., The, from Boron Oil Co., Cleveland, Ohio. 891,701, pub. 3–10–70. Multiple Class (Classes 100 and 103).
Standard Oil Co. of California, San Francisco, Calif. 891,440, pub. 3–10–70. Cl. 4.
Standard Radio Corp., Tokyo, Japan. 767,840, canc. Cl. 21.
Standard Ultramarine Co., The, Huntington, W. Va., to Chemetron Corp., Chicago, Ill. 519,111, ren. 5–26–70. Cl. 11.
Stauffer Chemical Co., New York, N.Y. 767,791, canc. Cl. 6.
Stauffer Chemical Co., New York, N.Y. 891,450, pub. 4–23–68. Cl. 6.
Steak-N-Shake, Inc., Bloomington, Ill. 891,717, pub. 3–10–70. Cl. 100.
Sterling Drug Inc., New York, N.Y. 767,832, canc. Cl. 18.
Sterling Drug Inc., New York, N.Y. 891,441, pub. 3–10–70. Cl. 4.
Sternco Industries, Inc., Allendale, N.J. 768,025, canc. Cl. 16.
Stocker & Yale, Marblehead, to Stocker & Yale, Inc., Beverly, Mass. 521,869, ren. 5–26–70. Cl. 21.
Stoeger, A. F. Inc., New York, N.Y. to Stoeger Arms Corp., Hackensack, N.J. 269,834, ren. 5–26–70. Cl. 9.
Stoeger Arms Corp.: *See*—
Stoeger, A. F. Inc.
Stokes Knitting Mills, Inc., Mount Airy, N.C. 768,040, canc. Cl. 39.
Story, Milton, New York, N.Y. 891,686, pub. 3–10–70. Cl. 50.
Strader, James W., Fort Lauderdale, Fla. 891,531, pub. 3–10–70. Cl. 22.
Strazzulla Bros. Co., Boston, Mass. 891,675, pub. 3–10–70. Cl. 46.
Stremming, Kenneth, d.b.a. Imagenuity, Chicago, Ill. 891,596, pub. 3–10–70. Cl. 38.
Style Patterns Ltd., London, England. 891,787. Cl. 26.
Sugarine Co., The, Mt. Vernon, Ill. 650,184, canc. Cl. 46.
Sundstrand Corp.: *See*—
Sundstrand Machine Tool Co.
Sundstrand Corp., Rockford, Ill. 885,387, cor. Cl. 23.
Sundstrand Machine Tool Co., to Sundstrand Corp., Rockford, Ill. 525,878, ren. 5–26–70. Cl. 23.
Supro Lux Mfg. Co., Inc., Bronx, N.Y. 768,027, canc. Cl. 21.
Surprise Brassiere Co., Inc., New York, N.Y. 767,911, canc. Cl. 39.
Swift & Co., to Swift & Co., Chicago, Ill. 260,782, ren. 5–26–70. Cl. 46.
Tamras Inc., Chicago, Ill. 891,792. Cl. 28.
Tasty Baking Co., Philadelphia, Pa., to Peter Paul, Inc., Naugatuck, Conn. 270,450, ren. 5–26–70. Cl. 46.
Tax Computer Associates, to The Lawyers Co-Operative Publishing Co., Rochester, N.Y. 810,562, new cert. Cl. 101.
Taxpediters, Inc., Kansas City, Mo. 891,728, pub. 3–10–70. Cl. 101.
Taylor, Bettie M., d.b.a. Taylor's Sausage Co., St. Louis, Mo. 891,668, pub. 3–10–70. Cl. 46.
Temporary Help Services, Inc., Kansas City, Mo. 891,721, pub. 3–10–70. Cl. 101.
Terry, Herbert & Sons Ltd., Redditch, England. 522,053, ren. 5–26–70. Cl. 21.
Tex-O-Con Optics, Inc., Dallas, Tex. 891,788. Cl. 26.
Textron, Inc., Providence, R.I. 891,796. Cl. 32.
Thomas Publishing Co., New York, N.Y. 891,607, pub. 3–10–70. Cl. 38.
Ticket Reservation Systems, Inc., New York, N.Y. 891,786, pub. 3–10–70. Cl. 101.
Timex Corp., from Timex Corp., Waterbury, Conn. 891,570, pub. 3–10–70. Multiple Class (Classes 27 and 28).
Tinkers & Thinkers Co., Chicago, Ill. 891,711–12, pub. 3–10–70. Cl. 100.
Tomlinson of High Point, High Point, N.C. 522,199, ren. 5–26–70. Cl. 32.
Topco Associates, Inc., Skokie, Ill. 768,048, canc. Cl. 50.
Topps Chewing Gum, Inc., Brooklyn, N.Y. 891,672, pub. 3–10–70. Cl. 46.
Tower Products, Inc.: *See*—
Tower Products, Inc.
Tower Products, Inc., from Tower Packaging Co., Wheeling, Ill. 891,426, pub. 3–10–70. Cl. 2.
Towle Mfg. Co., Newburyport, Mass. 891,793–5. Cl. 28.
Toyota Jidosha Kogo Kabushiki Kaisha, Toyota-shi, Aichi-ken, Japan. 891,780. Cl. 28.
Trans World Airlines, Inc., New York, N.Y. 768,009, canc. Cl. 105.
Treacher's, Arthur, Fish & Chips, Inc., Columbus, Ohio. 891,740, pub. 3–10–70. Cl. 101.
Trebor Sharps Ltd., Woodford Green Essex, England. 891,813. Cl. 46.
Turtle Creek Management, Inc., Indianapolis, Ind. 891,729, pub. 3–10–70. Cl. 101.
Twin Gems, Inc., New York, N.Y. 767,978, canc. Cl. 51.
Twin Pane Corp., Detroit, Mich. 768,022, canc. Cl. 12.
UCB (Union Chimique-Chemische Bedrijven) Societe Anonyme, Saint-Gilles-Lez-Brussels, Belgium. 767,917, canc. Cl. 42.
U.C.P. Service, Inc., Garden City, N.Y. 767,889, canc. Cl. 38.
U.S.A.C. Transport, Inc., Detroit, Mich. 768,051, canc. Cl. 105.
Uniforce Temporary Personnel, Inc., New York, N.Y. 891,845. Cl. 101.
Union Carbide Corp.: *See*—
National Carbon Co., Inc.
Union Carbide Corp., New York, N.Y. 891,549, pub. 3–10–70. Cl. 23.
Union Carbide Corp., New York, N.Y. 891,572, pub. 3–10–70. Cl. 31.
United Industrial Syndicate, Inc., Portland, Maine. 891,519, pub. 3–10–70. Cl. 21.
United States Envelope Co., Springfield, Mass. 891,431, pub. 3–10–70. Multiple Class (Classes 2 and 37).
U.S. Industries, Inc., New York, N.Y. 891,573, pub. 3–10–70. Cl. 31.
U.S. Industries, Inc., New York, N.Y. 891,579, pub. 3–10–70. Cl. 34.
United States Playing Card Co., The, to The United States Playing Card Co., Cincinnati, Ohio. 523,252–5, ren. 5–26–70. Cl. 22.
United States Safety Service Co., Kansas City, Mo. 891,786. Cl. 26.
United-Carr Inc.: *See*—
Cinch Mfg. Corp.
United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. 891,815–16. Cl. 47.
Universal Cigar Corp.: *See*—
La Primadora Cigar Corp.
Urschel Laboratories, Inc., Valparaiso, Ind. 891,652, pub. 3–10–70. Cl. 46.
Utah Supreme, Sandy, Utah. 891,418, pub. 3–10–70. Cl. 1.
Utica Drip Forge & Tool Corp., Yorkville, N.Y., to Utica Tool Co., Inc., Orangeburg, S.C. 523,778, ren. 5–26–70. Cl. 23.
Utica Tool Co., Inc.: *See*—
Utica Drip Forge & Tool Corp.
Valley Maid Inc.: *See*—
Valley Maid Packing Co.
Valley Maid Packing Co., Kimberton, to Valley Maid Inc., Phoenixville, Pa. 528,575, ren. 5–26–70. Cl. 46.
Van Heugten Western Hemisphere A.G., Lucerne, Switzerland. 891,512, pub. 3–10–70. Cl. 20.
Vanol Chemical Co., Highland Park, Mich. 891,485, pub. 3–10–70. Cl. 18.
Vectograph Corp. of America, San Antonio, Tex. 891,554, pub. 3–10–70. Cl. 26.
Vendomatic Services Ltd., Toronto, Ontario, Canada. 767,855, canc. Cl. 23.
Ventron Corp., Beverly, Mass. 891,451, pub. 3–10–70. Cl. 6.
Viewlex, Inc., Holbrook, N.Y. 891,783. Cl. 26.
Viking Press, Inc., The, New York, N.Y. 891,604, pub. 3–10–70. Cl. 38.
Von Duprin, Inc.: *See*—
Vonnegut Hardware Co.
Vonnegut Hardware Co., to Von Duprin, Inc., Indianapolis, Ind. 528,220, ren. 5–26–70. Cl. 12.
Wade Chemical Corp., Caddo Parish, La. 767,815, canc. Cl. 18.
Wal-Bon of Ohio, Inc., Belpre, Ohio. 891,700, pub. 3–10–70. Cl. 100.
Ward Baking Co., New York, N.Y. 768,042, canc. Cl. 46.
Ward Chocolate Co., Inc., from Blumenthal Bros. Chocolate Co., Philadelphia, Pa. 891,650, pub. 3–10–70. Cl. 46.
Ward Foods, Inc.: *See*—
Silvertown Biscuit Co.
Ward, Marion G., d.b.a. Tab Publishing Co., Little Rock, Ark. 767,881, canc. Cl. 38.

Warner & Swasey Co., The, Cleveland, Ohio. 891,540, pub. 3–10–70. Cl. 23.
Warner & Swasey Co., The, Cleveland, Ohio. 891,778. Cl. 23.
Warren, Steven A., Lake Forest, Ill. 891,785. Cl. 26.
Wasko Gold Products Corp., New York, N.Y. 891,791. Cl. 28.
Waste King Corp.: *See*—
Given Mfg. Co.
Water Treatment Corp. of America, Portland, Oreg. 891,449, pub. 4–30–68. Multiple Class (Classes 6 and 52).
Waterman, L. E., Co., New York, N.Y., to Waterman-Bic Pen Corp., Milford, Conn. 522,045, ren. 5–26–70, Cl. 11.
Waterman-Bic Pen Corp.: *See*—
Waterman, L. E., Co.
Webb, Ezra S., d.b.a. Ezra Webb Distilling Co., Arcadia, Calif. 891,681, pub. 3–10–70. Cl. 49.
Werler, Paul F., d.b.a. Chemstar Products Co., Minneapolis, Minn. 891,443–5, pub. 3–10–70. Cl. 5.
West Coast Airlines, Inc., Seattle, Wash. 768,012, canc. Cl. 105.
Western Brush Co., Inc., Chicago, Ill. 891,767. Cl. 6.
Western Publishing Co., Inc., Racine, Wis. 891,618, pub. 3–10–70. Cl. 38.
Westinghouse Air Brake Co., Pittsburgh, Pa. 891,470, pub. 3–10–70. Cl. 13.
Westinghouse Electric Corp., Pittsburgh, Pa. 767,846, canc. Cl. 22.
Whirry, Jon W., d.b.a. Jonathan W. Little, Middleton, Wis. 891,585, pub. 3–10–70. Cl. 36.
White Consolidated Industries, Inc., Lakewood, Ohio. 891,467, pub. 3–10–70. Cl. 12.
White & Wyckoff Mfg. Co., Holyoke, Mass., to Bradner Central Co., Chicago, Ill. 273,010, ren. 5–26–70. Cl. 37.
Wilder Mfg. Co. Inc., Port Jervis, N.Y. 891,576, pub. 3–10–70. Cl. 32.
Wilkins, John H., Co, Inc., Landover, Md. 522,136, ren. 5–26–70. Cl. 46.
Wilkinson Dental Mfg. Co., Inc., d.b.a. The Wilkinson Co., Westlake Village, Calif. 891,637, pub. 3–10–70. Cl. 44.
Williams, L. S., Centerville, to L. S. Williams Co., Fremont, Calif. 529,488, ren. 5–26–70. Cl. 46.
Williams, Randall H., d.b.a. Hank Williams, Jr., Nashville, Tenn. 891,751, pub. 3–10–70. Cl. 107.
Wills, Harry E., d.b.a. Wills Rubber Trimming Machine Co., Canton, to Ferry Machine Co., Kent, Ohio. 518,576, ren. 5–26–70. Cl. 23.
Willy, John, Inc., Evanston, Ill. 519,214, ren. 5–26–70. Cl. 32.
Winer, Arthur, Inc., Gary, Ind. 767,903, canc. Cl. 39.
Winpower Mfg. Co., Newton, Iowa. 891,528, pub. 3–10–70. Cl. 21.
Winston Mfg. Corp., Bellaire, Tex. 891,464, pub. 3–10–70. Multiple Class (Classes 12, 13, and 31).
Witco Chemical Corp., New York, N.Y. 891,466, pub. 3–10–70. Cl. 12.
Wolfe Products, Inc., to Production Experts, Inc., Cleveland, Ohio. 707,683–4, new cert. Cl. 12.
Wood, J. R. & Sons, Inc., New York, N.Y. 518,826, ren. 5–26–70. Cl. 28.
Woodard, Viviane, Corp.: *See*—
World of Beauty, Inc.
Woodmen of the World Life Insurance Society and/or Omaha Woodmen Life Insurance Society, Omaha, Nebr. 891,608, pub. 3–10–70. Cl. 38.
Woolrich Woolen Mills, Woolrich, Pa. 891,618, pub. 11–5–68. Cl. 39.
World of Beauty, Inc., Chicago, Ill., from Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. 891,689, pub. 3–15–67. Cl. 51.
World of Beauty, Inc., Chicago, Ill., from Viviane Woodard Corp., Panorama City, Calif. 891,691, pub. 12–12–67. Cl. 51.
World of Beauty, Inc., Chicago, Ill., from The Reuben H. Donnelley Corp., New York, N.Y. 891,698, pub. 12–12–67. Cl. 100.
Worth, Paris, France, to Les Parfums Worth de Paris, Inc., New York, N.Y. 269,908, ren. 5–26–70. Cl. 51.
Wyandotte Chemicals Corp., Wyandotte, Mich. 891,452, pub. 3–10–70. Cl. 6.
Yardley of London, Inc., New York, N.Y. 891,826. Cl. 51.
Yardley of London, Inc., New York, N.Y. 891,832. Cl. 51.
Yoo-Hoo Beverage Co., Carlstadt, N.J. 891,646, pub. 3–10–70. Cl. 45.
Young, Arthur, & Co., New York, N.Y. 767,996, canc. Cl. 100.
Zander's Creamery, Inc., Cross Plains, Wis. 891,812. Cl. 46.

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